

ESCALA DE DIFICULTADES EN REGULACIÓN EMOCIONAL (DERS): ANÁLISIS FACTORIAL EN UNA MUESTRA COLOMBIANA

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Recibido, septiembre 11/2015

Concepto evaluación, noviembre 5/2015

Aceptado, diciembre 8/2015

Referencia: 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. *Acta Colombiana de Psicología*, 19(1), 233-244. DOI: 10.14718/ACP.2016.19.1.10

Resumen

La Escala de Dificultades en la Regulación Emocional (DERS, por sus siglas en inglés) es un instrumento diseñado para medir la desregulación emocional. El presente estudio buscó identificar la consistencia de los factores incluidos en la DERS, y la relevancia de los ítems en cada uno de ellos. Los participantes fueron 251 estudiantes, 68% mujeres, de una universidad en Bogotá-Colombia. En esta investigación se evaluaron los componentes de la DERS: (a) no-aceptación, (b) metas, (c) impulsividad, (d) estrategias, (e) consciencia, y (f) claridad. El Análisis Factorial mostró que los ítems de la DERS se reunían en dos factores principales en lugar de seis, y la reducción de datos demostró que 15 de los 36 ítems originales contribuyeron significativamente a la varianza. Se recomienda incrementar las investigaciones en contextos de la salud, y con población clínica y no clínica en Colombia para validar la DERS, y desarrollar un puntaje total de esta escala.

Palabras clave: desregulación emocional, análisis factorial, investigación instrumental.

DIFFICULTIES IN EMOTION REGULATION SCALE (DERS): FACTOR ANALYSIS IN A COLOMBIAN SAMPLE

Abstract

The *Difficulties in Emotion Regulation Scale* (DERS) is an instrument designed to assess emotional dysregulation. The current study sought to identify the consistency of DERS factors, and items relevance for each one of them. Participants were 251 students, 68% female, from a university in Bogotá-Colombia. This research assessed the DERS factors: (a) non-acceptance, (b) goals, (c) impulse, (d) strategies, (e) awareness, and (f) clarity. Factor Analysis found that the DERS items are gathered in two main factors rather than six, and data reduction demonstrated that only 15 of the 36 items in the original scale contributed significantly to factors variance. It is recommended extending the research to health contexts, and to clinical and non-clinical population in Colombia to validate the DERS and develop a total score for the scale.

Key words: emotional dysregulation, factor analysis, instrumental study.

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Los autores agradecen al profesor Juan Carlos Rincón (Fundación Universitaria Konrad Lorenz) por el apoyo en el análisis estadístico. El presente trabajo fue desarrollado dentro del Proyecto de investigación "Análisis de la regulación emocional y los factores contextuales funcionales relacionados a esto en estudiantes universitarios: algunas guías de intervención" financiado por la Fundación Universitaria Konrad Lorenz del 2012 al 2013. (Código del proyecto: 95102131).

ESCALA DE DIFICULDADES DE REGULAÇÃO EMOCIONAL (DERS): ANÁLISE FATORIAL NUMA AMOSTRA COLOMBIANA

Resumo

A Escala de Dificuldades de Regulação Emocional (DERS, por sua sigla em inglês) é um instrumento desenhado para medir a desregulação emocional. O presente estudo buscou identificar a consistência dos fatores incluídos na DERS e a relevância dos itens em cada um deles. Os participantes foram 251 estudantes, 68% mulheres, de uma universidade em Bogotá (Colômbia). Nesta pesquisa, avaliaram-se os componentes da DERS: 1) não aceitação; 2) metas; 3) impulsividade; 4) estratégias; 5) consciência e 6) clareza. A análise fatorial mostrou que os itens da DERS se reuniam em dois fatores principais em lugar de seis, e a redução de dados mostrou que 15 dos 36 itens originais contribuíram significativamente para a variação. Recomendase aumentar o número de pesquisas em contextos da saúde e com população clínica e não clínica na Colômbia para validar a DERS e desenvolver uma pontuação total dessa escala.

Palavras-chave: desregulação emocional, análise fatorial, pesquisa instrumental.

