ASSESSING EARLY MEMORIES OF THREAT AND SUBORDINATION: CONFIRMATORY FACTOR ANALYSIS OF THE EARLY LIFE EXPERIENCES SCALE FOR ADOLESCENTS

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ABSTRACT

The Early Life Experiences Scale (ELES) is a self-report questionnaire that assesses personal feelings of perceived threat and submissiveness in interactions within family. This paper presents the adaptation and validation of the ELES in Portuguese language for adolescents. The sample was composed of 771 adolescents from community schools with ages between 13 and 18 years old. Along with ELES, participants also answered the Early Memories of Warmth and Safeness Scale and the Positive and Negative Affect Schedule for Children and Adolescents. Confirmatory factor analysis (CFA) was performed to test the factor structure of the ELES and results confirm a three-factor structure, composed by Threat, Submissiveness and Unvalued dimensions. These emotional memories focused on perceived threat, submissiveness and unvalued seem to have a distinct nature. The scale also showed adequate internal consistency, good test-retest reliability and convergent validity with measures of positive emotional memories, positive and negative affect. There were sex differences for threat subscale and age differences for submissiveness subscale. Overall, these findings suggest that the ELES in its Portuguese version for adolescents may be a useful tool for research, educational and clinical contexts with school-aged adolescents.

Keywords: Adolescence; Confirmatory Factor Analysis; ELES; Submissiveness; Threat

INTRODUCTION

In the last decades, research has consistently shown the influence of parental practices and behaviors on the development and maintenance of psychological and emotional difficulties in children and adolescents. For instance, literature on socialization practices and their effects provides evidence that warmth, loving and caring environments are related to positive developmental outcomes (Muris, Meesters, & van den Berg, 2003; Roelofs, Meesters, ter Huurne, Bamelis, & Muris, 2006; Steinberg, 2002; Williams et al., 2009). In contrast, early exposure to threats, in the form of abuse, rejection, neglect, criticism and bullying, are known to be associated with increased vulnerabilities to mental health difficulties and can be translated in psychopathology and maladjustment in adulthood (Gilbert & Irons, 2005; Gilbert, Baldwin, Irons, Baccus, & Palmer, 2006; Irons, Gilbert, Baldwin, Baccus, & Palmer, 2006; Matos & Pinto-Gouveia, 2010; Matos, Pinto-Gouveia, & Costa, 2011; Matos, Pinto-Gouveia, & Duarte, 2013; Richter, Gilbert, & McEwan, 2009; Slavich, & Cole, 2013; Stuewig & McCloskey, 2005). Indeed, the core idea here is that growing-up in loving, warmth, and caring environments will shape different phenotypes compared to growing up in adverse environments (Boyce & Ellis, 2005; Ellis, Essex, & Boyce, 2005).

The majority of research focused on parenting style, practices and socialization was encouraged by attachment theory (Bowlby, 1969), which states that interactions between child-parent form the basis for internal working models of self and of others (Bowlby, 1969; Mikulincer & Shaver, 2007). Based on attachment theory, there are several measuring instruments that ask people to recall early parents-children interactions and parental behaviors in childhood, in order to assess parenting styles/practices and attachment styles. For instance, in the case of children and adolescents the self-report measures widely used to assess parental behaviors are the EMBU for Children (EMBU-C; Castro, Toro, Arrindel, Van der Ende, & Puig, 1990; Castro, Toro, Van Der Ende, & Arrindell, 1993), which assess the children's perception of their parents rearing behaviors, and the Inventory of Parent and Peer Attachment (IPPA; Armsden & Greenberg, 1987), which assess both parent and peer attachment; the Childhood Trauma Questionnaire (Bernstein, Ahluvalia, Pogge, & Handelsman, 1997), which assess recall of traumatic early life experiences (such as physical, sexual and emotional abuse).

However, more than evaluating parental behaviors it might be important assess the emotional experience of adolescents in the interactions with their parents. In this context, Gilbert, Cheung, Grandfield, Campey and Irons (2003) argue that the emphasis on recall of how one felt in relation to the behavior of others may be more important than just recall others' behavior. According to the Social Rank Theory (Gilbert, 1992) parent-child interactions can be conceptualized as power/hierarchical relationships within an attachment context. Although both

