

Dimensionality and measurement invariance of the Other as Shamer Scale across  
diverse adolescent samples

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## Abstract

The current work investigates the psychometric properties of the complete and short versions of the Other as Shamer Scale, using three Portuguese adolescent samples presenting diverse severity degrees of behavioral problems. This instrument measures external shame, an important precursor and correlate of psychosocial functioning, but has only been tested with community samples. Results showed the acceptability of a three-factor solution for the complete version of the measure (*i.e.*, inferior, emptiness, and how others react when they see me make mistakes). The short unifactorial measure was also acceptably fitted the data. Both measurement models were partially invariant across gender, with boys and girls presenting similar levels of shame. They were also partially invariant across boys presenting diverse degrees of behavioral problems, with community participants presenting the lowest levels of shame. Evidence was gathered in favor of the internal consistency and validity in relation to depressive, anxious and stress symptoms, self-criticism and self-reassurance, and experiential avoidance, for both versions of the instrument. This study adds to evidence of the Other as Shamer Scale being an appropriate evaluation tool, with diverse samples of adolescents, and providing the user with diverse assessment options to be chosen in accordance with varied research of therapeutic purposes.

## Keywords

Other as Shamer, shame, adolescence, psychometric analyses, factorial validity, gender invariance, behavioral problems, group comparison.

## 1. Introduction

Shame has been established as an important emotion, conditioning the way the individual see and behaves towards the self and others, and also impacting on psychopathological functioning (Gilbert, 2009; Harper, 2011; Tangney & Tracy, 2012). The Evolutionary and Biopsychosocial Model of Shame (Gilbert, 2009, 2010) states that, since birth, all humans share the need to create positive feelings (e.g., be wanted, cared, and valued) about themselves in the mind of others. The way the person experiences interpersonal relationships early in life (especially within family, but also with peers and significant others), as either caring/accepting or neglectful/abusive, has a crucial impact on how the individual experiences himself in the mind of others (Gilbert, 2009, 2010). If the person felt cared, valued, and wanted, he/she becomes able to create feelings of safeness and warmth in daily experiences. On the other hand, if the individual felt devalued, neglected, and/or abused, he/she tends to become vulnerable to external shame (Gilbert, 2009, 2010), embracing the perception that others hold negative beliefs and thoughts about the self.

External shame arises in real and/or imagined social interactions (Goss, Allan, & Gilbert, 1994), impacting both in the idiosyncratic experience of shame and shame proneness (Gilbert, 2009, 2010; Gold, Sullivan, & Lewis, 2011; Harper 2011; Pinto-Gouveia & Matos, 2011). Though shame, as a temporary emotional experience, is an adaptive and important self-conscious emotion in socialization and self-identity processes (Harper, 2011), shame proneness is mostly maladaptive. Shame proneness can become overwhelming, since it involves a negative evaluation of the global self, creating feelings of being inferior, unwanted, undesirable, inadequate, devaluated, defective, and worthless (Gilbert, 2009, 2010; Lewis, 1971; Tangney, Stuewig, & Mashek, 2007; Tangney & Tracy, 2012).

Gilbert (2009, 2010) also argues that the individual may **handle** with external shame in two major ways: internalizing or externalizing the experience of shame. The internalization of the shame experiences leads to unconscious internal attributions, submissive behavior, self-criticism, feelings of inferiority, and internalizing psychopathology (Gilbert, 2009, 2010; Harper, 2011; Pinto-Gouveia & Matos, 2011; Tangney & Tracy, 2012). Alternatively, the externalization of shame experiences usually leads to external attributions, anger, revenge, dominant/aggressive behavior, and externalizing symptomatology (Gilbert, 2009, 2010; Gold et al., 2011; Ribeiro da Silva, Rijo, & Salekin, 2015). These **ways of dealing with the experience of shame** will be reflected in the social environment of the **individual** and, generally, in turn strengthen external shame. For instance, if individuals handle external shame by internalization processes, namely by a submissive behavior, it is possible that others will act dominantly towards them, reinforcing the shame experience. Otherwise, if **individuals** deal with external shame by externalization processes, namely by aggression, it is conceivable that others will act or retaliate in such a way that will reinforce external attributions and anger. In a way or another, the individual is trapped in a vicious cycle that reinforces external shame and, consequently, increases the use of maladaptive strategies for managing shame (Gilbert, 2009, 2010).