Emotional Dysregulation (ED) and its relationship with psychological problems has brought clinical researches and clinicians' attention. Studies in mental health settings have shown that many psychological problems involve emotional difficulties (Angst, Angst & Stassen, 1999; Beck, Kovacs & Weissman, 1979; Calvo, Sánchez & Tejada, 2003; Fenton, McGlashan, Victor & Blyler, 1997; Goodman, Carpenter, Tang, Goldstein, Avedon, Fernandez, *et al.*, 2014; Hirshfeld & Rusell, 1997; Jacobs, 1999; Lavender, Wonderlich, Engel, Gordon, Kaye & Mitchell, 2015; Law & Chapman, 2015; Little, Welsh, Darling & Culppepper, 2015; Neacsiu, Eberle, Kramer, Wiesmann & Linehan, 2014; Mann, Oquendo, Underwood & Arango, 1999; Masi, Muratori, Manfredi, Pisano & Milone, 2015; Moscicki, 1995; Ministerio de la Protección Social, 2005; Posada-Villa, Aguilar-Gaxiola, Magaña & Gómez, 2004; Powell, Geddes, Hawton, Deek & Goldcare, 2000; Rich, Dhosse, Ghani & Isacson, 1998; Ridings & Lutz-Zois, 2014; World Health Organization, 2012; Zutphen, Siep, Jacob, Goebel & Arntz, 2015). Research has demonstrated a relationship between emotional dysregulation, self-injury and suicidal behavior (Anestis, Bagge, Tull & Joiner, 2011; Gratz, Tull, Barush, Bornovalova & Lejuez, 2008; Goodman, Carpenter, Tang, Goldstein, Avedon, Fernandez, *et al.*, 2014; Gratz, 2007; Law & Chapman, 2015; Masi, Muratori, Manfredi, Pisano & Milone, 2015; Neacsiu, Eberle, Kramer, Wiesmann & Linehan, 2014; Rajappa, Gallagher & Miranda, 2012; Ridings & Lutz-Zois, 2014; Sánchez & Tejada, 2003; Zutphen, Siep, Jacob, Goebel & Arntz, 2015).

In health settings, researchers have found that Emotional Dysregulation correlates with substance use (Bonn-Miller, Vujanovic & Zvolensky, 2008), psychological distress (Aldea

& Rice, 2006), and deterioration in the quality of life of patients and their families. (Wehmeier, Schacht & Barkley, 2010). Therefore, emotional dysregulation has turned into a public health problem, which needs to be understood and managed to improve general population well-being.

Even though Emotional Dysregulation (ED) counts with a wide-range of conceptual and methodological approaches (Davies, Niles, Pitting, Arch & Craske, 2015; Goodman, Carpenter, Tang, *et al.*, 2014), it lacks a precise definition to allow its differentiation from other concepts. For instance, some researchers have defined ED as a mechanism of change (process) whereas other authors have conceptualized it as a therapeutic strategy (Lavender, Wonderlich, Engel, Gordon, Kaye & Mitchell, 2015; Neacsiu, Eberle, Kramer, Wiesmann & Linehan, 2014; Powers, Stevens, Fani, & Bradley, 2015; Ridings & Lutz-Zois, 2014; Seligowski & Orcutt, 2015; Weis, Gratz & Lavender, 2015), which has thwarted the research on this field (Gratz, 2007; author, 2013; Kököyei, Urbán, Reinhardt, Józán & Demetrovics, 2014; Little, Welsh, Darling & Culppepper, 2015; Masi, Muratori, Manfredi, Pisano & Milone, 2015).

Linehan's (1993) definition of Emotional Dysregulation is the most accepted approach within Cognitive Behavioral Therapies and Behavioral Interventions. Linehan (1993) conceptualized Emotional Dysregulation as a "high emotional vulnerability to regulate emotion [...] as well as a deficit in emotion modulation skill" (p. 43). Although this definition emphasizes the morphological characteristics of the emotionally dysregulated responses, it ignores those factors which alter emotional behaviors (Cole, Michel & Teti, 1994; Gratz, 2007). Likewise, such definition does not explain Emotional Regulation (ER), which is the hub of emotional dysregulation from that perspective.

