



Vol 13, N° 2

<https://revistas.usb.edu.co/index.php/IJPR>

ISSN 2011-2084

E-ISSN 2011-7922

# A Brief Version of the Difficulties in Emotion Regulation Scale (DERS): Validity Evidence in Ecuadorian Population

Escala de Dificultades en la Regulación Emocional (DERS): evidencia de validez en población ecuatoriana

Geovanny Genaro Reivan-Ortiz<sup>1,2\*</sup> , Patricia Elizabeth Ortiz Rodas<sup>3</sup> , Patricia Natali Reivan Ortiz<sup>4</sup> 

<sup>1</sup>Responsible Teacher Department of Formative Research. Collaborator Laboratory of Psychometry. Catholic University of Cuenca. Ecuador.

<sup>2</sup>University of Palermo. Argentina.

<sup>3</sup>Associate Department Teacher. University of Cuenca. Ecuador.

<sup>4</sup>Professor of Pathology Laboratory. Catholic University of Cuenca. Ecuador.

 OPEN ACCESS

## Editor-in-Chief:

Mauricio Cuartas-Arias. MSc. PhD.

Manuscript received: 07-10-2019

Revised: 03-12-2019

Accepted: 18-02-2020

## \*Corresponding author:

Geovanny Genaro Reivan-Ortiz  
Email: [greivano@ucacue.edu.ec](mailto:greivano@ucacue.edu.ec)  
[greiva@palermo.edu](mailto:greiva@palermo.edu)

**Copyright:** ©2020. International Journal of Psychological Research provides open access to all its contents under the terms of the license [creative commons Attribution-NonCommercial-NoDerivatives 4.0 International \(CC BY-NC-ND 4.0\)](https://creativecommons.org/licenses/by-nc-nd/4.0/)

**Declaration of data availability:** All relevant data are within the article, as well as the information support files.

**Conflict of interests:** The authors have declared that there is no conflict of interest.

## How to Cite:

Reivan-Ortiz, G. G., Ortiz, P. E. & Reivan, P. N. (2020). A Brief Version of the Difficulties in Emotion Regulation Scale (DERS): Validity Evidence in Ecuadorian Population. *International Journal of Psychological Research*, 13(2), 14–24.  
<https://doi.org/10.21500/20112084.4325>

## Abstract.

Due to the scarcity of evaluation instruments on the construct of difficulties in emotional regulation in the Ecuadorian university context, the objective of the present study was to adapt linguistically and to study the psychometric properties of the Difficulty Scale in Emotional Regulation (DERS) in a sample of Ecuadorian university students. A non-probability sample of 1172 participants between 17 and 32 years of age ( $M = 21.99$ ;  $DT = 2.49$ ), which consisted of 58.6% women and 41.4% men, was used. The research was carried out in three stages. The first study evaluated the Ecuadorian linguistic adaptation of the scale. The second study referred to the factorization by main axes identifying five factors (Lack of emotional understanding; Limited access to regulation strategies; Difficulties in impulse control; Interferences in goal-directed behaviors; Lack of emotional clarity) theoretically interpretable, which explain 49.22% of the variance. The third study developed a confirmatory factor analysis that specified an acceptable fit of the model ( $GFI = .95$ ;  $AGFI = .95$ ;  $NFI = .94$ ;  $RMR = .11$ ). The reliability coefficients are acceptable as .90 Cronbach's alpha and .91 McDonald's omega. In conclusion, it is mentioned that the Ecuadorian version of the DERS in a university sample exhibits good psychometric characteristics of internal structure and responses.

## Resumen.

Debido a la escasez de instrumentos de evaluación sobre el constructo de dificultades en la regulación emocional en el contexto universitario ecuatoriano, el objetivo del presente estudio fue adaptar lingüísticamente y estudiar las propiedades psicométricas de la Escala de dificultades en la regulación emocional (DERS) en una muestra de estudiantes universitarios ecuatorianos. Se empleó una muestra no probabilística de 1172 participantes de 17 a 32 años de edad ( $M = 21.99$ ;  $DT = 2.49$ ), de los cuales 58.6% eran mujeres y 41.4% hombres. La investigación se desplegó en tres etapas: el primer estudio desarrolló la adaptación lingüística ecuatoriana de la escala. El segundo estudio se refirió a la factorización por ejes principales identificando cinco factores (Falta de comprensión emocional; Acceso limitado a estrategias de regulación; Dificultades en el control de impulsos; Interferencias en conductas dirigidas a metas; Falta de claridad emocional) interpretables teóricamente, que explican el 49.22% de la varianza. El tercer estudio desarrolló un análisis factorial confirmatorio, el cual indicó un ajuste aceptable del modelo ( $GFI = .95$ ;  $AGFI = .95$ ;  $NFI = .94$ ;  $RMR = .11$ ). Los coeficientes de fiabilidad se revelaron aceptables de .90 alfa de Cronbach y .91 omega de McDonald. Como conclusión se menciona que la versión ecuatoriana de la DERS en una muestra universitaria exhibe buenas características psicométricas de estructura interna y fiabilidad.

## Keywords.

Emotional Regulation, Psychometric Analysis, Ecuadorian university students.

## Palabras Clave.

Regulación emocional, análisis psicométrico, universitarios ecuatorianos.

## 1. Introduction

In recent times, the study of emotions in the university context versus academic achievement has been a subject of great interest (Lasarte et al., 2019; Pekrun et al., 2002; Supervía et al., 2020; Vera & Morales, 2019). Even though there is an extensive literature that involves the study of various psychological factors related to university performance (Martínez-Monteaudo, 2019; Parasi, 2019; Toro, 2019), these have denoted the undeniable role of emotions in the academic particularities that the student is studying (González et al., 2009; Pekrun et al., 2000; Turner & Schallert, 2001).

Regarding the construct of emotional regulation, it is considered that students experience a wide repertoire of emotions during their learning experiences at university (Medrano & Trógolo, 2014), such as manifested emotions of rejoicing, illusion, conceit, consolation, anger, distress, discouragement, and shyness (Pekrun et al., 2002). Therefore, the relationship between emotional regulation and university development is complex, managing to determine what students do academically (Diego et al., 2018; Medrano & Trógolo, 2014).