There are several measures to assess shame and other self-conscious emotions (see Harper, 2011 for a review). However, to our knowledge, only the Others as Shamer Scale (OAS; Goss et al., 1994) was developed as a trait measure to assess external shame according to the evolutionary and biopsychosocial perspective (Gilbert, 2009, 2010). The OAS was developed as a shorter and modified version of another trait measure of shame, the Internalized Shame Scale (ISS; Cook, 1987), according to the notion that a person's perception of what others feel about the self is highly related to

what he/she feels about himself/herself (Lewis, 1971). The OAS assesses three distinct dimensions of external shame, including the constructs of feeling inferior, feeling shameful by others' reaction to personal mistakes, and feeling empty (Goss et al., 1994).

The OAS was originally designed to assess external shame in **British** adult samples and has proven to be a psychometrically valid three-factor measure to be used within this population (Goss et al., 1994). Despite this, the OAS is usually used as a single factor measure that assesses the global concept of external shame. An unifactorial short version of the OAS (the Other as Shamer Scale-2; OAS2) was also developed and validated for **Portuguese** adults, and was found to be strongly associated with the original longer measure, being recognized as an economic, valid and reliable instrument to assess external shame (Matos, Pinto-Gouveia; Gilbert, Duarte, & Figueiredo, 2015).

As expected, the OAS has proven to be strongly associated with internal shame and moderately associated with other shame measures (Goss et al., 1994). External shame assessed through the OAS has demonstrated to be associated with traumatic shame experiences in early life and with psychopathological symptomatology, including depressive, anxious, and stress related symptoms (Cunha, Matos, Faria, & Zagalo, 2012; Gilbert & Irons, 2009; Cunha, Xavier, Cherpe, & Pinto-Gouveia, 2015; Matos et al., 2015), eating psychopathology and body image dissatisfaction (Ferreira, Pinto-Gouveia, & Duarte, 2013). It was also found to be associated with self-criticism (Alves, Castilho, & Pinto-Gouveia, 2010), experiential avoidance (Pinto-Gouveia, Gregório, Dinis, & Xavier, 2012), and anger (Matos et al., 2015). These data corroborate the important role that external shame plays in several mental health problems (Gilbert, 2009, 2010). This may be particularly true for adolescents who crave for social acceptance and are, thus, more vulnerable to socially shameful experiences (Gilbert & Irons, 2009; Szentágotai-Táatar et al., 2015). Such shameful experiences and shame feelings can play a key role in

youth psychosocial maladjustment and mental health outcomes (Cunha et al., 2012; Gilbert & Irons, 2009). In fact, researchers and clinicians are becoming more interested in studying these processes in youth, which has also led to consider the OAS as an accurate measure of shame within adolescent samples. Hence, both the complete and short versions of the OAS were adapted and have proven to be valid instruments to assess external shame in community samples of Portuguese youth (Cunha et al., 2015; Figueira, 2010; Figueira & Salvador, 2012). Regarding the Other as Shamer Scale – Adolescent version (OAS-A; Figueira 2010; Figueira & Salvador, 2012), similarly to what was found for adults, a three-factor solution proved to be an adequate measurement model for this age group. Like the adult version, the Other as Shamer Scale Brief version for Adolescents (OASB-A) showed a one-factor solution for both boys and girls, with girls reporting more external shame than boys (Cunha et al., 2015).

It seems relevant to test for gender differences regarding shame, since there are valid theoretical and empirical studies with different statements concerning this issue. On one hand, some studies found gender differences in the development of shame, being shame valued and promoted earlier in girls than in boys (Mills, Arbeau, Lall, & De Jaeger, 2010). Empirical evidence also suggests that adult females report higher levels of shame proneness than adult males (Benetti-McQuoid & Bursik, 2005), and that adolescent females report more shame proneness (Roos, Hodges, & Salmivalli, 2014) and external shame (Cunha et al., 2015) when compared to adolescent males. On the other hand, a recent large meta-analysis reported no gender differences in shame experiences (Else-Quest, Higgins, Allison, & Morton, 2012), indicating that blanket stereotypes about women's greater emotionality are probably erroneous.

