

# Cross-validation of the Emotion Awareness Questionnaire for Children in Three Populations

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## Abstract

The main aim of the present study was to examine the cross-cultural equivalence of a newly developed questionnaire, the Emotion Awareness Questionnaire (EAQ30) that assesses emotional awareness of children through self-report. Participants were recruited in three countries: the Netherlands ( $N = 665$ ), Spain ( $N = 464$ ), and Belgium ( $N = 707$ ), reflecting three languages: Dutch, Spanish, and French respectively. The results of multigroup confirmatory factor analysis showed that the 6-factor structure of the EAQ30 is similar in all three samples. These results were confirmed by the high coefficients of congruence that indicated factorial invariance across samples. Comparison between the three samples showed minor cultural differences. These findings support the factorial and construct validity of the EAQ30 and suggest that the EAQ30 accurately captures the structure of children's emotional dispositions, regardless of cultural differences.

## Keywords

cross-cultural equivalence, children, emotional competence

Emotion awareness consists of individual differences in the way people differentiate, express, analyze, and pay attention to their own and others' emotions. Emotion awareness appears as an important feature of emotional competence (EC). The concept of EC is used as an umbrella term, including all different aspects of emotional functioning (e.g., identification of the emotions, regulation of emotions, emotion expression, understanding others' emotions, empathy, etc.). Other

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terms (such as emotional intelligence [EI] or alexithymia) are frequently used to capture individual differences in emotional functioning. However, we prefer to use the term of EC because alexithymia concept is underinclusive and EI is overinclusive. Indeed, alexithymia refers to an inability to identify the own emotions, verbalize them, and an externally oriented thinking style (Nemiah, Freyberger, & Sifneos, 1976) but does not include aspects of analysis or regulation of emotions. On the contrary, the EI concept, defined as a constellation of emotion-related self-perceptions and dispositions comprising the affective aspects of personality (Petrides & Furnham, 2001), includes more than EC (main dimensions of the EI are well-being, self-control skills, emotional skills, and social skills).

To date, many studies have emphasized associations of EC with physical and mental health (e.g., Mikolajczak, Luminet, & Menil, 2006; Schutte, Malouff, Thorsteinsson, Bhullar, & Rooke, 2007). In addition, EC also facilitates many social, academic, and work-related performances (e.g., Van Rooy & Viswesvaran, 2004). Despite the importance of EC in adulthood, there are only a few recent studies investigating the role of EC on children's and adolescents' adaptation to their environment. The first investigations studying children and adolescents reveal associations between self-reported EC and social behaviors (e.g., Petrides, Frederickson, & Furnham, 2004; Petrides, Sangareau, Furnham, & Frederickson, 2006), physical and psychological health (e.g., Mavroveli, Petrides, Rieffe, & Bakker, 2007; Rieffe et al., 2010).

Considering the importance of individual differences in EC across the lifespan in clinical and research perspectives, it seems essential to have reliable and valid instruments to capture this variability. Although the two existing self-report questionnaires for adults on trait EI and alexithymia have been adapted for children and adolescents with reasonably good results (the Trait Emotional Intelligence Questionnaire-Adolescents Short-Form; Petrides et al., 2006 and the Alexithymia Questionnaire for Children; Rieffe, Oosterveld, & Meerum Terwogt, 2006), it is still preferable to use a questionnaire especially designed for such a young population, taking into account children's contextual factors such as the family, the peers' group, and the classroom (e.g., Matza, Swensen, Flood, Secnik, & Leidy, 2004). The Emotion Awareness Questionnaire for children (EAQ30; Rieffe, Oosterveld, Miers, Meerum Terwogt, & Ly, 2008) is indeed such a questionnaire. It is a newly self-report questionnaire, especially designed for children and adolescents, that aims to identify what children feel and think about their own emotions and the emotions of others. To our knowledge, this is the first questionnaire that aims to capture the emotion awareness of children.