Regarding the theoretical description of the construct, Thompson defines emotional regulation as “the set of extrinsic and intrinsic processes responsible for monitoring, evaluating and modifying emotional reactions, especially their intensity and characteristics over time, with the aim of achieving the own goals” (1994, pp. 27–28). However, Gross (1998) exposes emotional regulation as “the process by which individuals order their emotions, how they experience and express them” (p. 275). These arguments establish that emotional regulation is a mechanism by which emotional expression is harmonized in order to achieve an explicit objective. On the other hand, regarding the psychopathological representation of the construct, various investigations mention that difficulties in emotional regulation are associated with certain characteristic mechanisms in mental disorders (C. Silva, 2005), such as anxiety and depression (Mennin et al., 2007), additions (McNally et al., 2003), eating behavior problems (Pascual et al., 2011; Serpe et al., 2018; J. R. Silva, 2008), schizophrenic outbreaks (Kring & Neale, 1996), personality disorders (Glenn & Klonsky, 2009; Gratz & Roemer, 2008), among others. However, considering the measurement of the construct, significant relevance has been denoted on measurement questionnaires for emotional regulation (Kinkead et al., 2011), ranging from a structured interview to self-applied scalar tests (Caprara & Pastorelli, 1993; Gálvez-Hernández et al., 2019; Garnefski et al., 2001; Gratz & Roemer, 2004; Greenwald et al., 2003; Gross & John, 2003; Hoshmand & Austin, 1987; Kamholz et al., 2006; Katz et al., 1999; Lane et al., 1990; Larsen & Prizmic, 2004; Rovira et al., 2012; Schutz et al., 2004; Stanton et al., 2000).

According to this wide variety of instruments, it is considered that the Scale of difficulties in emotional regulation (DERS; Gratz & Roemer, 2004) manages to denote an influx in both its composition and its use in research and clinical practice. It has recently adapted to the Latin American context in countries such as Chile (Guzmán-González et al., 2014), Colombia (Muñoz-Martínez et al., 2016), and Argentina (Medrano & Trógolo, 2014), showing good properties on Psychometric validity and reliability, ranging from .72 to .85 of Cronbach’s alpha coefficient, and denoting it as “good” in terms of fit and reliability.

DERS was initially developed to be used in the field of clinical psychology; however, subsequent studies highlight its usefulness in non-clinical populations, as is the case of the university student population (Hervás & Jódar, 2008; Tejada et al., 2012). According to Gratz and Roemer (2004), it is not possible to evaluate and understand emotional regulation without considering the specific context in which the situational demands and individual goals are developed.

Despite the wide variety of instruments to assess emotional regulation in various contexts, a standardized measuring instrument to assess this psychological notion is needed in Ecuador; therefore, this research corresponds to an instrumental study, where the psychometric properties are examined by DERS in the Ecuadorian university population, concerning the purpose of study, to develop the translation of DERS into the Ecuadorian cultural dialect, as well as to study its structure and internal consistency of the scale in the Ecuadorian population.

## 2. Method

### 2.1 Design

The present investigation of instrumental design considered three studies: the first was to develop the translation of the original version of the scale into the Ecuadorian dialect with the translation-back-translation process; the second was to explore the underlying factors of the scale using Exploratory Factor Analysis; and the third study was to confirm the factorial structure found and submit it to a Confirmatory Factor Analysis, as well as to analyze the reliability of the instrument.

### 2.2 Participants

The first study had a homogeneous target sample of  $n=29$  university students. However, the following two studies consisted of  $n=586$  participants each, corresponding to an accidental non-probabilistic sample (Hernández Sampieri et al., 2015), with a total universe of  $n=1172$  participants from 17 to 32 years of age ( $M=21.99$ ;  $DT=2.49$ ), which 58.6% were women and 41.4% were men. All of them were undergraduate students of psychology at the Catholic University of Cuenca in Ecuador. Regar-

ding the selection criteria, for the inclusion criterion, university psychology students who signed the informed consent were considered, and participants who were under the influence of narcotic drugs, except tobacco, were excluded as part of the criteria.

### 2.3 Instruments

*Difficulties in Emotion Regulation Scale* –DERS– (Gratz & Roemer, 2004) is a self-applied questionnaire, which allows to measure the difficulties in emotional regulation and different aspects of it. Composed of 36 items measured on a five-point Likert scale (from “Almost never/0-10% of the time” to “Almost always/90-100% of the time”). Regarding its reliability and internal composition, the scale is made up of the dimensions: Limited access to regulation strategies Strategies  $\alpha=.88$  (8 items), Impulse control difficulties Impulse  $\alpha=.86$  (6 items), Interference in Goals-directed behaviors  $\alpha=.89$  (5 items), Lack of emotional acceptance Nonacceptance  $\alpha=.85$  (6 items), Lack of emotional awareness Awareness  $\alpha=.80$  (6 items), and Lack of emotional clarity Clarity  $\alpha=.84$  (5 items). In addition, the instrument has predictive validity and a high total internal consistency ( $\alpha=.93$ ). The interpretation is made with the sum of all of its items or with the specific sum of each subscale.

*Sociodemographic questionnaire.* A short survey that collects personal data such as age, gender, and level of study was prepared.

### 2.4 Process

As for the first study, the scale translation was developed in order to linguistically adapt the instrument, following the required standards (Beaton et al., 2000; Bullinger et al., 1998; Muñiz et al., 2013; Streiner & Norman, 2008) of the International Commission for Evaluation Tests (Hambleton & Kanjee, 1995; Hambleton & Bollwark, 1991). Therefore, this required four experts in bilingual translation (Spanish-English). The first couple translated autonomously the original questionnaire into Spanish, originating two translated documents. Subsequently, the second pair of translators carried out the back translation of both documents into the original language (English) of the scale (Harkness & Schoua-Glusberg, 1998; Streiner & Norman, 2008). The successive translated documents were studied and compared by two experts in psychometrics, denoting their semantic equality. Due to this, a version adapted to the Ecuatorian dialect was obtained, with which, from a sample ( $n=29$ ) made up of Ecuatorian university students, a pilot test was carried out in order to know its feasibility (Argimon & Jiménez, 2013; García et al., 2009). After that, its semantic understanding was ensured, considering the final version of the scale.