theories complement each other, attachment theory mainly refers to lack of warmth or excessive parental control, whereas social rank theory emphasize down rank threats and submissive behavior (Gilbert, 1992; Gilbert et al., 2003). In line with this evolutionary view (Gilbert, 1992, 2009; Gilbert et al., 2003), when growing in an early background characterized by parental criticism, rejection, emotional invalidation and neglecting, a child may feel stressed, unvalued and frightened of their parents and feel forced to adopt unwanted or involuntary submissive and defensive behaviors (e.g., avoiding, passive inhibition, backing down if challenged, appeasing others) to deal with these potential harmful environments. The activation of these submissive-defensive strategies has the purpose of reducing or deactivating the criticism and aggression of the dominant other or its hostile intention (Allan & Gilbert, 1997). At first, these involuntary defensive behaviors are protective since the rebellion of a child may have a counterproductive outcome by increasing the parental criticism or even decreasing the emotional bonding. Over time, a child with repeated experiences of criticism, rejection and depreciation in the family context may develop representations of others as powerful, hostile and dominant; and of the self as unvalued, vulnerable and inferior (Baldwin, 1992; Gilbert, 2000a, 2000b; Gilbert & Irons, 2005). In addition, this child tends to be overly attentive to threats and more sensitize to critical, shaming or rejection external cues rather than being able to rely on parents' safety, emotional support and secure attachment (Gilbert, 2000a, 2000b; Gilbert et al., 2003; Gilbert & Irons, 2005). This kind of power dynamics is linked to vulnerability to several emotional and social difficulties later in life (Castilho, Pinto-Gouveia, Amaral, & Duarte, 2014; Gilbert, 1993; Gilbert, Allan, Brough, Melley, & Miles, 2002; Sloman, Gilbert, & Hasey, 2003).

As a result, Gilbert et al. (2003) developed the Early Life Experiences Scale (ELES) to measure recall of personal feelings of perceived threat and subordination in childhood. The value of this scale is measuring how one felt as a child, instead of parental behaviors, which may reduce defensive strategies in assessment early interactions with parents. In the development and psychometric study of ELES (Gilbert et al., 2003) an Exploratory Factor Analysis was conducted in a sample of undergraduate population ($N = 220$, aged between 18 and 53 years old) and results showed a 3-factor solution: (i) *Threat* factor taps perceived threat and fearful in the interaction with parents (i.e., parents as powerful and dominant); (ii) the *Submissiveness* factor includes items related to feeling subordinate and acting in a submissive way; (iii) the *(Un)valued* factor involves a more cooperative, affiliative and safe feelings. This scale could be examined through these three subscales or through its total score, with higher scores representing a recall of perceived threat, submissiveness and unvalued feelings in the family. The original study (Gilbert et al. 2003) obtained good internal reliability, with Cronbach's alphas of .92 for total score, .89 for threat, .85 for submissiveness and .71 for unvalued. The authors found significant correlations between early threat and submissiveness experiences and recall of parenting behaviors, in particular positive

correlations with rejection and also with overprotection and negative correlation with emotional warmth (measured by EMBU). In addition, early threat and submissiveness experiences were positively associated with depression and shame and negatively correlated with favorable social comparisons. Moreover, recall of feeling subordinate in the family was found to be the independent and best predictor of depressive symptoms whereas recall of parental behaviors was not (Gilbert et al., 2003).

In sum, there is recently a large evidence that excessive concerns with feeling inferior to others, a tendency for submissive behavior and believing that others are potential harmful or hostile and look down on the self are highly associated with depression and anxiety in adults (Gilbert, 2000a, 2000b; Matos & Pinto-Gouveia, 2014; Sloman et al., 2003). To date, only a handful of studies in adolescence have highlighted the potential impact of these social rank variables (e.g., shame, social comparison, submissive behavior) on psychopathology (Cunha, Matos, Faria, & Zagalo, 2012; Irons & Gilbert, 2005; Gilbert & Irons, 2009; Öngen, 2006). Altogether, these studies suggest that also in adolescence the experiences of shame, self-criticism and submissive behaviors may increase the vulnerability to psychopathology. Therefore, these findings emphasize the need of continuing research as well as available and reliable instruments to assess these features in adolescents.

The main purpose of this study is to adapt and validate the Early Life Experiences Scale (ELES) for adolescents. Firstly, we set out to confirm the underlying factor structure of the ELES using a Confirmatory Factor Analysis method, in a community sample of adolescents. Secondly, we intent to examine the psychometric properties of the factor structure, specifically item's analysis and internal consistency, test-retest reliability and convergent validity, by comparing the ELES to measures of early memories of warmth and safeness, positive affect and negative affect.

METHOD

Participants

The total sample is composed by 771 adolescents, among them 364 are boys (47.2%) and 407 girls (52.8%) with ages between 13 and 18 years old ($M = 15.21$, $SD = 1.54$). These adolescents attend between 7th and 12th grade ($M = 9.79$, $SD = 1.41$), from middle and secondary schools in the district of Coimbra, Portugal. No gender differences were found for age, $t_{(769)} = -1.123$, $p = .262$, and years of education, $t_{(769)} = 1.877$, $p = .061$.

Procedure

According to recommendations of the International Test Commission (ITC, 2005) and other best-practice publications (e.g., Hambleton & Lee, 2013; Van de Vijver & Hambleton, 1996), the scale was subjected to a rigorous translation and back-translation process in order to guarantee the comparability of content of the ELES Portuguese version and the original one. First, a psychologist with strong English language skills, spoken and written, translated the items into Portuguese. Lexical and conceptual aspects were analyzed in order to maintain each item content. The instructions were adapted for adolescents and some items were added examples, with a simple and friendly language. Then, an English translator verified the content of the final version of the ELES through a back-translation process, repeated until the meaning of each item corresponded to the original item of the ELES.

