Emotional Regulation Questionnaire (ERQ): Evidence of Construct Validity and Internal Consistency

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Abstract
Gather evidence of construct and convergent validity and internal consistency of the Emotion Regulation Questionnaire (ERQ). A total of 441 students, mostly female (54.6%), with a mean age of 16 years (SD = 1.14), answered the ERQ and demographic questions. They were randomly distributed in two databases, which were submitted to exploratory (sample 1) and confirmatory factor analysis (sample 2). The exploratory results indicated a three-factor structure: Cognitive Reappraisal, Redirection of Attentional Focus and Emotional Suppression, which together explained 59.3% of the total variance (α = 0,67; α = 0,63; α = 0,64). For the confirmatory analyses, the following goodness-of-fit indices were found: χ^2 (24) = 67.02, p <0.001; χ^2 / df = 2.79, GFI = 0.93; AGFI = 0.88; CFI = 0.88 and RMSEA = 0.08 (IC 90% = 0.064-0.100). Thus, it is concluded that the ERQ possesses satisfactory psychometric indices, being the promising instrument for evaluation of emotion regulation.
Keywords: measure; emotion regulation; social-emotional ability; construct validity; internal consistency.

Questionário de Regulação Emocional (QRE): Evidências de Validade de Construto e Consistência Interna

Resumo
Verificar evidências de validade de construto, validade convergente e consistência interna do Questionário de Regulação Emocional (QRE). Participaram 441 estudantes, a maioria do sexo feminino (54,6%), com idade média de 16 anos (*DP* = 1,14), respondendo ao QRE e dados sociodemográficos. Distribuíram-se aleatoriamente em dois bancos de dados, nos quais foram submetidos à análise fatorial exploratória (amostra 1) e confirmatória (amostra 2). Os resultados exploratórios apontaram uma estrutura trifatorial: Reavaliação Cognitiva, Redirecionamento do foco de atenção e Supressão Emocional, que explicaram conjuntamente 59,3% da variância total (α= 0,67; α =0,63; α= 0,64). Nas análises confirmatórias, foram encontrados os respectivos índices de bondade de ajuste: $\chi^2(24) = 67{,}02$, $p < 0{,}001$; $\chi^2/gl = 2{,}79$, GFI = 0,93; AGFI = 0,88; CFI = 0,88 e RMSEA = 0,08 (IC90% = 0,064 - 0,014). Desse modo, conclui-se que o QRE possui índices psicométricos satisfatórios, sendo um instrumento promissor para avaliação da regulação emocional.
Palavras-chave: medida, regulação emocional, habilidade socioemocional, validade de construto, consistência interna.

Cuestionario de Regulación Emocional (CRE): Evidencias de Validez de Constructo y Consistencia Interna

Resumen
El objetivo de este estudio fue verificar evidencias de validez de constructo, validez convergente y consistencia interna del Cuestionario de Regulación Emocional (CRE). Participaron 441 estudiantes, en su mayoría de sexo femenino (54,6%) con edad promedio de 16 años (DE = 1,14), que respondieron el CRE y datos sociodemográficos. Ellos fueron distribuídos aleatoriamente en dos bancos de datos en los cuales fueron sometidos a análisis factorial exploratorio (muestra 1) y confirmatorio (muestra 2). Los resultados exploratorios señalaron una estructura trifactorial: Reevaluación Cognitiva, Redireccionamiento de foco de Atención y Supresión Emocional, que en conjunto explicaron 59,3% de la varianza total (α= 0,67; α =0,63; α= 0,64). En los análisis confirmatorios, se encontraron respectivamente los índices de bondad de ajuste: $\chi^2(24) = 67{,}02$, p<0,001; χ^2 / gl = 2,79, GFI = 0,93; AGFI = 0,88; CFI = 0,88 e RMSEA = 0,08 (IC90% = 0,064 - 0,014). Por lo tanto, se concluye que el CRE posee índices psicométricos satisfactorios, siendo un instrumento prometedor para evaluar la regulación emocional.
Palabras-clave: medida; regulación emocional; habilidad socio-emocional; validez de constructo; consistencia interna.