Subsequently, the Department of Ethics of the Catholic University of Cuenca certified both the research and the informed consent, which under the APA code of

ethics for research and data confidentiality (APA,1994), students who wanted to join the second and third research study proceeded voluntarily to sign the document in writing.

Both for the analysis of the second and third studies, the data collection process was carried out during teaching hours, highlighting the anonymous nature of the information collected (Behnke, 2006), for which the Ecuatorian linguistic version of DERS determined in the first study, combined with sociodemographic information. After that, the analysis of the psychometric properties of the scale was carried out transversally (Ramada-Rodilla et al., 2013; Streiner & Norman, 2008), in order to have a reliable measurement instrument (Carvajal et al., 2011).

### 2.5 Analysis of data

In the second and third study, the description of the sociodemographic variables was performed, as well as the univariate and multivariate normality analysis (Mardia Coefficient) on the matrix of the observed variables data.

Subsequently, a cross-validation procedure was performed in order to know the internal composition of factors determined in DERS.

In the second study, corresponding to the exploratory factor analysis, the convenience of this analysis was assessed in advance using the KMO test (Kaiser-Meyer-Olkin) and the Bartlett sphericity test, and the same method by Gratz and Roemer (2004), of factor extraction by factorization of main axes, was used. However, given the relevance of the data, a type of oblique rotation (Promax) was used.

Concerning the third study, a confirmatory factor analysis was developed in order to demonstrate whether the structure achieved by main axes was replicated. According to the breach of the assumption of multivariate normality in the data matrix, the statistical estimation procedure was Unweighted least squares (ULS), an estimation procedure that provides appropriate evaluations, without the requirement of the assumption of normality in the data (Ruiz, 2000). The fit of the model was evaluated by managing several values, some of which are the Goodness of Fit Index (GFI), Normed Fit Index (NFI), and the Adjusted Goodness of Fit Index (AGFI), whose values, equal or greater than .90, are deciphered as values corresponding to an admissible fit of the model (Hu & Bentler, 1999). In addition to this, the Residual Mean Square Root (RMR) was also obtained, of which a small value is interpreted as a good model (Tabachnick & Fidell, 2007).

Once the factorial structure was established, the reliability of the scale was known, using the Cronbach's alpha ( $\alpha$ ) coefficient (Nunnally, 1975) and the McDonald ( $\omega$ ) Omega coefficient 1999. Despite the classic use of Cronbach's alpha coefficient, the analysis of the Omega coefficient was incorporated into the study, a relatively new reliability estimator used in factor models (Ventura-

Table 1

*Descriptive statistics and multivariate normality contrast*

	Second study		Third Study		$\chi^2$	df	p
	n	%	n	%			
Gender					.088	1	.767
Female	341	58.20	346	59			
Male	245	41.80	240	41			
	$\bar{x}$	SD	$\bar{x}$	SD	t	df	p
Age	21.07	2.49	21.52	2.47	-3.073	1170	<b>.002</b>
<i>Mardia's Coefficient</i>					$\chi^2$	df	p
$A_m$	177.541		-		17433.454	8436	<b>.000</b>
$K_m$	1701.768				5965.014	1	<b>.000</b>
$A_m$	-		274.034		26908.420	8436	<b>.000</b>
$K_m$			1626.561		3579.713	1	<b>.000</b>

Note. The data in bold correspond to the level of significance (level .05).

León, 2018) that manages to present a high sensitivity compared to other estimators (Zinbarg et al., 2005), as well as its robustness when sampling heterogeneous populations, the reduced risk of overestimating reliability (Waller, 2008), and its ability for not having correlated errors, which are often limitations of Cronbach's alpha (Dunn et al., 2014; Ventura-León, 2018). Acceptable reliability values above .70 were considered in the present study (Nunnally & Bernstein, 1994).

Statistical analyzes were performed with computer programs: SPSS software vers. 24.0.0 combined with the AMOS 24 statistical package (IBM Corp., 2016) and the JASP 0.9.2 software (Love et al., 2015).

### 3. Results

#### 3.1 First study

Corresponding to the first study, as for the translation, it can be mentioned that of the 36 original items on the scale, 33 showed no problems and were translated literally. In the three remaining items, minimal changes had to be made, without modifying the meaning or structure of the item. Thus, the phrase “*My emotions feel overwhelming*”, which describes a specific environment, was replaced by “*I feel my emotions as stunners*”, which hints at a more neutral state. As for the phrase “*I experience my emotions as overwhelming and out of control*”, it was rephrased as “*I experience my emotions as stunning and out of control*”. As for the statement “*When I'm upset, I believe that wallowing in it is all I can do*”, it was modified to the phrase “*When I'm upset, I think that sinking into it is all I can do*”. The pilot test (n=35) confirmed the congruence of the scale. Finally, as regards the understanding of the items, all the university students confirmed the feasibility of the instrument with clear and simple language.

In both the second and third studies, in the cross-validation process, the data collected did not show statistically significant differences according to gender, but

did show it according to age. Mardia's multivariate normality tests indicate the absence of normality in the variables observed for both subsamples (see Table 1).

#### 3.2 Second study

Corresponding to the second study, with n=586 participants, the extraction of factors by main axes was developed with the promax rotation method. Data from the correlation matrix were reflected as appropriate for this kind of study [Bartlett's sphericity test (630) = 10920,894;  $p < 0.001$ ; Kaiser-Meyer-Olkin Index = .931]. Five factors were obtained, according to the rule of eigenvalues greater than one. The five-factor solution explained 49.22% of the variance. Regarding the content of the items, it can be seen that two factors were merged: “lack of emotional acceptance” and “lack of emotional awareness”, together with two more items that saturate this new factor. Given that the theoretical content of these items is similar to each other than compared to the other dimensions, it can be believed that for this reason the factorial process fails to distinguish them. Precisely to reject this argument, a factorial analysis again, but only with these items.. All in all, the results showed again that these items corresponded to a single dimension or factor. Due to this, and due to the semantic characteristics of the items, the results show that it is more convenient to group them on a subscale. This is denoted in Table 2, which describes the data of the rotated configuration matrix; therefore, the first factor would be made up of fourteen items concerning the lack of *emotional compression*; the second would group eight items related to limited *access to regulatory strategies*; the third would consist of six items related to the *difficulties in impulse control*; the fourth would be grouped by four items, related to interferences in *goal-directed behaviors*; and the fifth would be grouped by four items related to the *lack of emotional clarity*.