This adolescents' sample was collected from public and private schools in the district of Coimbra, Portugal. Prior to administration of self-report questionnaires, ethics approval was granted by the Head Teacher of the schools and parents were informed on the goals of the research and gave their consent. Adolescents were informed about the purpose of the study, aspects of confidentiality and consent. They filled out the questionnaires in the classroom in the presence of teacher and researcher to clarify doubts and to ensure the independent response.

Measures

The **Early Life Experiences Scale** (**ELES;** Gilbert et al., 2003) is a self-report instrument to measure emotional memories in one's family, linked to recall of feeling devalued, frightened and having to behave in a subordinate way. Whereas many recall of early life ask about recalling specific experiences or how one parent acted towards one, this scale asks about memories of personal feelings. This scale consists of 15 items and three subscales: (i) Threat (six items; e.g. "I experienced my parents as powerful and overwhelming"); (ii) Submissiveness (six items; e.g. "I often had to give in to others at home"); and (iii) Unvalued (three reversed items; e.g. "I felt very comfortable and relaxed around my parents"). Participants were asked how frequently each statement was true for them and rated each item on a five-point measure (ranging from 1 = *completely untrue*, to 5 = *very true*). The scale can be used as a single construct or as three separate subscales. Gilbert et al. (2003) found Cronbach's alphas of .89 for threat, .85 for submissiveness, .71 for (un)valued and .92 for the total score.

The **Early Memories of Warmth and Safeness Scale** (**EMWSS;** Richter, Gilbert, & McEwan, 2009; Portuguese version for adolescents by Cunha, Xavier, Martinho, & Matos, 2013) is a self-report questionnaire and assess recall of feeling warm, safe and cared for in childhood,

i.e., early positive memories of warmth and affect (e.g., "I felt secure and safe."). This is a 21-item scale and is rated on a 5-point Likert scale (ranging from 0 = *no, never* to 4 = *yes, most of the time*). On the original version, Richter et al. (2009) found an unidimensional structure with a high Cronbach's alpha of .97. The Portuguese version of EMWSS also revealed an excellent internal consistency for adult population (α = .97; Matos et al., 2014) and for adolescents (α = .95; Cunha et al., 2013). In the current study, Cronbach's alpha was .95.

The **Positive and Negative Affect Schedule for Children and Adolescents** (**PANASN**; Sandin, 1997; Portuguese version by Carvalho, Baptista, & Gouveia, 2004) is a 20-item scale and comprises two mood scales, one measuring positive affect (ten items) and the other measuring negative affect (ten items). Participants were asked to rate the degree to which they felt each emotion in the last month using a 3-point scale (ranging from 1 = *never* to 3 = *many times*). Thus, scores ranging between 10 and 30 for each subscale and higher scores indicate higher levels of positive and negative affect, respectively. Sandin (2003) found adequate internal consistency with Cronbach's alphas of .73 and .72 for positive affect and .74 and .75 for negative affect. The Portuguese version (Carvalho et al., 2004) obtained good internal reliability with Cronbach's alphas of .76 for positive affect and .83 for negative affect. In the current study the Cronbach's alpha was .81 for positive affect and .85 for negative affect.

Data Analyses

Statistical analyses were carried out using PASW Software (Predictive Analytics Software, version 20, SPSS, Chicago, IL, USA) for PCs and AMOS software (Analysis of Moment Structures) version 18 (Amos Development Corporation, Crawfordville, FL, USA) (Arbuckle, 2009).

Descriptive statistics were computed to explore demographic variables and independent sample t-tests were performed when conducting between-group analyses (Field, 2013). The one-way independent ANOVA was used to compare means in different groups of age and grade in school (Field, 2013).

Pearson product-moment correlation coefficients were computed to assess the relationship between ELES and their subscales and other convergent measures, particularly EMWSS and PANASN (Tabachnick & Fidell, 2013).

A Confirmatory Factorial Analysis (CFA) was performed in order to test the model fit to the data and its factorial validity (Byrne, 2010; Kline, 2005). Based on the theoretical model and previous studies with adult population (Gilbert et al., 2003), a three-factor CFA measurement model of the ELES was tested with the following latent variables: (i) Threat, (ii) Submissiveness,