Seligowski and Orcutt (2015) have been working on the development of a factorial approach to Emotional Regulation to clarify and assess emotional regulation based on their factual characteristics to contrast Gross's (1998, 1999) perspective, where Emotional Regulation is explained by four constructs (i.e. situation selection, attentional deployment, cognitive change, and response modulation).

Despite the gap on the definition of Emotional Regulation and Emotional Dysregulation, researchers have selected the main elements involved on both concepts to fill some blanks in their conceptualization. One of the central concepts on ER and ED is emotional control (Eisenberg, Cumberland & Spinrad, 1998; Flett, Blankstein & Obertynski, 1996; Garrido-Rojas, 2006). Several instruments that assess ED and ER are based on it (Catanzaro & Mearns, 1990; Salovey, Mayer, Goldman, Turvey & Palfai, 1995). These instruments assume that a poor skill for controlling emotional responses is the hub of emotional dysregulation, whereas modulation of emotional responses is a central skill for being emotionally regulated (Weis, Gratz & Lavender, 2015).

Acceptance and awareness skills are also conceptualized as central issues for ER and ED. On the one hand, acceptance is the skill to experience emotions without trying to control or change them. Therefore, it has a tight bond with emotional experience; hence, it is part of the skills to regulate the emotion. On the other hand, Gratz and Roemer (1994) defined awareness as the skill to attend and understand emotional responses. However, there are some alternative definitions from a behavioral analytic perspective. For instance, León (2006) defines awareness as a skill to experience one's own emotion, noticing and observing it. Catania (2004) defined awareness as the ability to relate the behavior to the contextual features linked to it. It comprises an extended repertoire that involves noticing several types of responses including emotional behaviors. Nonetheless, its link with emotional dysregulation is unclear since awareness is seen as a general repertoire that involves observing the relation between any type of behavior (emotional or not) and the context.

To reduce the gap in the awareness definition, Caycedo, Gutiérrez, Ascencio and Delgado (2005) stated that it is tied to Emotional Regulation skills. Therefore, when individuals notice their emotions, the context where they occur and other behavioral repertoires emitted to handle emotional responses, they are able to modulate effectively their own behavior. This means that awareness might be a behavioral pre-requisite for Emotional Regulation, in terms of a broad and independent skill (Weis, Gratz & Lavender, 2015).

Based on the main characteristics referred in the literature on Emotional Dysregulation, Gratz and Roemer (2004)

developed the Difficulties in Emotion Regulation Scale (DERS). This instrument attempts to measure several ED characteristics, which according to the authors, is integrated by six factors: (a) non-acceptance of emotional responses (*non-acceptance*), (b) difficulties in goal-directed behaviors when distressed (*goals*), (c) difficulties to control impulsive behaviors when the person is distressed (*impulse*), (d) limited access to emotion regulation strategies perceived as effective (*strategies*), (e) lack of emotional awareness (*awareness*), and (f) lack of emotional clarity (*clarity*).

The *non-acceptance* category refers to the negative reaction to one's own or others' emotional responses. The difficulty in goal-directed behaviors implies that emotion interferes with effective action towards a *goal* while people are experiencing negative emotions. *Impulse* refers to problems controlling one's own behavior when an emotion is experienced with high intensity. *Awareness* is the category of the difficulties to recognize and notice one's own emotions. Limited access to emotional regulation *strategies* refers to the poor perception of skills to modulate emotions. Finally, *clarity* measures difficulties in differentiating emotions while they are being experienced (Gratz & Roemer, 2004).

Gratz and Roemer (2004) performed an Exploratory Factor Analysis (EFA) using the principal axis factoring method of extraction and promax oblique rotation. They evaluated DERS factorial structure and factors correlation. They found six main factors within the DERS (see above factors description). Test-retest reliability was good, $\alpha=0.88$, $p < 0.01$, and adequate construct and predictive validity was found. However, some factors in the scale presented low correlations among them. Finally, Gratz and Roemer (2004) suggested conducting researches in different settings and populations to improve the scope and external validity of the scale.

Bardeen, Fergus and Orcutt (2012) performed a Confirmatory Factor Analysis (CFA) to extend Gratz and Roemer's outcomes (2004). They found that five of the six DERS factors were correlated, except for awareness. This latter showed a lower contribution to the general factors in the scale. Bardeen, Fergus and Orcutt (2012) explained the low correlation of awareness with the other factors based on the definition adopted by DERS regarding this factor. However, other researchers pointed out that it is possible that awareness does not share characteristics with the emotional dysregulation construct, although it might be part of the emotional regulation skills (Vargas & Muñoz-Martínez, 2013; Weis, Gratz & Lavender, 2015).