**Table 2**

*Main axis factorization with promax rotation (configuration matrix) and factor correlations*

Items	F1	F2	F3	F4	F5
Item 32	<b>.818</b>				
Item 33	<b>.792</b>				
Item 27	<b>.767</b>				
Item 36	<b>.752</b>				
Item 14	<b>.747</b>				
Item 19	<b>.745</b>				
Item 15	<b>.732</b>				
Item 18	<b>.713</b>				
Item 35	<b>.711</b>				
Item 26	<b>.690</b>				
Item 28	<b>.652</b>				
Item 16	<b>.648</b>			<b>.346</b>	
Item 13	<b>.539</b>				
Item 17	<b>.509</b>			<b>-.380</b>	<b>.365</b>
Item 30		<b>.831</b>			
Item 29	<b>.578</b>	<b>.825</b>		<b>.388</b>	
Item 25		<b>.790</b>			
Item 21		<b>.744</b>			<b>-.335</b>
Item 12		<b>.639</b>			
Item 23		<b>.637</b>			<b>-.334</b>
Item 11		<b>.604</b>			
Item 31		<b>.584</b>			
Item 2			<b>.755</b>		
Item 7			<b>.703</b>		<b>.401</b>
Item 8			<b>.700</b>		
Item 6			<b>.688</b>		
Item 1			<b>.652</b>		
Item 10			<b>.499</b>		<b>.314</b>
Item 5				<b>.647</b>	
Item 4		<b>.374</b>		<b>.620</b>	
Item 9				<b>.585</b>	
Item 3		<b>.395</b>		<b>.525</b>	
Item 22			<b>.425</b>		<b>.681</b>
Item 24			<b>.332</b>		<b>.586</b>
Item 34			<b>.320</b>		<b>.556</b>
Item 20					<b>.508</b>
<i>Variance of the rotated factor:</i>					
Factor	F1	F2	F3	F4	F5
	4.49	3.47	2.12	1.71	1.21
<i>Factorial correlations:</i>					
Factor	F1	F2	F3	F4	F5
F1	1				
F2	.66	1			
F3	-.07	-.07	1		
F4	.58	.57	.02	1	
F5	-.34	-.37	.42	-.22	1

*Note.* Data in bold correspond to factor loads greater than 0.30 in absolute value; theoretically grouped factor correspondence.

### 3.3 Third study

With  $n=586$  participants, this five-factor structure was examined using a confirmatory factor analysis, whose estimation procedure was performed by Unweighted Least Squares (ULS). Table 3 shows the final standardized values, whose adjustment was acceptable (Gaskin & Lim, 2016; Hu & Bentler, 1999) [ $\chi^2(584)=5512.724$ ; GFI=.95; AGFI=.95; NFI=.94; RMR=.11], respectively. All the weights and factor correlations were statistically significant ( $p<.001$ ), one by one.

**Table 3**

*AFC: standardized parameters of the evaluated model*

<i>F1: Lack of emotional understanding.</i>	
Item 32	.760
Item 33	.735
Item 27	.784
Item 36	.777
Item 14	.707
Item 19	.748
Item 15	.710
Item 18	.637
Item 35	.786
Item 26	.579
Item 28	.713
Item 16	.638
Item 13	.492
Item 17	.553
<i>F2: Limited access to regulatory strategies.</i>	
Item 30	.817
Item 29	.735
Item 25	.663
Item 21	.694
Item 12	.667
Item 23	.505
Item 11	.553
Item 31	.665
<i>F3: Impulse control difficulties.</i>	
Item 2	.701
Item 7	.771
Item 8	.660
Item 6	.626
Item 1	.597
Item 10	.502
<i>F4: Interference in goal-directed behaviors.</i>	
Item 5	.660
Item 4	.687
Item 9	.641
Item 3	.662
<i>F5: Lack of emotional clarity.</i>	
Item 22	.424
Item 24	.367
Item 34	.686
Item 20	.444

*Note.* The described composition of each item is found in the annex section of the research.

Finally, in terms of reliability, the internal consistency of each subscale was relatively good, since most of the Cronbach's alpha coefficients and McDonald's Omega coefficients showed higher values of .70 in most of the factors. For Factor 1 (fourteen items)  $\alpha=.93$ ,  $\omega=.93$ ; Factor 2 (eight items)  $\alpha=.83$ ,  $\omega=.86$ ; Factor 3 (six items)  $\alpha=.80$ ,  $\omega=.81$ ; factor 4 (four items)  $\alpha=.75$ ,  $\omega=.76$ ; and Factor 5 (four items)  $\alpha=.60$ ,  $\omega=.61$ , which presented comparatively low reliability. The total reliability of the scale has a Cronbach's alpha of .90 and a McDonald's omega coefficient of .91, respectively.

#### 4. Discussion

The purpose of the present study was to adapt DERS linguistically and culturally, as well as to evaluate the psychometric properties of the scale in the Ecuatorian university population. The results guarantee that the instrument has good psychometric properties of structure and internal consistency, being considered as *good* and *consistent*.

The new scale obtained is similar to the one originally conceived by the previous literature, since the Ecuatorian version subtly shows differences regarding dialectical compression, compared to the instrument originally recreated in the Anglo-Saxon language.

Due to the importance of developing a correct translation, for the conceptual equivalence of each item in the different cultural populations where the instruments are adapted (Carvajal et al., 2011), the scale is considered to measure the theoretical dimensions proposed by the authors, avoiding biases in the measurement of the construct. Precisely in the period of translation of the instrument, no significant problems in understanding were revealed, nor were unusual terminologies used. Precisely, the good conceptual and semantic equivalence in the new scale establishes the appropriation of the measure of difficulties in emotional regulation vis-à-vis the scientific community (Carvajal et al., 2011; Harkness & Schoua-Glusberg, 1998).