and (iii) Unvalued. A Maximum Likelihood (ML) parameter estimation was used because ML seems to be relatively robust and efficient if the sample size is sufficiently large (Iacobucci, 2010; Kline, 2005; Schermelleh-Engel, Moosbrugger & Müller, 2003) and because it is one of most frequently used estimation methods in this statistical procedure (Byrne, 2010). In the evaluation of the model, we used the model chi-square, which measures the discrepancy between the predicted model and the data (Byrne, 2010) and which smaller values were required. However, since this index is very sensitive to sample size (Schermelleh-Engel et al., 2003), we used simultaneously other global fit indices. The following goodness-of-fit indices and recommended cut-points were used to evaluate overall model fit (Byrne, 2010; Kline, 2005): Goodness of Fit Index (GFI ≥ .90, good; Jöreskog & Sörbom, 1996), Comparative Fit Index (CFI ≥ .90, good; Hu & Bentler, 1998), Tucker-Lewis Index (TLI ≥ .90, acceptable, and ≥ .95, very good; Hu & Bentler, 1998), Root Mean Square Error of Approximation (RMSEA ≤ .06, good fit; ≤ .08, acceptable fit; ≥ .10, poor fit; Arbuckle, 2009). Then, *post hoc* model modifications were performed in an attempt to develop a better fitting and possibly more parsimonious model (Schreiber, Nora, Stage, Barlow, & King, 2006). The improvement of model fit was based on Modification Indexes (MI; values greater than 11; $p ≤ .001$; Kline, 2005) by adding sequentially correlational measurement errors for the residuals with higher MI values and according with theoretical content of each item. In order to compare both models (original model *versus* parsimony or simplified model) each of the models was evaluated using Chi-square difference test. Additionally, some indexes were used to compare alternative models (Schermelleh-Engel et al., 2003), such as Akaike Information Criterion (AIC) and Expected Cross-Validation Index (ECVI), with smaller AIC and ECVI values indicating superior models (Arbuckle, 2009; Kline, 2005) and more stable model for population under study (Maroco, 2010).

In regard to local adjustment of the model, the adequacy of any model can also be judge by investigating the factor loadings. All factor loadings should be significant ($p < .05$) and the standardized factor loadings for each item should present values of $\lambda ≥ 0.50$ (Byrne, 2010; Maroco, 2010). We also considered the Squared Multiple Correlations of the factor loadings ($R^2 ≥ 0.25$) (Maroco, 2010).

Scale reliability was assessed using both Cronbach's alpha and composite reliability, which provides a much less biased estimate of reliability than alpha and is more appropriate for multidimensional scales (Maroco, 2010).

Preliminary Data Analysis

The univariate and multivariate normality were screened and there was no severe violation of normal distribution (*Sk* < |3| and *Ku* < |8|-|10|; Kline, 2005). The presence of

multivariate outliers were inspected for all variables by using Mahalanobis Distance statistic (D^2; $p < .001$) (Kline, 2005). Although, some cases presented D^2 values indicating possible outliers, these were retained since their elimination did not alter the results and excluding those cases would decrease factor's variability. There is no missing data in this sample.

RESULTS

Construct Validity

Descriptive Statistics

Table 1 presents descriptive statistics for the total score of ELES and respectively dimensions. The total and subscale scores are computed by calculating the mean of item responses. In this sample, the mean for total score of ELES was 2.10 ($SD = 0.64$). Submissiveness and Unvalued subscales showed the highest mean scores and Threat subscale demonstrated the lowest mean score (Table 1).

Table 1

Means, standard deviation, minimum, maximum and percentiles for the Portuguese version of the ELES total score and three subscales in an adolescents' sample (N = 771)

					Percentiles		
	M	*SD*	**Minimum**	**Maximum**	**25**	**50**	**75**
ELES total	2.10	0.64	1	5	1.60	2.07	2.47
Threat	1.88	0.75	1	5	1.33	1.67	1.67
Submissiveness	2.25	0.73	1	5	1.67	2.17	2.17
Unvalued	2.25	0.84	1	5	1.67	2.33	2.33

Note. ELES = Early Life Experiences Scale for Adolescents

Confirmatory Factor Analysis (CFA)

Based on theoretical framework (Gilbert et al., 2003), a CFA was performed to assess the three-factor structure of the ELES for adolescents: (i) Threat, (ii) Submissiveness, and (iii) Unvalued. Chi-square value for the overall model fit was significant, $X^2_{(87)} = 362.050$, $p < .001$ suggesting a lack of fit between the hypothesised model and the data. However, due to the sensitivity of chi-square in large samples, other fit indices were assessed (Kline, 2005). Examination of these indices showed acceptable model fit with GFI = .94, CFI = .91, TLI = .89, RMSEA = .06 ($p < .001$), except for TLI and RMSEA indexes. The initial comparison indexes were: AIC = 428.050, ECVI = .556. However, high values in modification indices (MI > 11)

suggested freeing the covariance between two error terms, namely add a covariance between item 13 and item 14. This step of correlational measurement errors is also theoretically justified, based on item content. A subsequent model freeing this path was found to have better fit to the constrained model, $\chi^2_{(86)} = 315.406$, $p < .001$, GFI = .95, CFI = .93, TLI = .91, RMSEA = .06 ($p = .018$). Moreover, this modified model was statistically superior to the original model in our sample (chi-square difference test: $\chi^2_{dif} = 46.644 > \chi^2_{0.95;\,(1)} = 3.841$) and presented lower values of comparison indexes (AIC = 383.406, ECVI = .498) than the original model. Given the significant improvement in overall fit the model allowing the error covariances was considered the better model (Figure 1).

In regard to local adjustment, all factor loadings were significant ($p < .001$) and all items have good loading coefficients ($\lambda \geq .50$; ranging between .49 and .70) and good squared multiple correlations ($R^2 \geq .25$; ranging between .25 and .49), except for item 12 that revealed the lowest factor loading and R^2 ($\lambda = .43$, $R^2 = .18$) (Figure 1). The correlations between Threat and Submissiveness subscales was $r = .89$, $p < .001$, Threat and Unvalued was $r = .64$, $p < .001$ and Submissiveness and Unvalued was $r = .67$, $p < .001$ (Figure 1). The composite reliability of each factor was very good (>0.70), with .84 for Threat subscale, .81 for Submissiveness subscale and .78 for Unvalued subscale.