The EAQ30 is composed of 6 dimensions. *Differentiating Emotions* is the ability to differentiate discrete emotions and locate their antecedents. *Bodily Awareness* is the cluster of physical sensations of emotions. The EAQ scales *Analyses of Emotions* and *Attending to Others' Emotions* identify children's interest to face their own and others' emotions respectively. Finally, the EAQ scale *Not Hiding Emotions* refers to the tendency not trying to conceal your feelings and *Verbal Sharing of Emotions* refers to verbal aspects of communication. The original Dutch version of the EAQ30 has been used many times and has demonstrated a good six-factor structure, whereby the items loaded on the intended factors; good internal consistencies for the six scales; and good predictive validity, whereby the scales contributed uniquely and overall as expected to the prediction of internalizing symptoms, such as somatic complaints, depression, anxiety, and worry (Rieffe et al., 2008; Rieffe & Rooij, IN PRESS). In addition, this questionnaire has been translated into many languages (e.g. Arab, English, Farsi, French, Greek, Italian, Spanish, and Turkish). To date, a study about the psychometric properties of the EAQ30 in a French-speaking population has shown preliminary evidence of convergent and concurrent validity. Moreover, except for one dimension, the EAQ30 does not seem to be affected by social desirability (Lahaye, Luminet, Van Broeck, Bodart, & Mikolajczak, 2010). Furthermore, a first empirical test of the Spanish version of the EAQ30 has also given preliminary evidence of its validity and reliability

(Rieffe, Villanueva, Adrian, & Górriz, 2009). However, these promising results must be considered with caution, because the factor structure was examined separately for each country.

Therefore, the primary purpose of the present study was to test empirically to which extent the EAQ30 can be used across European countries and whether results across countries on emotion awareness can be compared. So the first aim was to investigate the validity and the stability of the EAQ30 across countries. Considering the supporting evidence of a six-factor structure across samples, we postulate that there is no significant difference between the EAQ30 *structure* across the three samples. Moreover, our second aim was to compare the *mean* scores of the EAQ30 across cultures (Dutch vs. Spanish vs. French-speaking Belgian). Knowing that these three countries present important similarities in socioeconomic (they have a very similar Human Development Index<sup>1</sup>; Hofstede, 1991; in Basabe et al., 2002), geographic (they are all three European), and cultural factors (e.g., all three are considered as individualist cultures; Hofstede, 1980), we do not expect major differences in emotion awareness between these three countries.

## Method

### Participants

Participants came from three different countries (the Netherlands, Spain, and Belgium), using three different languages (Dutch, Spanish, and French respectively). In total, 1,836 participants completed the EAQ30: 665 from the Netherlands ( $M$  age = 12.3,  $SD$  = 2.05, 55.3% female), 464 from Spain ( $M$  age = 13.9,  $SD$  = 0.78, 48.7% female), 707 from Belgium ( $M$  age = 12.5,  $SD$  = 1.98, 51.6% female).

### Procedure

The study was introduced to school directors and their permission to conduct the research was given. Afterwards, parents and children received information about the confidentiality of their answers and were asked for permission to participate. The participating children were asked to complete the questionnaire in class. No time constraint was imposed, but questionnaire completion took approximately 10 min.

### Measures

Emotional awareness was assessed using the Emotion Awareness Questionnaire (EAQ30; Rieffe et al., 2008). The EAQ30 is a self-report questionnaire of 30 items rated on a 3-point scale (1 = *not true*, 2 = *sometimes true*, 3 = *true*) and includes 6 scales: (a) Differentiating Emotions (“When I am upset, I don’t know if I am sad, scared, or angry”; reversed item); (b) Verbal Sharing of Emotions (“I find it difficult to explain to a friend how I feel”; reversed item); (c) Bodily Awareness (“When I am scared or nervous, I feel something in my tummy”); (d) Not Hiding Emotions (“When I am angry or upset, I try to hide this”; reversed item); (e) Analyses of Emotions (“When I have a problem, it helps me when I know how I feel about it”); (f) Attending to Others’ Emotions (“If a friend is upset, I try to understand why”). Twenty items are negatively formulated and thus reversed-scored. The questionnaire is suitable for children and adolescents between 9 and 16.

As recommended by the International Test Commission guidelines for test adaptation (Hambleton, 2001), items of the original version were first translated into French and Spanish and then back translated into English or Dutch. The translation/back-translation processes were conducted by fully bilingual individuals. After the back-translations, problematic items were reviewed and discussed.