In addition to the above, the scale corresponds to an instrument of comfort and speed in its self-application. It is added the relevant aspect that was obtained through a pilot test, confirming the feasibility of the instrument for the Ecuatorian population. At this point it is necessary to mark the relevance that the scale uses a semantic structure that is easy to interpret, in order to avoid measurement errors (Argimon & Jiménez, 2013; Carvajal et al., 2011).

Regarding the factorial structure compared to the previously adapted Spanish and Latin scales, the results are similar to the Spanish adaptation (Hervás & Jódar, 2008), Chilean (Guzmán-González et al., 2014), and Argentinian (Medrano & Trógolo, 2014), where the five-factor solution is replicated due to the greater overlap of items grouped into the "lack of emotional compression" factor. However, the factor structure is different

compared to the brief scale found in the Colombian context (Muñoz-Martínez et al., 2016). This result is influenced possibly by the quality of the responses obtained and the type of population to which the instrumental evaluation was submitted. Likewise, it is necessary to highlight that the factors present moderate and low correlations, which would be interpreted as a Relevant aspect of differentiated factors (Brown, 2006), observed in the same way in the Colombian adaptation of the instrument (Muñoz-Martínez et al., 2016); therefore, it solidifies theoretically what was mentioned by the original authors in the creation of the instrument, because the instrument presents a marked dimensionality of the construct depending on the context to which it is applied.

Regarding the limitations of the study, the possibility of bias in the study population is mentioned due to the lack of variability, which does not make possible a generalization in the entire population, since the study population was only made up of university students. Consequently, the sampling was non-probabilistic of selection by volunteers. Likewise, regarding the statistical part of the data analysis, despite the fact that there are currently much more robust and powerful factor extraction and rotation methods (Ferrando & Lorenzo-Seva, 2017), in the present study we opted to follow the same factorial design taken by the authors to replicate a similar internal structure. Another limitation is that the relationship with other variables could not be evaluated in terms of convergent and discriminant validity, because there are no Ecuatorian standardized instruments that measure the construct alternatively. It is suggested that for future studies the involvement of a diverse population, in order to know if the structure found in the study is replicated and corresponds to a universal determinant in the Ecuatorian population, as well as in the calculations from factor analysis, it is suggested that for future analyzes these should be discriminated by more robust and current computations of statistical stability, unlike those originally used by the authors.

As a conclusion, it is mentioned that, according to a translation and adaptation procedure of DERS, an instrument adapted to the Ecuatorian culture has been obtained in a university sample, whose psychometric values are established as adequate. Likewise, it is mentioned that in this version, the scale is similar to the original, in terms of structure and semantic compression, as well as the proper definition of the construct as exposed by the original authors.

Having an adapted scale in Ecuador, dealing with the difficulties of emotional regulation in an Ecuatorian university sample, responds to the impetuous need to have standardized instruments in the country that study this construct from a clear and simple language, due to the undeniable role of emotions on the academic particularities that the student is studying (González et al., 2009; Pekrun et al., 2000; Turner & Schallert, 2001),

where emotional regulation plays an important role in academic performance (Diego et al., 2018; Medrano & Trógolo, 2014).

## References

- American Psychiatric Association. (1994). Diagnostic and statistical manual of mental disorders (4a. ed) Washington, DC EE. UU.
- Argimon, J., & Jiménez, J. (2013). *Métodos de investigación clínica y epidemiológica* (4th ed.). Elsevier.
- Beaton, D. E., Bombardier, C., Guillemin, F., & Ferraz, M. B. (2000). Guidelines for the process of cross-cultural adaptation of self-report measures. *Spine*, 25(24), 3186–3191. <https://doi.org/10.1097/00007632-200012150-00014>.
- Behnke, S. (2006). APA's Ethical Principles of Psychologists and Code of Conduct: An ethics code for all psychologists...? *Monitor on Psychology*, 37(8), 66. <https://www.apa.org/ethics/code/>.
- Brown, T. A. (2006). *Confirmatory Factor Analysis for Applied Research*. The Guildford Press.
- Bullinger, M., Alonso, J., Apolone, G., Lepège, A., Sullivan, M., Wood-Dauphinee, S., Gandek, B., Wagner, A., Aaronson, N., Bech, P., Fukuhara, S., Kaasa, S., & Ware Jr., J. E. (1998). Translating health status questionnaires and evaluating their quality: the IQOLA project approach. *Journal of clinical epidemiology*, 51(11), 913–923. [https://doi.org/10.1016/S0895-4356\(98\)00082-1](https://doi.org/10.1016/S0895-4356(98)00082-1).
- Caprara, G. V., & Pastorelli, C. (1993). Early emotional instability, prosocial behaviour, and aggression: Some methodological aspects. *European Journal of personality*, 7(1), 19–36. <https://doi.org/10.1002/per.2410070103>.
- Carvajal, A., Centeno, C., Watson, R., Martínez, M., & Sanz Rubiales, Á. (2011). Cómo validar un instrumento de medida de la salud? *An Sist Sanit NavaR*, 34(1), 63–72.
- Diego, G. A., Tomás, M. B., de Oliver, J. S. P., Limonero, J. T., & Navarro, R. M. (2018). La regulación emocional en el ámbito de la atención primaria. *Información psicológica*, (115), 2–13.
- Dunn, T. J., Baguley, T., & Brunson, V. (2014). From alpha to omega: A practical solution to the pervasive problem of internal consistency estimation. *British Journal of Psychology*, 105(3), 399–412. <https://doi.org/10.1111/bjop.12046>.
- Ferrando, P. J., & Lorenzo-Seva, U. (2017). Program FACTOR at 10: Origins, development and future directions. *Psicothema*, 29(2), 236–240. <https://doi.org/10.7334/psicothema2016.304>.
- Gálvez-Hernández, C. L., Rivera-Fong, L., Linares-Buitrón, A. V., Zapata-Barrera, S., Mohar-Betancourt, A., Calleja, N., & Villarreal-Garza, C. (2019). Validación del Cuestionario de Regulación Emocional Cognitiva en pacientes mexicanas con cáncer de mama. *Salud pública de México*, 60(5), 488–489. <https://doi.org/10.21149/9191>.
- García, M., Rodríguez, F., & Carmona, L. (2009). Validación de cuestionarios. *Reumatol Clin*, 5(4), 171–177.
- Garnefski, N., Kraaij, V., & Spinhoven, P. (2001). Negative life events, cognitive emotion regulation and emotional problems. *Personality and Individual Differences*, 30(8), 1311–1327. [https://doi.org/10.1016/S0191-8869\(00\)00113-6](https://doi.org/10.1016/S0191-8869(00)00113-6).
- Gaskin, J., & Lim, J. (2016). Model fit measures [Amos plugin]. Gaskinations StatWiki.
- Glenn, C. R., & Klonsky, E. D. (2009). Emotion dysregulation as a core feature of borderline personality disorder. *Journal of personality disorders*, 23(1), 20–28. <https://doi.org/10.1521/pedi.2009.23.1.20>.
- González, A., Donolo, D., & Rinaudo, C. (2009). Emociones académicas en universitarios: Su relación con las metas de logro. *Ansiedad y Estrés*, 15(2–3), 263–277.
- Gratz, K. L., & Roemer, L. (2004). Multidimensional assessment of emotion regulation and dysregulation: Development, factor structure, and initial validation of the difficulties in emotion regulation scale. *Journal of psychopathology and behavioral assessment*, 26(1), 41–54. <https://doi.org/10.1023/B:JOBA.0000007455.08539.94>.
- Gratz, K. L., & Roemer, L. (2008). The relationship between emotion dysregulation and deliberate selfharm among female undergraduate students at an urban commuter university. *Cognitive behaviour therapy*, 37(1), 14–25. <https://doi.org/10.1080/16506070701819524>.
- Greenwald, A. G., Nosek, B. A., & Banaji, M. R. (2003). Understanding and using the implicit association test: I. An improved scoring algorithm. *Journal of personality and social psychology*, 85(2), 197. <https://doi.org/10.1037/0022-3514.85.2.197>.
- Gross, J. (1998). The emerging field of emotion regulation: An integrative review. *Review of General Psychology*, 2(3), 271–299. <http://dx.doi.org/10.1037/1089-2680.2.3.271>.
- Gross, J., & John, O. (2003). Individual differences in two emotion regulation processes: Implications for affect, relationships and well-being. *Journal of Personality and Social Psychology*, 85(2), 348–362. <http://dx.doi.org/10.1037/0022-3514.85.2.348>.
- Guzmán-González, M., Trabucco, C., Urzúa, A., Garrido, L., & Leiva, J. (2014). Validez y confiabilidad de la versión adaptada al español de la Escala de Dificultades de Regulación Emocional (DERS-E) en población chilena. *Terapia*