Given the high correlation between Threat and Submissiveness subscales, we tested a two-factor model with Threat and Submissiveness combined and results indicated that this two-factor structure had a poor fit to the data ($\chi^2_{(89)} = 407.638$, $p < .001$, GFI = .93, CFI = .89, TLI = .88, RMSEA = .07, $p < .001$).

Item Reliability Analysis

Table 2 presents means, standard deviations, corrected item-total correlation, Cronbach's alpha if item deleted and Cronbach's alpha for total score (15 items) and subscales of the ELES. As can be seen in Table 2, the analysis of the items' quality revealed item-total correlations varying between .36 (item 12) to .57 (item 8). The Cronbach's alpha obtained for the total score of ELES was very good ($\alpha = .86$) and for its subscales ranged between adequate to low, with Cronbach's $\alpha = .77$ for Threat subscale, $\alpha = .74$ for Submissiveness subscale and $\alpha = .68$ for Unvalued subscale (Table 2). Additionally, all items positively contributed to the internal consistency of the Portuguese version of the ELES for adolescents, since the reliability did not improve if any item was deleted (cf. Table 2).
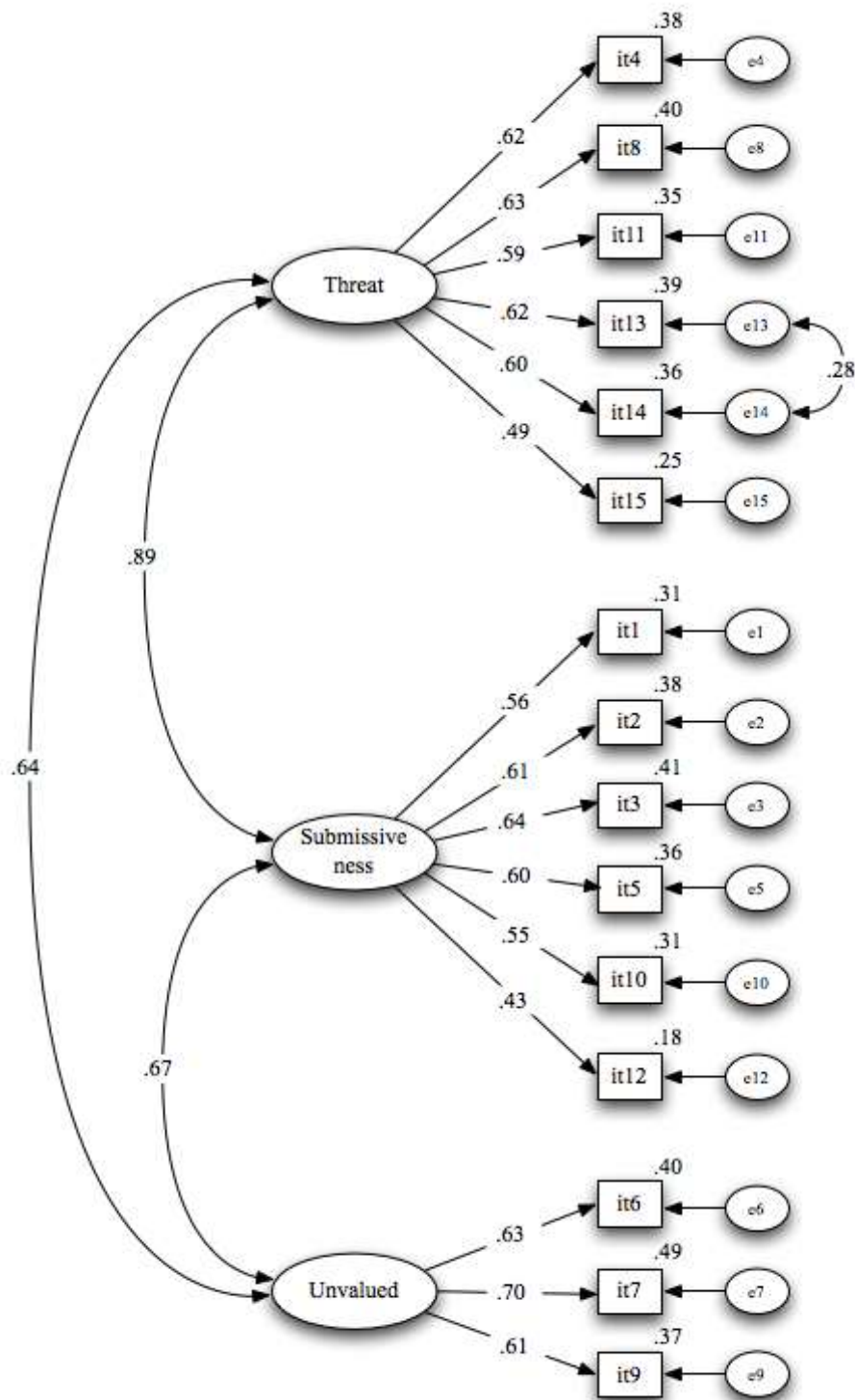
Figure 1. Confirmatory Factor Analysis of the three-factor model of the ELES for adolescents ($N = 771$). Standardized coefficients and measurement errors are shown; all paths are statistically significant ($p < .001$).