**Table 1.** Means, Standard Deviations, and Cronbach's  $\alpha$  of the EAQ Subscales in the Three Samples

	Number of items	The											
		Netherlands			Spain			Belgium			Total		
		<i>M</i>	<i>SD</i>	$\alpha$	<i>M</i>	<i>SD</i>	$\alpha$	<i>M</i>	<i>SD</i>	$\alpha$	<i>M</i>	<i>SD</i>	$\alpha$
Differentiating emotions	7	2.41 <sub>a</sub>	.39	.70	2.34 <sub>b</sub>	.41	.70	2.28 <sub>c</sub>	.42	.68	2.34	.41	.69
Verbal sharing of emotions	3	2.06 <sub>a</sub>	.58	.72	2.14 <sub>a</sub>	.54	.70	1.97 <sub>b</sub>	.61	.73	2.05	.59	.72
Not hiding emotions	5	2.02 <sub>b</sub>	.48	.71	2.17 <sub>a</sub>	.47	.71	1.98 <sub>b</sub>	.49	.71	2.04	.49	.72
Bodily awareness	5	1.86 <sub>b</sub>	.49	.68	2.03 <sub>a</sub>	.52	.72	1.83 <sub>b</sub>	.52	.68	1.89	.52	.69
Attending to others' emotions	5	2.44 <sub>c</sub>	.45	.72	2.69 <sub>a</sub>	.35	.69	2.54 <sub>b</sub>	.42	.69	2.54	.43	.71
Analyses of emotions	5	2.12 <sub>c</sub>	.48	.71	2.35 <sub>a</sub>	.43	.68	2.26 <sub>b</sub>	.47	.65	2.23	.47	.69

Note: Significant mean differences between groups are shown by different subscripts, *a* indicating the highest score and *c* the lowest score.

## Results

### Descriptive Statistics

The means, standard deviations, and internal consistencies of the EAQ subscales for the various samples are presented in Table 1. Internal consistency coefficients (Cronbach's alphas) are at least minimally acceptable (above .65; DeVellis, 1991) for the EAQ30 subscales, varying between .65 and .73, and are similar in the three samples. The mean skewness and kurtosis values support the hypothesis of a normal distribution. Indeed, values ranging from  $-1.50$  to  $+1.50$  can be considered as a normal distribution (Múthen & Kaplan, 1985). Most EAQ30 items evidence distributional normality. However, one item (a53: "If a friend is upset, I try to understand why") presents an abnormal distribution for Spanish and Belgian children. Moreover, for two items (a52r: "I don't want to know how my friends are feeling", a54r: "I don't care about how my friends are feeling inside"), the skewness and kurtosis values for Spanish children are higher than those for Belgian and Dutch children. Information about skewness and kurtosis values in each country are available on request to the first author.

### Factor Structure and Factorial Validity of the EAQ in the Different Samples

A confirmatory factor analysis was conducted using the structural equation modeling procedure through AMOS 16.0 (Arbuckle, 2007). To test the factorial validity, we used a combination of different indices, including the Root Mean Square Error of Approximation (RMSEA) of .05 or less, the Standardized Root Mean Square Residual (SRMR) of .08 or less, the comparative fit index (CFI) over .95 (Hu & Bentler, 1999), and the chi-square fit index divided by its degrees of freedom ( $\chi^2/df$ ). An acceptable proportion is 2:1 or 3:1 (Kline, 1998). We also considered the Akaike's Information Criterion (AIC; Akaike, 1987). Smaller values are preferred, as they indicate simpler models with good fit, whereas large values can indicate poorly fitting models.

We tested the theoretical six-factor model separately for the three samples. The model consisted of six latent variables: Differentiating Emotions, Verbal Sharing of Emotions, Bodily Awareness, Not Hiding Emotions, Analyses of Emotions, Attending to Others' Emotions. Lahaye et al. (2010) showed that the six-factor model was significantly better than other models with a four- or five-factor

**Table 2.** Fit Indices for Six-Factor Model in the Three Samples

Model	Degrees of freedom	$\chi^2$	$\chi^2/df$	CFI	SRMR	RMSEA	AIC	$\Delta\chi^2$
Belgian								
Model A	390	865.28*	2.22	0.88	0.050	0.042	1015.28	—
Model B	385	674.92*	1.75	0.93	0.046	0.033	834.92	190.36*
Spanish								
Model A	390	671.02*	1.72	0.89	0.055	0.039	821.02	—
Model B	385	578.85*	1.50	0.93	0.052	0.033	738.85	92.17*
Dutch								
Model A	390	910.81*	2.33	0.87	0.056	0.045	1060.81	—
Model B	385	788.48*	2.05	0.90	0.053	0.040	948.48	122.33*

Note: CFI = comparative fit index; SRMR = standardized root mean square residual; RMSEA = root-mean-square error of approximation;  $\Delta\chi^2$  = chi-square difference test between the six factor model with and without constraints; AIC = Akaike's information criterion; Model A = original six-factor model; Model B = six-factor model wherein we allowed the errors for some items to covary freely with its pair.