- psicológica*, 32(1), 19–29. <http://dx.doi.org/10.4067/S0718-48082014000100002>.
- Hambleton, R. K., & Kanjee, A. (1995). Increasing the validity of cross-cultural assessments: Use of improved methods for test adaptations. *European Journal of Psychological Assessment*, 11(3), 147–157. <https://psycnet.apa.org/doi/10.1027/1015-5759.11.3.147>.
- Hambleton, R. K., & Bollwark, J. (1991). *Adapting Tests for Use in Different Cultures: Technical Issues and Methods*. Lawrence Erlbaum Publishers.
- Harkness, J., & Schoua-Glusberg, A. (1998). Questionnaires in translation. Harkness JA, ed. Cross-cultural survey equivalence. ZUMA-Nachrichten Spezial, 3. Mannheim: ZUMA: 87-126.
- Hernández Sampieri, R., Fernández Collado, C., & Baptista Lucio, P. (2015). *Metodología de la investigación* (6th ed.). McGraw-Hill.
- Hervás, G., & Jódar, R. (2008). Adaptación al castellano de la Escala de Dificultades en la Regulación Emocional. *Clínica y Salud*, 19(2), 139–156. <http://scielo.isciii.es/pdf/clinsa/v19n2/v19n2a01.pdf>.
- Hoshmand, L. T., & Austin, G. W. (1987). Validation studies of a multifactor cognitive-behavioral Anger Control Inventory. *Journal of Personality Assessment*, 51(3), 417–432. [http://doi.org/10.1207/s15327752jpa5103\\_9](http://doi.org/10.1207/s15327752jpa5103_9).
- Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural equation modeling: a multidisciplinary journal*, 6(1), 1–55. <http://doi.org/10.1080/10705519909540118>.
- IBM Corp. (2016). IBM SPSS statistics: Versión 24 [Computer software]. IBM Corp. <https://www.ibm.com/support/pages/downloading-ibm-spss-statistics-24>.
- Kamholz, B. W., Hayes, A. M., Carver, C. S., Gulliver, S. B., & Perlman, C. A. (2006). Identification and evaluation of cognitive affect-regulation strategies: Development of a self-report measure. *Cognitive Therapy and Research*, 30(2), 227–262. <http://doi.org/10.1007/s10608-006-9013-1>.
- Katz, L. F., Wilson, B., & Gottman, J. M. (1999). Meta-emotion philosophy and family adjustment: Making an emotional connection. In M. J. Cox & J. Brooks-Gunn (Eds.), *The advances in family research series. Conflict and cohesion in families: Causes and consequences* (pp. 131-165). Lawrence Erlbaum Associates Publishers. <https://psycnet.apa.org/record/1999-02032-006>.
- Kinthead, A., Garrido, L., & Uribe, N. (2011). Modalidades evaluativas en la regulación emocional: Aproximaciones actuales. *Revista Argentina de Clínica Psicológica*, 20(1), 29–39. <https://www.redalyc.org/pdf/2819/281921807002.pdf>.
- Kring, A., & Neale, J. (1996). Do schizophrenics show a disjunctive relationship among expressive, experiential, and psychophysiological components of emotion? *Journal of Abnormal Psychology*, 105(2), 249–257. <http://dx.doi.org/10.1037/0021-843X.105.2.249>.
- Lane, R. D., Quinlan, D. M., Schwartz, G. E., Walker, P. A., & Zeitlin, S. B. (1990). The Levels of Emotional Awareness Scale: A cognitive-developmental measure of emotion. *Journal of personality assessment*, 55(1–2), 124–134. <http://doi.org/10.1080/00223891.1990.9674052>.
- Larsen, R. J., & Prizmic, Z. (2004). Affect regulation. In R. F. Baumeister & K. D. Vohs (Eds.), *Handbook of self-regulation: Research, theory, and applications* (pp. 40–61). Guilford Press.
- Lasarte, O. F., Díaz, E. R., & Sáez, I. A. (2019). Rendimiento académico, apoyo social percibido e inteligencia emocional en la universidad. *EJIHPE: European Journal of Investigation in Health, Psychology and Education*, 9(1), 39–49. <https://doi.org/10.30552/ejihpe.v9i1.315>.
- Love, J., Selker, R., Verhagen, J., Marsman, M., Gronau, Q. F., Jamil, T., Smira, M., Epskamp, S., Wild, A., Ly, A., Matzke, D., Wagenmakers, E.-J., Moray, R. D., & Rouder, J. N. (2015). Software to sharpen your stats. *APS Observer*, 28(3), 27–29.
- Martínez-Monteagudo, M. C. (2019). Ansiedad escolar en el ámbito universitario. Diferencias de sexo. In R. Roig-Vila (Ed.), *Investigación e innovación en la enseñanza superior. Nuevos contextos, nuevas ideas* (pp. 298-306). Ediciones Octaedro.
- McDonald, R. P. (1999). *Test theory: A unified approach*. Lawrence Erlbaum Associates Publishers.
- McNally, A. M., Palfai, T. P., Levine, R. V., & Moore, B. M. (2003). Attachment dimensions and drinking-related problems among young adults: The mediational role of coping motives. *Addictive behaviors*, 28(6), 1115–1127. [https://doi.org/10.1016/S0306-4603\(02\)00224-1](https://doi.org/10.1016/S0306-4603(02)00224-1).
- Medrano, L. A., & Trógolo, M. (2014). Validación de la escala de dificultades en la regulación emocional en la población universitaria de Córdoba, Argentina. *Universitas Psychologica*, 13(4), 1345–1356.
- Mennin, D. S., Holaway, R. M., Fresco, D. M., Moore, M. T., & Heimberg, R. G. (2007). Delineating components of emotion and its dysregulation in anxiety and mood psychopathology. *Behavior therapy*, 38(3), 284–302. <https://doi.org/10.1016/j.beth.2006.09.001>.
- Muñiz, J., Elosua, P., & Hambleton, R. K. (2013). Directrices para la traducción y adaptación de los