Introduction

Emotional Regulation is an emotion management process in which emotional activation and modulation abilities and strategies are used (Linhares & Martins, 2015). In this process, the individual employs a conscious or unconscious effort to modify the experiences, expressions and physiology of emotional

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reactions, aiming at the expression of adequate responses to environmental demands (Rocha, 2015). Therefore, this process determines which, when and how the emotions will be expressed and experienced by the individuals (Ehring, Tuschen-Caffier, Schunulle, Fischer, & Gross, 2010; Gross 1998; Gross & John 2003; John & Gross, 2007).

Werner and Gross (2010) and Rocha (2015) emphasize that the emotional response does not follow a fixed pattern. Quite on the contrary, there is a flexibility that allows the management and regulation of emotions through different strategies, with cognitive reassessment and emotional suppression being the main ones (Batistoni, Ordonez, Silva, & Cachioni, 2013; John & Gross, 2007). The first strategy is to transform and reinterpret a given situation, modifying its emotional implications, thus enabling better emotional and social functioning, lower rates of depressive symptoms, and higher rates of optimism, self-esteem and life satisfaction (Freire & Tavares, 2010). The second, in turn, hinders the expression of emotional behavior, although it does not prevent experiencing of negative emotions (Freire & Tavares, 2010). According to Gondim and Borges-Andrade (2009), the free expression of negative emotions can vary according to social environments and cultural context, and can be valued when perceived as an expression of personal authenticity, or disapproved as imminent negative reactions or rupture of social ties.

In addition to cognitive reassessment and emotional suppression, Batistoni et al. (2013) name the following strategies for regulating emotions: situation selection (e.g., opting for a context perceived as more pacific), transforming the situation (e.g., attempting to modify a context perceived as stressful to make it less anxiogenic), and redirection of the focus (e.g., focusing attention on the more positive aspects rather than the negative ones). According to the authors, the common point between the strategies is the focus on regulating the emotions before a situation can cause negative emotional unfoldings, so the term "previous regulation" is also used here.

On the other hand, the person may try to stabilize their physiological states and expose their emotions once they have been initiated. In this sense, there are different ways to achieve this goal, such as breathing exercises, relaxation, biofeedback or even using medication. Thus, the individual who focuses on the precedents of a situation attempts to regulate their emotions by taiming or intensifying the experiencing of their feelings (Gondim & Borges-Andrade, 2009). Linhares and Martins (2015) argue that high levels of emotional expression come from poor ego regulatory control, while exaggerated ego control culminates in great inhibition, postponing gratification, and little emotional experience.

Nelis, Quoidbach, Hansenne and Mikolajczak (2011) present another model of emotional regulation strategies, which is used to increase the effects of upregulation or to minimize the unpleasant effects of down-regulation. In this perspective, Gondim et al. (2015) mention the following strategies of regulating emotions: 1) *adaptation* increases the effects of positive emotions, including (a) manifesting behavior[1], b) valuation of the present moment[2], c) capitalization[3] and d) positive mental journey[4], and 2) *maladaptive* lessen the effects of positive emotions, including (a) inhibition of emotional expression, (b) excessive worrying, (c) flaw identification and (d) negative mental journey.

In regard to negative emotions, still according to Gondim et al. (2015), the following functional strategies can be listed (decreasing the effect of negative emotions): (a) modification of the situation, (b) reorienting the attention, (c) positive reassessment of the situation, and (d) expression of emotions. On the other hand, dysfunctional strategies (maximizing the detrimental effects of negative emotions) contemplate: (a) helplessness, (b) rumination, (c) substance abuse, and (d) impulsive reaction.