Before the Other As Shamer Scale for adolescents (OAS-A) and the Other As Shamer Scale Brief version for Adolescents (OASB-A) can be fully used in future

studies, there must be evidence that these measures are truthfully assessing the construct of external shame across diverse adolescent samples. Specifically, the OAS-A and the OASB-A have not been applied and validated within youth with disruptive behavior. The validation of both measures within externalizing samples of adolescents seems paramount for three reasons: (1) harsh rearing scenarios, including shaming ones, are recognized as important risk factors for the development of disruptive behaviors (Abram et al, 2004; APA, 2013; Brigs et al, 2013; Dierkhising et al., 2013; Willis, Best, & Aalsma, 2013; Kerig & Becker, 2010; Ribeiro da Silva et al., 2015); (2) youth with disruptive behaviors tend to bypass the experience of negative emotions (including shame; Lewis, 1992) by dissociation (Bennett, Modrowski, Kerig, Chaplo, 2015), avoidance/disowning (Ribeiro da Silva et al., 2015), or emotional numbing (Kerig & Becker, 2010; Kerig, Bennett, Thompson, & Becker, 2012); (3) shame is associated with a higher risk of recidivism in antisocial youth via the externalization of blame (Tangney, Stuewig, & Martinez, 2015), by attacking others (Nathanson, 1992; Ribeiro da Silva et al., 2015). Therefore, this work includes two studies, one focusing on the OAS-A and the other centered on the OASB-A. Both intended to assess the psychometrical proprieties of the instrument across samples of Portuguese youth with different degrees of severity of behavioral problems. Measurement invariance across gender and across groups with diverse degrees of severity of behavioral problems was also tested, along with between gender and between group comparisons. The construct validity of OAS-A and OASB-A in relation to external variables was also explored.

## **2. Material and methods**

### **2.1. Participants and procedures**

Participants in this study included 1712 Portuguese adolescents, aged between 12 and 21 years old (cf. Table 1). Within this sample, boys and girls had similar mean ages (for boys  $M = 16.21$ ,  $SD = 1.52$ , for girls  $M = 16.24$ ,  $SD = 1.47$ ;  $t(1709) = -.34$ ,  $p = .74$ ) and were evenly distributed by socioeconomic status (SES;  $\chi^2(2) = 5.20$ ,  $p = .07$ ).

Table 1.

*Demographic Characteristics' of the Samples and Subsamples*

	Gender		Age	Socioeconomic status		
	Male	Female		Low	Medium	High
Complete sample	885 (57.1)	827 (48.3)	16.22 (1.49)	648 (37.9)	732 (42.8)	332 (19.4)
Community sample	551 (42.7)	740 (57.3)	16.19 (1.49)	300 (23.2)	660 (55.1)	331 (25.6)
Subsample 1	172 (42.2)	236 (57.8)	16.82 (1.08)	81 (19.9)	174 (42.6)	153 (37.5)
Subsample 1.1	60 (42.6)	81 (57.4)	16.87 (1.11)	-	52 (36.9)	89 (63.1)
Subsample 1.2	26 (41.3)	37 (58.7)	16.70 (1.01)	-	22 (34.9)	41 (65.1)
Referred sample	117 (57.4)	87 (42.6)	16.04 (1.67)	171 (83.89)	32 (15.7)	1 (0.5)
Forensic sample	217 (100)	-	16.61 (1.28)	177 (81.6)	40 (18.4)	-

*Note.* Information for gender and socioeconomic status are presented as n (%); information for age is presented as M (SD).

From the complete sample, 1291 adolescents were recruited in public national schools (i.e., community sample), after the study was approved by the national ethics committee and/or the executive boards of the schools. Within the community sample, boys and girls had similar mean ages (for boys  $M = 16.13$ ,  $SD = 1.53$ , for girls  $M = 16.24$ ,  $SD = 1.46$ ;  $t(1289) = -1.33$ ,  $p = .19$ ) and were evenly distributed by socioeconomic status ( $\chi^2(2) = 2.03$ ,  $p = .36$ ). In addition to the Other as Shamer Scale, a subsample of 408 adolescents filled in the The Forms of Self-Criticising/ Attacking &



Self-Reassuring Scale (subsample 1; 42.2% male, mean age = 16.82, SD = 1.08; 42.6% descendent of a medium SES). Of this subsample, 141 participants additionally filled in the Acceptance and Action Questionnaire (subsample 1.1) and another 63 also filled in the Depression Anxiety Stress Scale (subsample 1.2).