Several studies have shown that the DERS is useful to assess emotional difficulties in a variety of psychological disorders such as: posttraumatic stress disorder, borderline

personality disorder, generalized anxiety disorder, substance use, panic attack disorder and eating disorders (Fox et al., 2007; Gratz et al., 2008; Gratz & Chapman, 2007; Gratz, Rosenthal, Tull, Lejuez & Gunderson, 2006; Lavender et al., 2015; McDermott et al., 2009; Roemer et al., 2009; Tull, 2006; Tull, Stipelman, Salters-Pedneault & Gratz, 2009), chronic pain (Kököyeyi, Urbán, Reinhardt, Józán & Demetrovics, 2014), and alexithymia (Ridings & Lutz-Zois, 2014). There are also studies that have demonstrated the DERS' utility to measure transdiagnostic problems that involve emotional dysregulation (Neacsiu, Eberle, Kramer, Wiesmann & Linehan, 2014) and difficulties to regulate positive emotions (Weis, Gratz & Lavender, 2015).

Furthermore, the DERS has shown good psychometrics properties in clinical samples with different ages (Gómez, Penelo & De la Osa, 2014; Marin, Robles, González-Forteza & Andrade, 2012; Staples & Mohlman, 2012; Weinberg Klony, 2009) and different ethnic populations (Gómez, Penelo & De la Osa, 2014; Guzmán-González, Garrido & Leiva, 2014; Marin, Robles, González-Forteza & Andrade, 2012).

The DERS has been validated in different countries: Turkey, Italy, Spain, Argentina, Chile and Mexico. The validation conducted in Turkey (Ruganci & Gençöz, 2010) maintained Gratz and Roemer's structure and method (2004) to assess DERS factorial structure (axis factoring method of extraction and promax oblique rotation). They conducted a reliability test-retest and evaluated internal consistency. Ruganci and Gençöz (2010) found a DERS factorial structure similar to Gratz and Roemer's (2004). However, they did not find correlations between *awareness* and the other factors within the DERS.

Giromini, Velotti, de Campora, Bonalume and Cesare-Zavattini (2012) validated the DERS in Italy. They found a factor structure (six-factor) similar to Gratz and Roemer's (2004) and Ruganci and Gençöz' (2010). The reliability index was high with data obtained from clinical and nonclinical samples.

Medrano and Trógolo (2014) adapted the DERS to Argentina. They performed an EFA with a promax rotation and weighted least squares estimation to establish DERS factorial structure. The Argentine DERS version has 28 items gathered in six-factors (the same as the original version), which explained 50.79% of the variance. Cronbach's alpha analysis was conducted for each factor (*non-acceptance* $\alpha = .84$; *goals* $\alpha = .82$; *impulse* $\alpha = .87$; *strategies* $\alpha = .54$; *awareness* $\alpha = .71$; *clarity* $\alpha = .7$), finding high reliability indexes in five of the six factors. Concurrent validity of the scale in comparison with a personality scale (International Personality Item Pool-IPIP-) was demonstrated.

Hervás and Jódar (2008) adapted and validated the DERS in Spain. They evaluated the same factor structure proposed by the DERS developers. According to the analysis they conducted, some items were overlapped within the factors *impulsive* and *strategies*. Hence, they gathered both categories and constituted a new factor called *decontrol*. Further, they changed the names of the other categories. On the Spanish final version, *non-acceptance* is *changing rejection*, *goal problems* is *interference*, *awareness* is *inattention*, and *clarity* is *confusion*. Gómez, Penelo and De la Osa (2014) validated the scale with adolescents in Spain. They recruited 642 adolescents, aged 12-18 years. The FA suggested a six-factor solution and strict measurement invariance across sexes. Internal consistency for all the subscales was moderate to satisfactory ($\alpha = .71 - .88$), except for awareness ($\alpha = .62$).