Table 2

Means (M), standard deviations (SD), corrected item-total correlations and Cronbach's alpha for ELES and subscales for adolescents (N = 771)

Items	*M*	*SD*	*r item-total*	*Cronbach's α*
Threat (6 items)	11.30	4.53		.77
4. There was little I could do to control my parents' anger once they became angry.	2.39	1.26	.46	.75
8. My parents could hurt me if I did not behave in the way they wanted.	1.93	1.13	.57	.72
11. My parents exerted control by threats and punishments.	1.98	1.19	.51	.73
13. In order to avoid getting hurt I used to try to avoid my parents.	1.48	0.91	.56	.73
14. The atmosphere at home could suddenly become threatening for no obvious reason.	1.43	0.94	.56	.73
15. I experienced my parents as powerful and overwhelming.	2.08	1.17	.46	.75
Submissiveness (6 items)	13.47	4.38		.74
1. I often had to give in to others at home.	2.75	1.09	.47	.70
2. I felt on edge because I was unsure if my parents might get angry with me.	2.41	1.17	.52	.69
3. I rarely felt my opinions mattered much.	2.55	1.19	.55	.68
5. If I didn't do what others wanted I felt I would be rejected.	2.14	1.23	.50	.69
10. I often felt subordinate in my family.	1.91	1.03	.44	.71
12. I often had to go along with others even when I did not want to.	1.72	0.93	.36	.73
Unvalued (3 items)	6.74	2.51		.68
6. I felt able to assert myself in my family. (r)	2.34	1.11	.49	.58
7. I felt very comfortable and relaxed around my parents. (r)	1.95	0.98	.53	.54
9. I felt an equal member of my family. (r)	2.45	1.13	.45	.63
ELES total (15 items)	31.51	9.66		.86

Note. (r) = reverse-scored items; ELES = Early Life Experiences Scale.

Test-retest Reliability

In the test-retest reliability analysis (Pearson product-moment *r*), 57 adolescents filled out a retest of the ELES after a 3-week interval. Results showed a good temporal stability of the time

with correlation coefficients of $r = .82$ for total score, $r = .76$ for Threat subscale and Submissiveness subscale and $r = .71$ for Unvalued subscale. Overall, the ELES for adolescents produce consistent results over the time.

Descriptive Data Concerning Sex, Age and Grade in School

To evaluate the influence of demographic variables in our data, we performed t-test Student mean differences for sex and one-way ANOVA for age and grade in school. Concerning sex, the means, standard deviations and t-test Student for all variables are presented in Table 3. Results showed that there are significant sex differences for Threat subscale, with boys reporting higher mean scores in Threat subscale than girls. There are also significant sex differences in negative affect, with girls reporting higher levels than boys (Table 3).

Table 3

Means (M), standard deviations (SD) and t-test differences by sex for ELES and their subscales, EMWSS and PANASN for adolescents (N = 771).

Variables	Boys (*n* = 364)		Girls (*n* = 407)		*t(df)*	*p*
	M	*SD*	*M*	*SD*		
Threat	1.95	0.74	1.82	0.77	2.494 (769)	**.013**
Submissiveness	2.26	0.71	2.23	0.75	0.497 (769)	.619
Unvalued	2.25	0.84	2.24	0.83	0.112 (769)	.911
ELES total	2.14	0.62	2.07	0.66	1.420 (769)	.156
EMWSS	64.02	13.27	64.34	13.81	0.324 (769)	.746
Positive Affect (PANASN)	23.30	3.52	23.06	3.55	0.568 (769)	.570
Negative Affect (PANASN)	16.41	4.12	18.44	3.98	6.949 (769)	**<.001**

Note. Bold values indicate statistical significance ($p \leq .05$); ELES = Early Life Experiences Scale; EMWSS = Early Memories of Warmth and Safeness Scale; PANASN = Positive and Negative Affect Schedule for Children and Adolescents.

Regarding age and grade in school, the means, standard deviations and ANOVA's *F* are shown in Table 4. The assumption of homogeneity of variance was not violated in this data ($p > .05$). Results demonstrated that at least two or three age groups differ significantly on their means scores of Submissiveness subscale (cf. Table 4). The *post hoc* comparisons, using the *Tukey's HSD post hoc* procedure, indicated that middle adolescents (15-16 years old) had significantly higher levels of submissiveness than those in the older group (17-18 years old). There were no significant differences for grade in school on mean scores of ELES and its subscales (Table 4).