It is worth noting that emotional regulation has been studied mainly in adults, which points to the relevance of studying it in adolescents, especially since this is a stage of development in which there are significant cognitive and affective transformations (Freire & Tavares, 2011). We must consider also that it allows internal balance, adaptation to the relational and situational contexts, as well as promoting the individual's mental health (Gross & Thompson, 2007; Machado, 2012). In this sense, an adequate measure of this construct seems an essential step to knowing these strategies, which motivated us to undertake the present study. Our main objective was to contribute to the Brazilian validation of the *Emotional Regulation Questionnaire*, gathering evidence of its construct validity, convergent validity and internal consistency in groups of adolescents and young adults.

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1 Involves expressing positive feelings with the behaviors;

2 Focusing attention in momentous pleasurable situations

3 Sees behavior as communication

4 Remembering positive experiences

In this context, the Emotion Regulation Questionnaire (ERQ; Gross & John, 2003) stands out in the literature as an effective tool for verifying individual differences in the systematic use of regulatory strategies. However, considering that this is a measure built for an international context and without a prior validation for the Brazilian scenario, except for a verification of its psychometric indicators through exploratory factorial analysis (Batistoni et al., 2013), we observed the need to validate it, which will be the objective of this study. Nevertheless, it is first necessary to make a further explanation.

Emotion Regulation Questionnaire

This instrument was developed by Gross and John (2003), of self-report and fast application, consisting of 10 items [e.g. *Item 03*.When I want to feel less negative emotions (such as sadness or anger), I change what I am thinking about; *Item 08*. I control my emotions by changing the way I think about the situation I'm in.] The instrument has two modalities of emotional regulation strategies, called cognitive reassessment and emotional suppression.

The first factor, called Cognitive Reassessment, presented factorial loads varying from 0.55 (*Item 5*. When I'm faced with a stressful situation, I make myself think about it in a way that helps me stay calm.) to 0.83 (*Item 1*. When I want to feel more positive emotion (such as joy or amusement), I change what I'm thinking about.), in a total of 6 items. Next, the second factor, named Emotional Suppression, showed factorial loads ranging from 0.54 (*Item 4*. When I am feeling positive emotions, I am careful not to express them) to 0.83 (*Item 6*. I control my emotions by not expressing them.) making a total of 4 items. Together, these factors accounted for more than 50% of the total variance. Regarding the national context, the measure was linguistically adapted by Boian, Soares and Silva (2009). However, it was Bastitoni et al. (2013) who found evidence of validity of the instrument, using a national sample of 153 elderly, where it was possible to verify a factorial structure equivalent to the original study. In the national survey, the factors of Cognitive Reassessment and Emotional Suppression presented Cronbach's alphas of 0.74 and 0.69, respectively. The factors together accounted for 50.1% of the total variance and total internal consistency (Cronbach's alpha) of 0.73.

It is worth mentioning that this instrument has been used in different contexts internationally, showing good psychometric parameters. Eldeleklioğlu and Eroğlu (2015), seeking evidence of validity of this measure for the Turkish context, verified that it has an internal consistency index of 0.78 and 0.73 for the *Cognitive Reassessment* and *Emotional Suppression* factors, respectively. Regarding the model's indices of adequacy to the data, the study showed CFI = 0.98, GFI = 0.99 and RMSEA = 0.06. Another example of use of the measure is in the research developed by Melka, Lancaster, Bryant and Rodriguez (2011) when studying the psychometric properties in the American context. They also observed good indicators of adequacy to the model, as can be observed by CFI = 0.96, GFI = 0.96 and RMSEA = 0.05, with internal consistency of 0.73 (*Cognitive Reassessment*) and 0.79 (*Emotional Suppression*).

In conclusion, when we take the good psychometric parameters observed in the global context into account, as well as the importance of studying strategies of emotional regulation to optimize the wellbeing, we developed this study to verify the evidences of validity of the construct and internal consistency of the *Emotion Regulation Questionnaire* for adolescents and young adults, since though Batistoni et al. (2011) did verify the psychometric parameters through exploratory factorial analysis, the ERQs bifactorial structure had not been confirmed.