Marin, Robles, González-Forteza and Andrade (2012) tested the psychometric properties of DERS Spanish format (DERS-E) with non-clinical adolescent population in Mexico. Participants were 455 high school students from a public school (mean age = 13.1). A Confirmatory Factor Analysis (CFA) was performed. In contrast to the original version, the six-factor structure using the 36 items ($\chi^2(6) = 22339.4$, $p \leq .05$) was not found. In this respect, an Exploratory Factor Analysis (EFA) was performed, finding a four-factor model with 24 items. The DERS was validated using a CFA, $\chi^2(230) = 259.73$, $p < .05$. Subscales reliability was high ($\alpha = .68$ to $.85$) and concurrent validity was significant ($r = .51$ to $.76$, $p \leq .05$).

In Chile, Guzmán-González, Garrido and Leiva (2014) conducted a study to test the DERS-E validity and reliability in Chilean Population. The analysis was performed with college students (1018) and adults (1161), with an overall sample of 2179 people. Participants completed the DERS-E, and the Outcome Questionnaire (OQ-45.2). Results confirmed the psychometric properties of the DERS-E for measuring emotional dysregulation difficulties.

Herrera, Niño, Caycedo and Cortés (2008) performed a reliability analysis of the DERS ($\alpha = 0.90$) in Colombia. Even though a high-reliability index was found, they did not conduct a factorial analysis of the DERS neither performed other data analysis to validate the scale. The authors recommended conducting other studies with a larger sample using robust statistical tests to validate the DERS with Colombian population.

In summary, the DERS has demonstrated its validity and reliability to measure emotional dysregulation in several studies, with a diverse population in multiple countries. Nevertheless, some research has shown differences in its factorial structure, and significant differences with respect

to the correlation among factors in the DERS. Therefore, it is relevant conducting studies to make clear such differences and provide explanations in this regard. Several studies have also recommended conducting an item analysis to establish the adequacy and precision of the items in the DERS, establishing whether the items in the scale are sufficient and necessary to accurately measure emotional dysregulation. Finally, the relation among emotional dysregulation, psychological problems and health difficulties underline the importance of counting with a valid and reliable measure that may identify these difficulties in the Colombian population.

METHOD

Participants

Participants (N=761) were recruited by e-mail or personally from a private university in Bogotá-Colombia. The aims and purposes of the study were presented during the first contact with the population.

After randomization, 251 participants were selected. They were psychology (52%, N=130), business (34%, N=85), and engineering and mathematics (14 %, N=36) students. Sixty-eight percent of the participants were female and thirty-two percent were male.

Instrument

Difficulties in Emotion Regulation Scale (DERS). This study analyzed Herrera, Niño, Caycedo and Cortés (2008) DERS format which counts with a high index of reliability ($\alpha = .90$). Although they applied the items adapted by Hervás and Jodár (2008), they maintained Gratz and Roemer (2004) factorial structure and subscales names.

The self-report scale consists of 36 items gathered in six factors: a) non-acceptance of emotional responses (*non-acceptance*), (b) difficulties in goal-directed behaviors when being distressed (*goals*), (c) difficulties to control impulsive behaviors when being distressed (*impulse*), (d) limited access to emotion regulation strategies perceived as effective (*strategies*), (e) lack of emotional awareness (*awareness*), and (f) lack of emotional clarity (*clarity*). DERS original analysis revealed high internal consistency ($\alpha = .88$), and it has construct and predictive validity.

Procedure

Following recruitment, eligible participants were fully informed verbally and in writing about research

aims and results treatment; they were provided with an informed consent according to APA ethical code, which described study purposes and the confidential nature of the data.

Because of the differences in the DERS factorial structure reported by some studies (Marin et al., 2012), with respect to the original DERS factors, where researchers used an oblique rotation (i.e. promax), an Exploratory Factor Analysis (EFA) with an orthogonal rotation (varimax) was performed to test the factorial structure within the scale on a Colombian population. The data analysis determined the natural distribution of the items without a pre-established factorial structure throughout an orthogonal rotation, which tested the natural distribution of the items within the factors, keeping statistical independence among them, rather than assuming a specific number of factors, which fit with the researchers' theoretical assumptions as in oblique rotation (Brown, 2009). A factorial data reduction also was performed to identify items contribution for evaluating difficulties in Emotional Regulation using the DERS.