\* $p < .001$ .

solution. They compared the six-factor model with three other theoretically plausible nested models and the six-factor model had the highest CFI, the lowest RMSEA,  $\chi^2/df$ , and AIC, which are indications of a better fit.

Goodness-of-fit statistics related to tests of the six-factor structure are presented in Table 2. As can be observed, the RMSEA, the SRMR, and the  $\chi^2/df$  suggested that the six-factor structure fitted the Belgian, Spanish, and Dutch data sets. However, the CFI indicated otherwise. For each sample, the six-factor model evidenced some very high modification indices, which indicates an inadequate fit. The analyses of the modification indices showed that in the Belgian data, 4 items (items a33 “when I am upset, I try not to show it” and a34 “when I am angry or upset, I try to hide this” and items a41 “when I am scared or nervous, I feel something in my tummy” and a43 “I don't feel anything in my body when I am scared or nervous”) had excessively large correlated errors (Lahaye et al., 2010). In Spanish data, 4 items (items a31 “Other people don't need to know how I am feeling” and a35 “When I am feeling bad, it is no one else's business” and items a52 “I don't want to know how my friends are feeling” and a54 “I don't care about how my friends are feeling inside”) all had excessively large correlated errors. Finally, in the Dutch sample, 6 items (items a41 and a43, items a52 and a54, and items a31 and a54) had excessively large correlated errors. These different items presented closely related formulation. Therefore, for each sample, we compared the first six-factor model (Model A) with a second six-factor model wherein we allowed the errors for each of the above items to covary freely with its pair (Model B). Results are presented in Table 2.

As can be observed, for each country, Model B presented improvements in all indices we used (RMSEA, SRMR,  $\chi^2/df$ , CFI, and AIC). We thus decided to estimate these additional parameters for all further analyses. Factor loadings for the three samples are presented in Table 3.

### Factorial Invariance of EAQ30 Structure Across Countries

We compared the Dutch, Belgian, and Spanish factor structure at two levels. First, we computed the congruence coefficients between the factor structure in Dutch, Spanish, and Belgian data sets. The congruence coefficient is an index of factor similarity. This statistical method is used to determine the factorial invariance of solutions across samples. These coefficients were computed using the Watkins's coefficient of congruence program (Watkins, 2002b) and are considered

**Table 3.** Factor Loadings for the Three Samples

	The Netherlands	Spain	Belgium
<b>Differentiating emotions</b>			
1.1 I am often confused or puzzled about what I am feeling	.507	.478	.358
1.2 It is difficult to know whether I feel sad, or angry, or something else	.542	.401	.489
1.3 I never know exactly what kind of feeling I am having	.470	.597	.544
1.4 When I am upset, I don't know if I am sad, scared, or angry	.552	.558	.628
1.5 I feel upset and I have no idea why	.515	.594	.571
1.6 I often don't know why I am angry	.477	.502	.526
1.7 I don't know when something will upset me or not	.438	.372	.272
<b>Verbal sharing of emotions</b>			
2.1 I find it difficult to explain to a friend how I feel	.749	.728	.740
2.2 I find it hard to talk to anyone about how I feel	.746	.667	.749
2.3 I can easily explain to a friend how I feel inside	.552	.606	.577
<b>Not hiding emotions</b>			
3.1 Other people don't need to know how I am feeling	.535	.423	.451
3.2 When I am upset about something, I often keep it to myself	.677	.630	.635
3.3 When I am angry or upset, I try to hide this	.556	.600	.514
3.4 When I am upset, I try not to show it	.519	.521	.477
3.5 When I am feeling bad, it is no one else's business	.512	.532	.629
<b>Bodily awareness</b>			
4.1 When I am scared or nervous, I feel something in my tummy	.479	.428	.371
4.2 When I feel upset, I can also feel it in my body	.613	.688	.657
4.3 I don't feel anything in my body when I am scared or nervous	.341	.375	.425
4.4 My body feels different when I am upset about something	.612	.707	.662
4.5 When I am sad, my body feels weak	.574	.686	.512
<b>Attending to others' emotions</b>			
5.1 It is important to know how my friends are feeling	.752	.736	.681
5.2 I don't want to know how my friends are feeling	.374	.498	.582
5.3 If a friend is upset, I try to understand why	.610	.685	.530
5.4 I don't care about how my friends are feeling inside	.545	.448	.589
5.5 I usually know how my friends are feeling	.562	.409	.373
<b>Analyses of emotions</b>			
6.1 When I am angry or upset, I try to understand why	.579	.540	.466
6.2 My feelings help me to understand what has happened	.518	.486	.451
6.3 When I have a problem, it helps me when I know how I feel about it	.577	.540	.478
6.4 It is important to understand how I am feeling	.632	.578	.594
6.5 I always want to know why I feel bad about something	.577	.581	.633