Method

Participants

We had 441 participants, high school students from the State of Paraíba enrolled in public (53.5%) and private (46.5%) institutions. Their ages ranged between 14 and 25 years (M= 16.1, SD = 1.14), most of them female (54.6%), single (91.6%), Catholic (46.5%), and declaring themselves of middle socioeconomic class (58.3%). This was a non-probabilistic sample (convenience), with the participation of people who, when requested, agreed to collaborate voluntarily. For the statistical analysis, expecting to have both exploratory and confirmatory analysis, we decided to divide this sample into two groups, at random, as follows: G1 (N=212), the average age was 16.1 years (SD 1.02), mostly female (51.5%), single (90.8%), catholic (45.4%) and middle- class (57.1%), and G2 (N=229), participants aged in average 16.2 years (SD=1.23), mostly female (64.2%), single (81.3%), catholic (41.8%) and middle class (59.4%).

Instruments

The participants answered a booklet with sociodemographic questions [age, gender, marital

status, educational institution, religion and self-perceived socioeconomic class (very low, low, medium, high and very high)] and the *Emotion Regulation Questionnaire* (ERQ). Elaborated by Gross and John (2003), it is composed of ten items (e.g. *Item 02*. I keep my emotions to myself.; *Item 08*. I control my emotions by changing the way I think about the situation I'm in.), answered on a seven-point Likert scale, ranging from 1 (*Strongly disagree*) to 7 (*Strongly agree*). As indicated previously, its psychometric parameters have been adequate in other cultural contexts (Cabello, Salguero, Fernández-Berrocal, & Gross, 2013; Eldeleklioğlu & Eroğlu, 2015; Yoshizu, Sekiguchi, & Amemiya, 2013), with evidences in Brazil that it works with the elderly (Batistoni et al., 2013). High scores on one of its factors indicate a greater propensity to use that strategy of emotional regulation.

Procedure

Initially, this research was submitted to the Research Ethics Committee. Immediately afterwards, we contacted the heads of educational institutions to obtain consent form and to schedule the applications. With due consent, properly trained collaborators collected the data. The questionnaires were taken in a collective classroom environment, although the answers were given individually. Those who were present and who agreed to participate in the study were included in the analytical procedures. Following the ethical recommendations for research with human beings (Resolution CNS nº 510/16), the objectives, risks and benefits of the research, were clear to all, accentuating it's voluntary and anonymous participation. We were available to clear any doubts the participants might have had. The participants of legal age ratified their collaboration by signing a *Free and Informed Consent Form*. In turn, the participants under the age of 18 were placed under the responsibility of the school, which sent a Statement of Assent to the guardian of each respondent. Generally, participants completed this activity in an average of 15 minutes.

Data analysis

We used the Student t test for independent samples to check the discriminate power of the ERQ items, seeking to evaluate the magnitude of the latent trait on the criterion groups, differentiating between participants with high and low scores (Pasquali, 2003). Then we evaluated the factorability of the data through the KMO (Kaiser-Meyer-Olkin) test, in which the recommended values are equal to or greater than 0.50 and the Bartlett's Test which shows that the data is not an identity matrix. After adequating the data, to check the factorial structure of the construct we adopted the Principal Component Analysis (PCA) extraction method. In addition, the internal consistency was checked via Cronbach's alpha. For these, we used the SPSS program (version 21). Subsequently, in order to proof the underlying factor structure, a confirmatory factorial analysis was performed with the AMOS statistical program (version 21). Then we used ML (Maximum Likelihood) estimator, admitting as acceptable the following adjustment indicators (Byrne, 2010; Kline, 2010; Tabachnick & Fidell, 2013): (1) χ^2/df (Chi-square / Degrees of freedom) ratio, expecting values between 2 and 3, but up to 5; (2) GFI (Goodness-of-Fit Index) and AGFI (Adjusted Goodness-of-Fit Index), in which the values range from 0 to 1, however admitting those equal to or above 0.90; (3) CFI (Comparative Fit Index), also variating between 0 and 1, admitting values equal to or above 0.90 as indications of model adequacy; and, finally, (4) RMSEA (Root-Mean-Square Error of Approximation), in which the values should stay between 0.05 and 0.08, admitting those up to 0.10. Finally, the Convergent Validity was evaluated using the Average Variance Extracted ($\sqrt{}$AVE) index ($\geq$0.50; Fornell & Larcker, 1981), as well as using Composite Reliability (CR) ($\leq$ 0.60; Bagozzi & Yi, 1988), using the calculator made available by Gouveia and Soares (2015).