RESULTS

DERS factorial structure and items data reduction were tested with an Exploratory Factor Analysis (EFA). Kolmogrov-Smirnov test for normality was significant ($p = .000$), and distribution was positively skewed (1.41) for all factors within DERS. However, considering that Factor Analysis is a robust statistical test it was possible to conduct data analysis even though these were not normally distributed.

Factor analysis for DERS factorial structure

To test the original DERS factorial structure an EFA was performed. KMO was .83, and Bartlett's sphericity test was significant, $c^2(15) = 530.85$, $p = .000$.

The Exploratory Factor Analysis with the varimax rotation showed that 54% of the variance was explained by factor 1 and 15% by factor 2. However, the analyses did not show independence among the six factors comprising the DERS. The matrix of principal components revealed that *non-acceptance*, *goals*, *impulse*, *strategies* and *clarity* contributed significantly to factor 1, while *awareness* contributed in an important manner to a factor 2. Further, no other factor was linked to factor 2 (See Table 1).

Table 1.

Principal Component Analysis with orthogonal rotation and variance explained of DERS original factorial structure

	Component					
	1	2	3	4	5	6
F1 DERS – Non-acceptance	.714	-.281	<u>.581</u>	.000	.221	.155
F2 DERS – Goals	.741	-.252	-.382	.373	.315	-.057
F3 DERS – Impulse	.790	-.14	-.322	-.406	-.093	.283
F4 DERS – Awareness	<u>.518</u>	.80	.015	-.134	.279	-.050
F5 DERS – Strategies	.847	-.17	.068	-.201	-.175	-.422
F6 DERS - Clarity	.764	.30	.074	.371	-.412	.121
% of Variance	54.19	15.21	9.96	8.33	7.24	5.06
Total Variance	3.252	.913	.598	.500	.435	.303

Note: Loadings in bold are values greater than 0.40 and are retained for that factor. Underlined values indicated a multiple loading in two factors.

Correlations among DERS factors were significant, except for: *awareness and non-acceptance*, and *awareness and goals*.

However, impulse and strategies were the only factors that showed a high significant correlation (.60) (See Table 2).

Table 2.

DERS factors correlations with the original factorial structure

Factor	Non-acceptance	Goals	Impulse	Awareness	Strategies	Clarity
Non-acceptance	—					
Goals	.20**	—				
Impulse	.37**	.23**	—			
Awareness	.11	.12	.22**	—		
Strategies	.37**	.18**	.60**	.28**	—	
Clarity	.22**	.24**	.25**	.33**	.30**	—

Note: **p < 0.01

Exploratory Factor Analysis (EFA) for DERS items

A Kaiser-Meyer-Olkin (KMO) and sphericity test were performed to assess DERS items. KMO sampling adequacy measure was .87, above the recommended value of .6, and Bartlett's sphericity test was significant, $c^2(630)$

= 4191.56, $p = .000$. The diagonals of the anti-image correlation matrix were all over .65, supporting the inclusion of each item in the factor analysis (See Table 3). Given these overall indicators, factor analysis was conducted with all 36 items.

Continued table 3

Table 3.
Sampling adequacy through measures correlations

Item	Anti-image Correlation
1	.91
2	.65
3	.84
4	.84
5	.88
6	.78
7	.89
8	.68
9	.86
10	.88
11	.88
12	.82
13	.89
14	.87
15	.87
16	.91
17	.81
18	.90
19	.88
20	.74
21	.82
22	.73
23	.86
24	.89
25	.94
26	.88
27	.92
28	.93
29	.88
30	.90
31	.86
32	.86
33	.91

Item	Anti-image Correlation
34	.78
35	.90
36	.88

Communalities were lower than .5 for four items. Likewise, some items contributed to more than one factor or have a low contribution in any other factor according to the factor loadings (under .4) (See table 4).

Table 4.