acceptable if they are equal to or greater than .82 (MacCallum, Widaman, Zhang, & Hong, 1999). All of the coefficients obtained in the present research are greater than .82 and most of them are close to .95, which indicates practically identical solutions across countries. Coefficients of congruence were between .91 and .98 for Differentiating Emotions and Verbal Sharing of Emotions, between .92 and .98 for Not Hiding Emotions, between .88 and .97 for Bodily Awareness, between .91 and .99 for Attending to Others' Emotions, and between .94 and .99 for Analyses of Emotions.

Second, we analyzed the equivalence of the EAQ30 structure by computing a multigroup confirmatory analysis through structural equation modeling. We compared a model in which factor loadings and covariations among the factors were allowed to vary across countries (Model C) to

**Table 4.** Fit Indices for the Multigroup Comparison

Model	Degrees of freedom	$\chi^2$	$\chi^2/df$	CFI	SRMR	RMSEA	AIC	$\Delta\chi^2$
Model C	1155	2042.31*	1.77	0.92	0.046	0.020	2522.31	—
Model D	1203	2162.79*	1.80	0.91	0.048	0.021	2546.79	120.48*

Note: CFI = comparative fit index; SRMR = Standardized Root Mean Square Residual; RMSEA = root-mean-square error of approximation;  $\Delta\chi^2$  = chi-square difference test between the six factor model with and without constraint; AIC = Akaike's Information Criterion; Model C = model in which factor loadings and covariations among the factors were allowed to vary across countries; Model D = model in which the loadings and the covariations among factors were constrained to be equal across the three samples.

\* $p < .001$ .

a model in which the loadings and the covariations among factors were constrained to be equal across the three samples (Model D). Results of the multigroup analysis are presented in Table 4. On the basis of the chi-square difference test, we could conclude that Model C is better than Model D ( $\Delta\chi^2 = 120.48$ ,  $p < .001$ ). However, on all others indices the two models are similar (RMSEA  $< 0.05$ ; SRMR  $< 0.08$ , CFI between 0.90 and 0.95; a proportion  $\chi^2/df$  of 2/1). Therefore, results tend to be in favor of the structural stability of the EAQ30 across cultures.

### Cultural Differences for EAQ30 Subscales

We conducted a multivariate analysis of variance (MANOVA) with countries as fixed factor and EAQ30 subscales as dependent variables. Results revealed a significant main effect of country on Differentiating Emotions,  $F(2, 1835) = 19.18$ ,  $p < .001$ , Verbal Sharing of Emotions,  $F(2, 1835) = 12.91$ ,  $p < .001$ , Bodily Awareness,  $F(2, 1835) = 22.18$ ,  $p < .001$ , Not Hiding Emotions,  $F(2, 1835) = 22.63$ ,  $p < .001$ , Analyses of Emotions,  $F(2, 1835) = 36.20$ ,  $p < .001$ , and Attending to Others' Emotions  $F(2, 1835) = 48.31$ ,  $p < .001$ . Post hoc tests using the Bonferroni procedure were performed to compare results across countries. Significant differences are presented in Table 1 (see subscripts). Spanish children obtained higher scores than Belgian and Dutch children on Bodily Awareness (respectively,  $d = 0.38$  and  $0.34$ ), Not Hiding Emotions (respectively,  $d = 0.40$  and  $0.32$ ), Attending to Others' Emotions (respectively,  $d = 0.39$  and  $0.62$ ), and Analyses of Emotions (respectively,  $d = 0.20$  and  $0.50$ ). Moreover, Belgian children had higher scores than Dutch children on Attending to Others' Emotions ( $d = 0.23$ ) and Analyses of Emotions ( $d = 0.29$ ), but lower scores on Verbal Sharing of Emotions than Dutch and Spanish children (respectively,  $d = -0.15$  and  $-0.29$ ). Finally, Dutch children obtained higher scores on Differentiating Emotions than Belgian children ( $d = 0.32$ ) and Spanish children ( $d = 0.17$ ) who in turn had higher scores than Belgian children ( $d = 0.14$ ).