Results

In order to organize the results, we found it necessary to separate the analyzes by their character, that is, exploratory and confirmatory. Therefore, we first had to know the factorial structure underlying the measure, using the first group of participants (G1); later, the second group (G2) was considered, focusing on verifying the resulting factorial structure. In both cases the coefficients of internal consistency of the factors were calculated, attesting also the adequacy of this psychometric parameter.

Knowing the Factor Structure of the Emotional Regulation Questionnaire

Initially, we sought to know the discriminative power of the ERQ items, considering the classical approach of the tests. In this case, internal criteria groups were established (lower and higher) from the empirical median of the total score (Md = 4.8). Then,

through the t-test, we compared the means of these groups to each of the items, checking if they could differentiate scores close to the construct. The results of this analysis indicated that all items showed favorable discriminative power ($5.30 < t < 9.65$, $p < 0.001$) as described in Table 1.

Then, we verified the factorability of the matrix of correlation between the items, a condition to make a factorial analysis, proving its adequacy (KMO= 0.75 and *Bartlett's Test*, χ^2 (45) = 457.35, $p<0.001$]. We then decided to perform an analysis of main components, with *oblimin* rotation, without fixating the number of factors to be extracted. This resulted in the identification of three components/factors with their own values equal to or greater than 1 (*Kaiser Criterion*): 3.04, 1.62 and 1.27, which together accounted for 59.3% of the total variance. This finding was corroborated by the parallel analysis (*Horn Criterion*), using the same parameters of the empirical database, performing 1,000 simulations, since only the fourth value (1.08) was higher than the observed value (0.83). The observed and simulated values are detailed in Table 2.

The factorial solution found, with the factorial loadings of the items, eigenvalues and variances explained for each factor can be verified in Table 3, which also presents the corresponding coefficients of internal consistency. We adopted as a cut-off point for the interpretation of the factor a factorial loading of 0.55, which retained most of the items; only item 9 (*When I am feeling negative emotions, I make sure not to express them.*) has been excluded because it has dissonant semantic content. More information about each dimension will be presented below.

Factor I - Cognitive Reassessment: refers to a change in the interpretation of the emotional situation. It presented an eigenvalue of 3.04, with factorial loadings between 0.74 (*Item 08*. I control my emotions by changing the way I think about the situation I'm in) and 0.67 (*Item 05*. When I'm faced with a stressful situation, I

Table 1
ERQ discriminative power

Items	Inferior Group		Superior Group		t
	M	SD	M	SD	
1	4.28	1.57	5.57	1.34	6.15*
2	4.15	1.81	5.54	1.43	5.87*
3	4.27	1.61	5.71	1.36	6.73*
4	3.28	1.49	4.57	1.89	5.30*
5	4.79	1.64	6.16	1.13	6.65*
6	3.43	1.61	5.03	1.71	6.64*
7	3.99	1.43	5.60	1.20	8.47*
8	3.97	1.30	5.67	1.14	9.65*
9	4.16	1.66	5.48	1.24	5.72*
10	4.08	1.53	5.51	1.24	7.17*

* $p < 0.05$

Table 2
Parallel Analysis of the ERQ items

Observed Values	Simulated Values	Percentiles
3.04	1.35	1.46
1.62	1.24	1.31
1.27	1.15	1.21
0.83	1.08	1.13
0.76	1.02	1.06
0.63	0.95	1.00
0.59	0.89	0.94
0.43	0.83	0.88
0.41	0.76	0.82
0.39	0.68	0.75