Factor Loadings and communalities based on a principal components analysis with varimax rotation for 36 items from the Difficulties in Emotion Regulation Scale (DERS) (N = 251)

	Factor 1	Factor 2	Communalities
1	.53	.42	.55
2		.41	.72
3	.38		.48
4	.41	.34	.54
5	.54		.65
6		.61	.66
7	.55	.39	.66
8		.35	.68
9	.51		.68
10	.48	.32	.55
11	.52	-.42	.66
12	.53	-.36	.71
13	.57		.64
14	.67		.75
15	.64		.67
16	.65		.61
17		.39	.49
18	.60		.73
19	.66		.74
20			.65
21	.61		.75
22	.36	.38	.75
23	.56		.56

Continued table 4

	Factor 1	Factor 2	Communalities
24	.44		.46
25	.63	-.35	.7
26	.61		.72
27	.70		.68
28	.67		.65
29	.62	-.33	.67
30	.68	-.31	.69
31	.63		.67
32	.63		.75
33	.63		.52
34		.44	.52
35	.49		.52
36	.46		.49

Note: Factor loadings present contributions by factor 1 and 2.

The principal component analysis found that items were distributed among nine factors in the initial Eigen values. However, only the first and second factor contributed

significantly to the variance (Figure 1). The first factor explained 28% of the variance, and the second factor 7% of the variance. The other factors contributed lower than 6% each being less representative (see Table 5).

Table 5.

Percentage of the variance explained

	Total Variance	% of Variance
F1	10.21	28.37
F2	2.71	7.52
F3	2.22	6.17
F4	1.73	4.80
F5	1.48	4.12
F6	1.20	3.32
F7	1.19	3.30
F8	1.09	3.01
F9	1.00	2.80

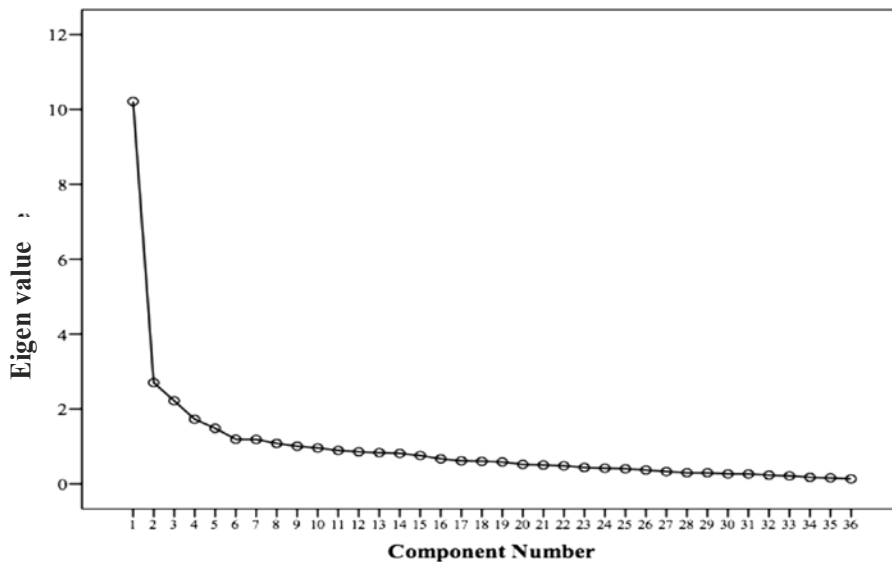


Figure 1. Screen plot items contribution to DERS factorial structure

Data reduction, using multiple EFA, was performed to eliminate items that did not contribute to a simple factor structure and failed to meet the minimum criteria of having

a primary factor loading of .5 or above, and no cross-loading of .3 or above (See Table 4). Fifteen items constitute DERS final format gathered into two main factors (See Table 6).

Table 6.
DERS final format (Colombian-Spanish scale)

FACTORS	ITEMS
1 (Estrategias)	5. Tengo dificultad para encontrar el significado a mis sentimientos. 9. Yo me siento confundido acerca de cómo me siento. 13. Cuando estoy alterado, tengo dificultad para realizar el trabajo. 14. Cuando estoy molesto, quedo fuera de control 15. Cuando estoy alterado, creo que seguirá siendo así durante mucho tiempo. 16. Cuando estoy alterado, creo que voy a terminar sintiéndome muy deprimido. 18. Cuando estoy alterado, tengo dificultad para concentrarme en otras cosas. 19. Cuando estoy alterado, me siento fuera de control. 21. Cuando estoy alterado, me siento avergonzado de mí mismo por sentir de esa manera. 26. Cuando estoy alterado, yo tengo dificultades concentrándome. 27. Cuando estoy alterado, tengo dificultades controlando mis comportamientos. 28. Cuando estoy alterado, creo que no hay nada que pueda hacer para sentirme mejor. 32. Cuando estoy alterado, pierdo el control sobre mis conductas. 33. Cuando estoy alterado, encuentro difícil pensar en algo más.
2 (Conciencia)	6. Yo estoy atento a mis sentimientos (r).