Table 4

Means (M), standard deviations (SD) and one-way ANOVA's F differences by age and grade in school for ELES and their subscales, EMWSS and PANASN among adolescents (N = 771)

Age Group	13-14 (*n* = 295)		15-16 (*n* = 296)		17-18 (*n* = 180)		*F(df)*	*p*
	M	*SD*	*M*	*SD*	*M*	*SD*		
Threat	1.93	0.81	1.90	0.74	1.79	0.69	1.935 (768)	.145
Submissiveness	2.25	0.74	2.31	0.74	2.13	0.68	3.350 (768)	**.036**
Unvalued	2.23	0.88	2.27	0.83	2.22	0.79	0.280 (768)	.756
ELES total	2.12	0.67	2.14	0.64	2.01	0.60	2.262 (768)	.105
EMWSS	65.13	13.10	63.56	13.59	63.69	13.59	1.146 (768)	.318
Positive Affect (PANASN)	23.25	3.47	23.08	3.53	23.01	3.65	0.302 (767)	.739
Negative Affect (PANASN)	17.02	4.31	17.68	4.25	17.91	3.75	3.096 (767)	**.046**
Grade	7-8 (*n* = 174)		9-10 (*n* = 346)		11-12 (*n* = 251)		*F(df)*	*p*
	M	*SD*	*M*	*SD*	*M*	*SD*		
Threat	1.96	0.78	1.90	0.77	1.80	0.72	2.360 (768)	.095
Submissiveness	2.26	0.71	2.28	0.75	2.19	0.72	0.996 (768)	.370
Unvalued	2.29	0.89	2.24	0.84	2.23	0.80	0.328 (768)	.720
ELES total	2.14	0.64	2.12	0.65	2.04	0.63	1.487 (768)	.227
EMWSS	63.91	13.93	64.94	13.45	63.35	13.41	1.052 (768)	.350
Positive Affect (PANASN)	23.28	3.29	23.21	3.53	22.90	3.69	0.764 (767)	.466
Negative Affect (PANASN)	16.93	4.29	17.38	4.24	18.01	3.95	3.697 (767)	**.025**

Note. Bold values indicate statistical significance ($p \leq .05$); ELES = Early Life Experiences Scale; EMWSS = Early Memories of Warmth and Safeness Scale; PANASN = Positive and Negative Affect Schedule for Children and Adolescents.

Concerning other variables in this study, there are no significant differences in age and grade for early memories of warmth and safeness and for positive affect. For negative affect, results from Tukey's HSD *post hoc* indicate that adolescents with 17-18 years-old have higher levels of negative affect than adolescents with 13-14 years-old. The same pattern was found for grade in school (cf. Table 4).

Convergent Validity

Convergent validity was assessed by performing Pearson correlations coefficients between ELES total score and their subscales and other related constructs, namely early positive memories (EMWSS) and positive and negative affect (PANASN) (Table 5). Results show that the correlations between ELES total score and their subscales were highly correlated. Furthermore, there was a moderate and negative correlation between ELES total and EMWSS. In terms of affect, ELES total score was negatively associated with positive affect and was positively correlated with negative affect, with a low magnitude. In regard to ELES subscales, the threat subscale presented a low and negative correlation with EMWSS and positive correlation with negative affect and negative correlation to a less extent with positive affect. The submissiveness subscale was moderately and negatively associated with EMWSS, positively associated with negative affect and negatively correlated to a lesser extent with positive affect. The unvalued subscale presented a moderate and negative correlation with EMWSS, a low and negative correlation with positive affect and a low and positive association with negative affect. Finally, EMWSS was associated with positive affect (Table 5).

Table 5

Correlations (two-tailed Pearson's r) between early life experiences (ELES; N = 771), early positive memories (EMWSS; N = 771) and positive and negative affect (PANASN; N = 770) in adolescents' sample.

Variables	ELES	ELES T	ELES Sub	ELES Un	EMWSS	PANASN PA
ELES Threat	.89***					
ELES Submissiveness	.89***	.67***				
ELES Unvalued	.69***	.45***	.48***			
EMWSS	-.45***	-.29***	-.39***	-.52***		
PANASN Positive Affect	-.21***	-.11**	-.19***	-.27***	.36***	
PANASN Negative Affect	.29***	.23***	.27***	.24***	-.24***	-.19***

Note. **p ≤ .01. ***p ≤ .001. ELES = Early Life Experience Scale, total score; ELES T = Threat subscale; ELES Sub = Submissiveness subscale; ELES Un = Unvalued subscale; EMWSS= Early Memories of Warmth and Safeness Scale for adolescents; PANASN = Positive Affect and Negative Affect Schedule for Children and Adolescents; PA = Positive Affect subscale.

The main aim of this paper is to adapt and validate the Portuguese version of the Early Life Experiences Scale (ELES) for adolescents. This self-report measure was originally developed, in light of the Social Rank Theory (Gilbert, 1992, 1993), to assess recall of threatened and submissiveness feelings in the interactions with family and was used with adult population (Gilbert et al., 2003). This scale allows assessing personal feelings in early interactions, instead of evaluating parental practices or behaviors. In the current study we analyzed the psychometric properties of the ELES and confirmed its three-factor structure using CFA method, in a sample of Portuguese adolescents from community schools with ages ranging between 13 and 18 years old.