Table 3
ERQ item saturation

Item content	Saturation		
	Factor 1	Factor 2	Factor 3
08. I control my emotions by changing the way I think about the situation I'm in.	**0.74**	0.44	0.18
10. When I want to feel less negative emotion, I change the way I'm thinking about the situation.	**0.68**	0.54	0.04
05. When I'm faced with a stressful situation, I make myself think about it in a way that helps me stay calm.	**0.67**	0.02	0.11
09. When I am feeling negative emotions, I make sure not to express them.	**0.65**	0.03	0.13
01. When I want to feel more positive emotion (such as joy or amusement), I change what I'm thinking about.	-0.03	**0.78**	0.18
03. When I want to feel less negative emotion (such as sadness or anger), I change what I'm thinking about.	0.23	**0.76**	0.01
07. When I want to feel more positive emotion, I change the way I'm thinking about the situation.	0.53	**0.66**	0.13
02. I keep my emotions to myself.	0.00	0.10	**0.83**
06. I control my emotions by not expressing them.	0.37	-0.10	**0.76**
04. When I am feeling positive emotions, I am careful not to express them.	0.10	0.16	**0.64**
Number of items	4	3	3
Own value	3.04	1.62	1.27
%Total variance explained	30.43	16.20	12.71
Cronbach's alpha	0.67	0.63	0.64

make myself think about it in a way that helps me stay calm), explaining 30.4% of the total variance; its internal consistency was 0.67.

Factor II - Redirection of the focus of attention: deviation of the attentional focus to modify the feeling resulting from the situation. This factor had its eigenvalue of 1.62, the factorial loadings of its items ranged from 0.78 (*Item 01*. When I want to feel more positive emotion (such as joy or amusement), I change what I'm thinking about) to 0.66 (*Item 07*. When I want to feel more positive emotion, I change the way I'm thinking about the situation) explaining 16.2% of the total variance; it's Cronbach alpha was 0.63.

Factor III - Emotional Suppression: this factor is aimed at measuring the inhibition of emotional expression behaviors. Its eigenvalue was 1.27, showing factorial loadings ranging from 0.83 (*Item 2*. I keep my emotions to myself) to 0.64 (*Item 4*. When I am feeling positive emotions, I am careful not to express them), contributing to explaining 12.7% of the total variance, resulting in an internal consistency (α) of 0.64.

In summary, the ERQ items were consistently discriminative, grouped into three factors / components that emerged clearly, accounting for about 3/5 of the total variance, with acceptable coefficients of internal consistency, considering the number of items (three) per factor. However, we still had to check whether this structure could be proven, confirmed, which motivated the analysis described below.

Evidence of the Factorial Structure of the Emotional Regulation Questionnaire

As previously suggested, although the indicators suggest evidence of construct validity and internal consistency of the ERQ, the analyzes described here were essentially exploratory. In addition, we note that the number of factors found diverged from those originally assumed. These aspects reinforce the need to evaluate

the quality of the three-factor model, comparing it with the one originally observed. When comparing the model fit indices of the unifactorial model [χ^2 (27) = 156.24, p<0.001; χ^2/df = 5.78, GFI = 0.85; AGFI = 0.76; CFI = 0.64 and RMSEA = 0.14 (IC90% = 0.123 - 0.167)], bifactorial [χ^2(26) = 156.23, p<0.001; χ^2/df = 6.00; GFI = 0.85; AGFI = 0.75; CFI = 0.64 and RMSEA = 0.14 (IC90% = 0.126 - 0.171)], with the trifactorial model [χ^2 (24) = 67.02, p<0.001; χ^2/df = 2.79, GFI = 0.93; AGFI = 0.88; CFI = 0.88 and RMSEA = 0.08 (IC90% = 0.064 - 0.014)], we can see that this model is more promising. In fact, $\Delta\chi^2$ was significant (p <0.001), corroborating that the model found, trifactorial, showed lower chi-square. All items of the instrument showed significant saturations (factorial weights, λ) statistically different from zero ($\lambda \neq 0$; z> 1.96; p <0.05), suggesting construct validity of this measure (see Figure 1).