Note: r = reverse-scored item.

DISCUSSION

DERS items were distributed in two factors in contrast to the outcomes on Gratz and Roemer (2004), Ruganci and Gençöz (2010); Giromini, Velotti, de Campora, Bonalume, and Cesare-Zavattini (2012), and Medrano and Trogólo (2014) analysis. These results are similar to Marin, Robles, González-Forteza and Andrade (2012) who conducted a CFA of the original DERS factorial structure, and when they did not find the same factorial structure, they performed an EFA, identifying a new four-factor model for the DERS in Mexico. Similarities between these studies might be related to having conducted an EFA to assess DERS factorial structure regardless of the factors pre-established on previous studies.

Since the factorial structure and number of items changed noticeably with respect to the DERS original format, it is recommended to test this new model performing a Confirmatory Factor Analysis with a larger sample in Colombian population. It is also suggested to validate the scale with

adults and adolescents in clinical and non-clinical settings to standardize the instrument. Since factor two is comprised of only one item, it is recommended to examine the utility of the second factor to measure Emotional Dysregulation. To test the adequacy of factor two, new items have to be included on the scale within this factor, so that stronger inferences could be formulated about it. It might even be considered removing the awareness factor from the DERS since it appears to be a construct independent from ED (See discussion below).

Current outcomes are also similar to Bardeen, Fergus and Orcutt (2012) results where they conducted a CFA. Both studies bared the independence of the *awareness* factor from the other components in the DERS. Thereby, the principal factor (1) is integrated by items designed to measure *goals, impulse, strategies, clarity, and non-acceptance* items, especially those that assess difficulties in *strategies*, and the second (2) obeyed only to the *awareness* factor.

The independence of *awareness* from the other factors could be related to understanding and paying attention to

emotions (Gratz & Roemer, 2004). Other authors state that *awareness* problems occur when individuals struggle with the identification and description of a variety of events in context (Stewart, Villatte & McHugh, 2012). That is, *awareness* is also conceptualized as a wide repertoire by which people entail their own behavior (e.g. emotional responses) with other events (Catania, 2007; Caycedo, Gutiérrez, Ascencio & Delgado, 2005; Dymond & Barnes, 1997; León, 2006; Stewart, Villatte & McHugh, 2012). Therefore, awareness is not a repertoire focused exclusively on observing the relation between emotional responses and the context, but includes relating any type of behavior to the influencing environment; hence, *awareness* is an independent behavioral repertoire that implies noticing one's own actions without altering, regulating, or modulating them. This latter provides a glance of awareness as an independent factor from emotional regulation or dysregulation constructs (Weis, Gratz & Lavender, 2015).

The differences on the DERS factorial structure in multiple countries also could be related to cultural diversity issues. It is worth conducting studies that allow identifying emotional regulation and dysregulation characteristics in different countries to establish if such differences correspond to problems with the scale or are rather related to cultural features.

One of the limitations in this study is the population distribution which restricts generalization of outcomes. Often students' samples are non-normally distributed and they tend to be skewed, as in this study; hence, it is recommended performing other research in larger clinical and non-clinical population to establish DERS performance with normally distributed samples. Besides, other tests to estimate DERS validity were not performed. Therefore, it is important to conduct multi-trait and multi-method analysis to determine the DERS convergent and discriminant validity in Colombia (Campbell & Fiske, 1959).

Finally, to improve therapeutic outcomes predictions in clinical and health settings with clients that present emotional difficulties, it is relevant to clearly define Emotional Regulation constructs, as an independent concept. This latter will imply the development of instruments focused on emotional well-being and functional repertoires with an approach centered on following up clients' progress rather than a symptoms reduction approach (Cloninger, 2009).

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