- tests: Segunda edición. *Psicothema* 2013, 25, 151–157. <https://doi.org/10.7334/psicothema2013.24>.
- Muñoz-Martínez, A. M., Vargas, R. M., & Hoyos-González, J. S. (2016). Escala de dificultades en regulación emocional (Ders): análisis factorial en una muestra colombiana [Difficulties in emotion regulation scale (Ders): factor analysis in a Colombian sample]. *Acta colombiana de psicología*, 19(1), 233–244. <https://www.dx.doi.org/10.14718/ACP.2016.19.1.10>.
- Nunnally, J. C. (1975). The study of change in evaluation research: principles concerning measurement, experimental design and analysis. In E. L. Streuning and M. Guttentag (Eds.) *Handbook of Evaluation Research* (pp. 101–138). Sage.
- Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (Vol. 3). McGraw-Hill.
- Parasi, C. F. (2019). *Ansiedad ante los exámenes y rendimiento académico en estudiantes de secundaria de un colegio particular de Miraflores* [Specialization thesis on psychopedagogy, Universidad Ricardo Palma]. <http://repositorio.urp.edu.pe/handle/URP/2460>.
- Pascual, A., Etxebarria, I., Cruz, M., & Echeburúa, E. (2011). Las variables emocionales como factores de riesgo de los trastornos de la conducta alimentaria. *International journal of clinical and health psychology*, 11(2), 229–247.
- Pekrun, R., Goetz, T., Titz, W., & Perry, R. (2002). Academic emotions in students self-regulated learning and achievement: A program of qualitative and quantitative research. *Educational Psychologist*, 37(2), 91–105. [https://doi.org/10.1207/S15326985EP3702\\_4](https://doi.org/10.1207/S15326985EP3702_4).
- Pekrun, R., Molfenter, S., Titz, W., & Perry, R. (2000). Emotion, learning, and achievement in university students: Longitudinal studies [Paper presentation]. American Educational Research Association annual meeting, New Orleans, LA, United States.
- Ramada-Rodilla, J., Serra-Pujadas, C., & Delclós-Clanchet, G. (2013). Adaptación cultural y validación de cuestionarios de salud: Revisión y recomendaciones metodológicas. *Salud Pública Méx* 2013, 55(1), 57–66.
- Rovira, D. P., Martínez, F., Sevillano, V., Mendiburo, A., & Campos, M. (2012). Medida de estilos de regulación afectiva (MARS) ampliada en ira y tristeza. *Psicothema*, 24(2), 249–254. <http://www.psicothema.com/pdf/4007.pdf>.
- Ruiz, M. (2000). *Introducción a los modelos de ecuaciones estructurales*. UNED Ediciones.
- Schutz, P. A., Distefano, C., Benson, J., & Davis, H. A. (2004). The emotional regulation during test-taking scale. *Anxiety, Stress & Coping*, 17(3), 253–269. <https://doi.org/10.1080/10615800410001710861>.
- Serppe, M., Chemisquy, S., Oros, L., Díaz, J., Barasz, V., Waigel, N., & Ernst, C. (2018). Qué sabemos acerca del perfeccionismo infantil en Argentina? *Revista de Psicología*, 13(25), 55–69.
- Silva, C. (2005). Regulación emocional y psicopatología: El modelo de vulnerabilidad/resiliencia. *Revista chilena de neuro-psiquiatría*, 43(3), 201–209.
- Silva, J. R. (2008). Restricción alimentaria y sobrealimentación: Un modelo de la neurociencia afectiva. *Revista médica de Chile*, 136(10), 1336–1342.
- Stanton, A. L., Kirk, S. B., Cameron, C. L., & Danoff-Burg, S. (2000). Coping through emotional approach: Scale construction and validation. *Journal of personality and social psychology*, 78(6), 1150–1169. <https://doi.org/10.1037//0022-3514.78.6.1150>.
- Streiner, D., & Norman, G. (2008). *Health measurement scales. A practical guide to their development and use* (4th ed.). Oxford University Press.
- Supervía, P. U., Bordás, C. S., & Abad, J. J. M. (2020). Relaciones entre la inteligencia emocional, el burnout académico y el rendimiento en adolescentes escolares [Relationship between emotional intelligence, academic burnout and school performance in adolescent students]. *CES Psicología*, 13(1), 125–139.
- Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics*. Allyn & Bacon/Pearson Education.
- Tejeda, M., Garca, R., González-Forteza, C., & Palos, P. (2012). Propiedades psicométricas de la escala Dificultades en la Regulación Emocional en español (DERS-E) para adolescentes mexicanos. *Salud mental*, 35(6), 521–526.
- Thompson, R. A. (1994). Emotion regulation: A theme in search of definition. *Monographs of the society for research in child development*, 59(2–3), 25–52. <https://doi.org/10.1111/j.1540-5834.1994.tb01276.x>.
- Toro, M. T. (2019). Relajación de Jacobson para disminuir la ansiedad originada por evaluaciones e incremento del rendimiento académico en estudiantes de psicología de una universidad privada de Lima Metropolitana. *Avances en Psicología*, 27(2), 67–176.
- Turner, J., & Schallert, D. (2001). Expectancy-value relationships of shame reactions and shame resiliency. *Journal of Educational Psychology*, 93(2), 320–329.
- Ventura-León, J. L. (2018). Intervalos de confianza para coeficiente Omega: Propuesta para el cálculo. *Adicciones*, 30(1), 77–78.