Results from descriptive data in this adolescents' sample showed means scores for ELES very similar to that found by Gilbert et al. (2003) in a sample of undergraduate students. On the whole, adolescents present the higher mean score on Submissiveness and Unvalued subscales and the lowest mean score on Threat subscale. This pattern seems to occur in community samples (Gilbert et al., 2003) and may be different in clinical samples. Thus, future research should examine this construct in clinical samples of adolescents.

CFA results indicated good model fit of a 3-factor model (i.e., Threat, Submissiveness and Unvalued). Although the high correlation between Threat and Submissiveness subscales, the two-factor model (with Threat and Submissiveness combined) had a poor fit to the data. A possible explanation for these results might be related with the conceptualization about the Types of Affect Regulation System (Gilbert, 2009). According to this theoretical framework, although the threatening and subordination experiences (e.g., neglectful or abusive backgrounds) may contribute to the overdevelopment of an affect regulation system focused on threats and self-protection, it seems that this kind of memories have a different nature. For instance, Threat items focused on fear and feeling threatened (e.g., parents as dominants), whereas Submissiveness items tap feeling and acting in a submissive way. Although these two dimensions refer to negative experiences, they may activate different behaviors or feelings. For example, children who are fearful may not necessarily act subordinately and use withdrawal or aggressive strategies. Thus, the distinction of these memories and personal feelings may be valuable in the assessment. Overall, results from CFA procedure indicate that the ELES for adolescents presents a three-factor structure, composed of 15 items, assessing emotional memories of threat, submissiveness and unvalued in early interactions with caregivers.

Regarding the reliability analysis, results demonstrated an adequate internal consistency and very good test-retest reliability for the three subscales. In the main, the ELES in its Portuguese version for adolescents produces consistent results over the time. Sex differences on ELES

suggest that boys tend to perceive their parents as hostile dominant and remember feeling more threatened in the interaction with them, comparatively with girls. In literature about parental rearing behaviors, there are some support for gender differences, indicating that girls tend to perceive their parents (both mother and father) as more emotionally warm whereas boys tend to perceived higher levels of rejection and overprotection by mother (Muris et al., 2003; Roelofs et al., 2006). However, the ELES provides the assessment of people's memories of how they felt not what other people did to them.

Regarding age groups, middle adolescence (with ages between 15 and 16 years old) tend to feel more subordinate within family than older adolescents (with 17 and 18 years old). This finding may be understood from a developmental perspective. Since some developmental tasks vary along age stages (i.e., early adolescence, middle adolescence and late adolescence), adolescents will gradually acquire more autonomy from parents and more closeness with peers (Steinberg, 2002). Thus, it is expected that older adolescents are more independent from parents and experience less subordination feelings in this relationship, while 15-16 years old adolescents are still going through this transition.

Concerning convergent-related validity, results show statistical significant associations in the expected way. In the main, adolescents who recall feelings of threat, submissiveness and unvalued feelings are less likely to recall feelings of warmth, soothing and safeness. Surprisingly, among the three subscales, unvalued items are most highly negatively linked with memories of warmth and soothing. This result suggests that more than threatening and subordination feelings, the absence of cooperative, affiliative and safe feelings within parental context seems to play a main role in warmth and safeness memories (measured by EMWSS). In terms of affect, adolescents who had threat and submissive early experiences tend to report less levels of positive affect and higher levels of negative affect. Interestingly, submissiveness feelings are particularly important for negative affect, whereas warmth and safeness memories are especially linked to positive affect. These findings are similar to that found in adult population (Gilbert et al., 2003). In addition, these data are in accordance with previous research that demonstrate that adverse experiences in childhood (e.g., abuse, neglect, rejection, shaming, criticism and/or harsh parenting styles) are associated with the overdevelopment of the threat system (Dickerson & Kemeny, 2004), and with the under stimulation of the affiliative-soothing system (which involves feelings of warmth, contentment, reassurance, connectedness; Irons et al., 2006). This unbalance in affect regulation systems may lead to augmented vulnerabilities to mental health difficulties, such as depression (Gilbert et al., 2003; Matos & Pinto-Gouveia, 2014; Stuewig & McCloskey, 2005; Taylor et al., 2006; Webb, Heisler, Call, Chickering, & Colburn, 2007).

Some limitations should be noted in this study. Firstly, although the results had confirmed the three-factor structure of the ELES in a Portuguese sample of adolescents, future studies should seek to ensure the parsimony of the model testing its invariance in other samples. Secondly, the use of a nonclinical sample impairs generalization of results to a clinical population. Further studies should analyze the scale validity and reliability in clinical samples as well. Finally, self-report may not be the most reliable way to tap these early experiences with caregivers in this age group, although they do benefit from being anonymous.

Nevertheless, this study contributes to broaden the available measures for this age group, especially instruments that assess personal feelings and behaviors in the family interactions. Moreover, these findings confirm that the ELES in its Portuguese version for adolescents is a useful and robust tool for research, educational and clinical contexts with adolescents.

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