### Discussion

The present study aimed to analyze the cross-cultural equivalence of the EAQ30 in a sample of Belgian, Dutch, and Spanish children, whose native languages are French, Dutch, and Spanish respectively, computing different analyses. First, a confirmatory factor analysis indicated that the six-factor structure presented good indices for the three samples. However, the factor structure showed better fit indices when some covariances between errors of items were allowed. This suggests that there is a redundancy between some couples of items, and that some of them could perhaps be removed. Yet this might jeopardize the internal consistency of the scales.

Second, coefficients of congruence were considered as good to excellent according to the norms of MacCallum and colleagues (1999), which indicates that the EAQ30 presents a very similar factor structure across the three samples. Moreover, results of the multigroup confirmatory factor analysis revealed that on the unique basis of the chi-square difference test, it seemed that the model in which the loadings and the covariations among factors were allowed to vary is better than the model in which the loadings and the covariations among factors were constrained to be equal across the three samples. However, the test on which this conclusion is based, the chi-square difference test, is quite sensitive to sample size. Therefore, with a sample of 1,836 children, it is understandable that strict structural equivalence was rejected even if the factor structure between the three samples was very similar. Indeed, the constrained model presented indices as good as the model in which the loadings and the covariations among factors were allowed to vary. Therefore, even if there are trivial differences in the factor structure between the three countries, the structural equivalence between cultures can be statistically, though not practically, different. Such factorial stability suggests that the EAQ30 accurately captures the structure of children's emotional dispositions, regardless of cultural differences.

On the basis of MANOVA's results, a few cultural differences were observed. However, except for Attending to Other's Emotions, the effect sizes were small (most Cohen's *d* were lower than 0.50; Cohen, 1988), which means that these effects can be considered as trivial. Indeed, because of the large sample size in the current work, small differences can be statistically significant (Olejnik & Algina, 2000). One difference seems, however, more important than the others: Spanish children have significantly higher scores on Attending to Other's Emotions than Dutch children. This difference could be explained by the individualism, a cultural dimension proposed by Hofstede (1980). In individualist cultures, individuals look principally after themselves and their nuclear family. The more a culture is individualist, the less people take into account the interests of others. Even if Spain, Belgium, and the Netherlands are considered as individualist cultures, Dutch people are more individualist than Spanish people (on a scale between 1 and 100, the Netherlands obtained 80 and Spain 51; Hofstede, 1991). Belgium, with a score of 75, is between Spanish and Dutch scores. Therefore, the difference of scores on individualism between Spain and the Netherlands implies that Spanish children pay more attention to the emotions of their peers than Dutch children.

In addition, it must be noted that the perfect equivalence between the factorial structure of the three samples cannot be guaranteed by the outcomes of this study. Some differences could be explained by a nonperfect equivalence of the translation. Indeed, emotion words might not have a fully equivalent meaning between languages (Mesquita & Frijda, 1992).

Finally, it should be noted that this study was based on one self-report questionnaire, whereas no other informants were used. However children are the ones who have the most direct access to their emotions. Moreover, it has repeatedly been shown that children are in fact better informants than parents or teachers when it concerns their own emotions (DiBartolo & Grills, 2006), which further emphasizes the validity of using self-report questionnaires. Nevertheless, future studies could more closely examine this issue and compare different sources of informants for example regarding children's ability to analyze emotion evoking situations and verbalize their emotions.

In conclusion, the present study provides promising results in favor of the stability of the EAQ30 across countries. The factorial structure of the EAQ30 was replicated in three language versions. These findings thus constitute an important contribution of the endorsement of the EAQ30's validity. Moreover, the stability of the structure of the EAQ30 enables researchers to make comparisons between countries. Furthermore, establishing the validity of the EAQ30 is an important step in the development of the empirical knowledge about EC in children. These findings encourage continued research into children's EC and its impact on general adaptation to the environment. Yet additional longitudinal research would be valuable to better understand the



development of EC during grade school and adolescence. Finally, considering the cultural differences in different components of the emotion process (Mesquita & Walker, 2003), it would be interesting to extend this research across and beyond European cultures.

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The authors declared no potential conflicts of interests with respect to the authorship and/or publication of this article.

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### Note

1. The human development index measures national well-being and trends by combining three basic components of human development: longevity (mean life expectancy in the nation); knowledge (rate of literacy and school population); and standard of living (Gross National Product per person; Basabe, & al., 2002, p. 109).

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