- Vera, J. A., & Morales, S. T. (2019). Inteligencia emocional y rendimiento académico en estudiantes universitarios de nutrición. *Revista Investigación en Educación Médica*, 8(31), 82–91.
- Waller, N. G. (2008). Commingled samples: A neglected source of bias in reliability analysis. *Applied Psychological Measurement*, 32(3), 211–223.
- Zinbarg, R. E., Revelle, W., Yovel, I., & Li, W. (2005). Cronbach's  $\alpha$ , Revelle's  $\beta$ , and McDonalds  $\omega$  H: Their relations with each other and two alternative conceptualizations of reliability. *psychometrika*, 70(1), 123–133.

### Appendix A

#### Instrument adapted linguistically to the Ecuadorian population

DERS					
<p>Por favor, indique cuántas veces le pasan las siguientes afirmaciones. Marque cada número con una cruz, según la escala que aparece a continuación:</p>					
1	2	3	4	5	
Casi nunca (0-10%)	Algunas veces (11-35%)	La mitad de las veces (36-65%)	La mayoría de las veces (66-90%)	Casi siempre (91-100%)	
1. Tengo claro lo que siento (tristeza, enfado, alegría...).	1	2	3	4	5
2. Pongo atención a cómo me siento.	1	2	3	4	5
3. Vivo mis emociones como si no tuviera el control de ellas.	1	2	3	4	5
4. No sé, cómo me siento.	1	2	3	4	5
5. Me cuesta entender mis sentimientos.	1	2	3	4	5
6. Estoy atento a mis emociones.	1	2	3	4	5
7. Sé exactamente cómo me estoy sintiendo.	1	2	3	4	5
8. Le doy importancia a lo que estoy sintiendo.	1	2	3	4	5
9. Suelo confundirme sobre lo que siento.	1	2	3	4	5
10. Cuando estoy molesto, sé reconocer cuáles son mis emociones (si es rabia, si es decepción...).	1	2	3	4	5
11. Cuando estoy molesto, me enfado conmigo mismo por sentirme de esa manera.	1	2	3	4	5
12. Cuando estoy molesto, me da vergüenza sentirme de esa manera.	1	2	3	4	5
13. Cuando estoy molesto, me cuesta terminar mis trabajos.	1	2	3	4	5
14. Cuando estoy molesto, pierdo el control.	1	2	3	4	5
15. Cuando estoy molesto, creo que estaré así durante mucho tiempo.	1	2	3	4	5
16. Cuando estoy molesto, creo que acabaré sintiéndome muy deprimido.	1	2	3	4	5
17. Cuando estoy molesto, creo que ese sentimiento es el adecuado.	1	2	3	4	5
18. Cuando estoy molesto, me cuesta centrarme en otras cosas.	1	2	3	4	5
19. Cuando estoy molesto, me siento fuera de control.	1	2	3	4	5
20. Cuando estoy molesto, realizo mis labores normalmente.	1	2	3	4	5
21. Cuando estoy molesto, me siento avergonzado de mí mismo por sentirme de esa manera.	1	2	3	4	5
22. Cuando estoy molesto, sé que puedo encontrar una manera de sentirme mejor.	1	2	3	4	5
23. Cuando estoy molesto, me siento como si fuera una persona débil.	1	2	3	4	5
24. Cuando estoy molesto, creo que puedo controlar mi comportamiento.	1	2	3	4	5
25. Cuando estoy molesto, me siento culpable por sentirme de esa manera.	1	2	3	4	5
26. Cuando estoy molesto, me cuesta concentrarme.	1	2	3	4	5
27. Cuando estoy molesto, me cuesta controlar mi conducta.	1	2	3	4	5
28. Cuando estoy molesto, creo que no hay nada que pueda hacer para conseguir sentirme mejor.	1	2	3	4	5
29. Cuando estoy molesto, me enfado conmigo mismo por sentirme de esa manera.	1	2	3	4	5
30. Cuando estoy molesto, empiezo a sentirme muy mal conmigo mismo.	1	2	3	4	5
31. Cuando estoy molesto, creo que solo así debo estar.	1	2	3	4	5
32. Cuando estoy molesto, pierdo el control sobre mi comportamiento.	1	2	3	4	5
33. Cuando estoy molesto, me cuesta pensar sobre cualquier otra cosa.	1	2	3	4	5
34. Cuando estoy molesto, me doy un tiempo para comprender lo que estoy sintiendo realmente.	1	2	3	4	5
35. Cuando estoy molesto, tardo mucho tiempo en sentirme mejor.	1	2	3	4	5
36. Cuando estoy molesto, mis emociones parecen desbordarse (escaparse de mis manos).	1	2	3	4	5