Once its factorial structure was known, its indicators of precision and convergent validity were calculated using Cronbach's alpha, the Composite Reliability and the square root of the Average Variance Extracted (√AVE), respectively. The results found pointed to satisfactory indexes of precision and convergent validity and are presented in Table 4.

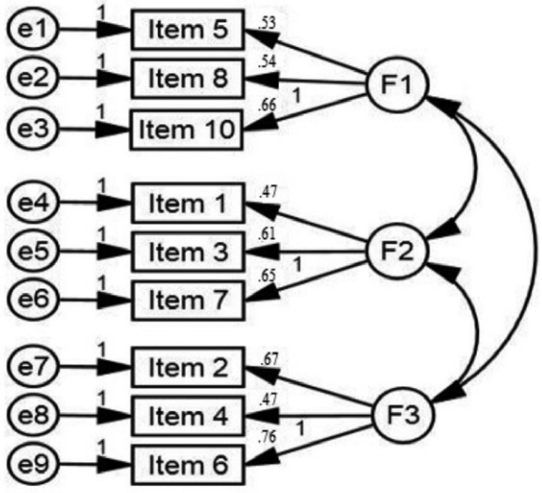

Figure 1. ERQ factor structure

Discussion

The objective of this study was to verify evidence of construct validity, convergent validity and internal consistency of the Emotional Regulation Questionnaire. For that, from the instrument elaborated by Gross and John (2003) and validated by Batistoni et al. (2013), we tried to evaluate its internal structure of the ERQ, in order to understand which are the regulatory strategies of the emotions. Prior to the statistical procedures to extract the components, we verified whether the data matrix factorability criteria were satisfied. The KMO and Bartlett's Test showed variance due to common factors and correlated between themselves, adequate to the exploratory analysis (Damasio, 2012; Gouveia, Santos & Milfont, 2009).

Then, we extracted the components, using the Horn criterion (parallel analysis); a structure of three factors was obtained, dissonant with that found by the authors of the original scale (Gross & John, 2003; Batistoni et al., 2013). That is, Gross and John (2003) and Batistoni et al. (2013) observed a two-factor structure composed by the dimensions of cognitive reassessment and emotional suppression. However, in this study, the "redirection of attention focus" factor was an independent factor, with a different semantic content from the first one. That is, in cognitive reassessment, a direct effort is made to transform and re-signify the situation, in order to change its emotional impact (Gondim et al., 2015). In attention redirection, in turn, the situation is not reinterpreted; the individual just prioritizes thinking about other events, so that the emotions arising from the initial situation are not evoked.

Table 4
Evaluation of the convergent validity and precision of the ERQ factors

Factor	α	CR	√AVE
Factor I. Cognitive Reassessment	0.60	0.60	0.57
Factor II. Redirecting the Focus of Attention	0.61	0.60	0.57
Factor III. Emotional Suppression	0.66	0.67	0.58

Note. α = Cronbach's alpha CR = Composite Reliability; √AVE = Square root of the Average Variance Extracted.

Rocha (2015) clarifies that one of the components of emotional responses is the attention, since it is necessary for individuals to direct it into such responses. This argument, to a certain extent, points out the importance of attention in emotional regulation and emphasizes the main characteristic of the second factor found in the instrument.

In terms of the internal consistency of the ERQ, it is agreed that these should be higher than 0.60 (Hair, Black, Babin, Anderson & Tatham, 2009; Pasquali, 2003). According to Gouveia et al. (2009), the number of items and the nature of the constructs contribute to the determination of such indicators, so that the more items show saturation in their factors, the greater their coefficients of internal consistency will tend to be. In this study, the alphas found ranged from 0.62 to 0.64, which may be related to the low number of items per factor (3 items).

The nature of the construct also relates to coefficients that are higher (when, for example, the construct shows little cultural variability) or lower (with culturally mutable characteristics). On emotional regulation, there is no theoretical consensus about the strategies for emotional regulation. That is, whereas strategies for cognitive reassessment and emotional suppression are more often cited (Gross & John, 2003; Batistoni et al., 2013). Nelis et al. (2011) and Gondim et al. (2015) cite two macro strategies (up and down regulation), each composed of 8 strategies (4 adaptive and functional and 4 maladaptive and dysfunctional). Therefore, on the nature of this construct, the coefficients found here are understandable.

Comparing the psychometric indexes found in this manuscript with those of the original version (Gross & John, 2003) we can find explanation for the approximate percentages of total variance; however, the coefficients of internal consistency were higher in the original version, since the research was replicated in four different samples and the coefficients found ranged from 0.75 to 0.80 for cognitive reassessment and 0.68 to 0.76, for emotional suppression.

For the confirmatory analyzes, we found satisfactory goodness of fit index for the trifactorial model (Byrne, 2010; Kline, 2010; Tabachnick & Fidell, 2013). That is, they indicated a merit ratio of variance-covariance of the data and a good fit with the model to the proposed theoretical model (unrelated latent variables), taking into account, on the occasion, limitations influenced by normality and sample size.

Rethinking the trifactorial model found from other theoretical models of emotion regulation, we can compare it with those used by Aldao et al. (2010), which comprise regulatory strategies between adaptive and maladaptive, or, by Gondim et al. (2015), which lists functional and dysfunctional strategies. The adaptive ones consist in developing interpretations or positive perspectives for stressful situations, with the objective of reducing their negative effects; in a similar perspective, functional strategies have the goal to minimize the effects of negative emotions. For this reason, we understood that the 'cognitive reassessment' strategy can be considered adaptive and functional, since it is focused on the re-signification of the emotions.

Nonetheless, 'emotional suppression' seems to be configured as a maladaptive or dysfunctional strategy, maximizing the detrimental effects of negative emotions (Gondim et al., 2015). That is, in this process one avoids expressing positive affects, or even, negative emotions are not re-elaborated, continuing to evoke negative feelings in the individuals.

When it comes to *Attention Redirection*, its classification as to its functionality is not consensual in the specialized literature (Bebko, Franconeri, Ochsner, & Chiao, 2014, Franconeri, 2013). Therefore, we should make some theoretical considerations. Franconeri (2013) discusses the positive effect of using attention on the process of regulating emotions. He suggests that redirecting attention is the causal mechanism of cognitive reassessment. Therefore, they are inseparable strategies.

On the other hand, Bebko et al. (2014), despite using the two-factor model of Gross and John (2003) on emotional regulation, discuss the importance of the use of attention in the regulatory process. They argue that shifting the attention focus as part of cognitive reassessment can not be considered a successful regulatory strategy, since negative emotions gain no different meaning, that is, one simply avoids thinking about them. Therefore, the authors consider that this may be, to some extent, maladaptive.

In this sense, considering the negative implications of redirecting the focus of attention and that the arguments pointed out by Bebko et al. (2014) support the understanding that this is independent to the cognitive reassessment, there is theoretical support for the trifactorial model found.

From the results found and the discussions developed, we understand that the ERQ has satisfactory and promising psychometric properties for the evaluation

of emotional regulation, especially the components: cognitive reassessment, attentional redirection and emotional suppression. Nevertheless, we recommend this research is replicated with the questionnaire, in order to confirm its three-factor structure.

Final considerations

The validation of an instrument is an initial step for its use in contexts different from the for which it was originally developed. With this in mind, this study aimed to verify construct validity evidences, convergent validity as well as the internal consistency of the ERQ. From the results found, we could see that this measure has a trifactorial structure, as well as shows adequate indices of internal consistency and convergent validity. Therefore we believe that the ERQ is a promising tool to measure emotional regulation with teenagers and young adults, which fulfills the goals we set.

Although this research has added important contributions to the measurement of emotional regulation, it is not free of limitations. For example, although the ERQ is a promising tool, there is need to investigate whether the results are invariant among adolescents and young adults. On future studies, we suggested this measure is reapplied in different Brazilian regions in order to ratify or not the factorial distribution found.

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