Participants in this study also included 204 youth from foster care who were referred for disruptive behaviors (i.e., referred sample); referred boys and girls had similar mean ages (for boys  $M = 15.89$ ,  $SD = 1.74$ , for girls  $M = 16.24$ ,  $SD = 1.57$ ;  $t(202) = -1.49$ ,  $p = .14$ ) and were evenly distributed by SES (SES;  $\chi^2(2) = 1.90$ ,  $p = .39$ ). Finally, the complete sample also included 217 male young offenders placed in juvenile detention facilities (i.e., forensic sample), after the study was approved by both institutions' boards (cf. Table 1).

The study goals were explained and informed consent was obtained from each participant or his/her legal tutor. In the community sample, no student refused to participate, and in the referred and forensic samples 16 and 3 participants declined to participate, respectively. Data collection was carried out by researchers, and by psychologists from foster care institutions and juvenile detention facilities. Research ethical standards were ensured, and data collected was used exclusively for research purposes, warranting participant's data confidentiality and anonymity.

Participants in each sample were found to have significantly different mean ages ( $F(2,1710) = 9.21$ ,  $p < .001$ ); detained participants were significantly older than both community and referred participants. Participants as taken from the three samples were not similarly distributed either by gender ( $\chi^2(2) = 247.40$ ,  $p < .001$ ) or by SES ( $\chi^2(4) = 283.43$ ,  $p < .001$ ). Girls were more frequent than expected in the community sample whereas boys were more prevalent than expected in the referred and detained samples; in turn, more community participants descended from a high SES, more referred

participants came from a low SES, and, finally, more detained participants derived from a medium SES.

## 2.2. Measures

### 2.2.1. Other as Shamer Scale – Adolescent version (OAS-A; Figueira, 2010)

The OAS is an 18-item scale that assesses a subject's perception of being negatively judged by others (i.e., external shame). The scale assesses three distinct dimensions of external shame, namely: inferiority ("Other people see me as small and insignificant"), emptiness ("Others see me as empty and unfulfilled") and how others behave when they see me making mistakes ("Other people always remember my mistakes"). Each item is rated on a five-point Likert scale report of how frequently one experiences the feelings described in each statement (0 = never to 4 = almost always). In the original study, a three-factor exploratory solution was put forward, and evidence on its construct validity relating to measures of internal shame and experiences of shame and guilt was also found (Goss et al., 1994). The short version for adults, the OAS2, as in turn showed an internal consistency of .82 and good concurrent and divergent validity (Matos et al., 2015). In studies with adolescents, the OAS was studied within a one-factor measurement model framework and presented an internal consistency of .93 as construct validity in relation to a measure of depression (Figueira & Salvador, 2012); the brief version of the OAS as applied to adolescents also showed an internal consistency of .92 and construct validity in relation to measures of depression, anxiety and stress (Cunha et al., 2015). Analyses of the psychometric properties of the OAS with the current samples are presented in the results section.

### **2.2.2. The Forms of Self-Criticising/Attacking & Self-Reassuring Scale**

(FSCRS; Gilbert, Clark, Hempel, Miles, & Irons, 2004; Portuguese version by Castilho & Pinto-Gouveia, 2011)

The FSCRS is a 22-item scale that measures two forms of self-criticism, namely (1) inadequate self, which focuses on a sense of personal inadequacy (e.g., “I am easily disappointed with myself”) and (2) hated self, which assesses the desire to hurt or persecute the self (e.g., “I have become so angry with myself that I want to hurt or injury myself”). The scale also assesses self-reassurance (e.g., “I am able to care and look after myself”). Items are rated on a five-point Likert scale (ranging from 0 = not at all like me to 4 = extremely like me) (Gilbert et al., 2004). The original version of the scale presented good psychometric properties, with alphas of .90 for inadequate self and .86 for hated self and self-reassure (Gilbert et al., 2004). In the Portuguese version, internal consistency values ranged between .62 and .89 (Castilho & Pinto-Gouveia, 2011). In the present study, internal consistency values were .89 for inadequate self, .81 for hated self and .88 for self-reassure.

### **2.2.3. The Acceptance and Action Questionnaire (AAQ-II; Bond et al., 2011; Portuguese version by Pinto-Gouveia et al., 2012)**

The AAQ-II is a self-report measure composed by 7-items, which assesses experiential avoidance and immobility, as well acceptance and action. Each item is rated on a seven-point Likert scale from 1 (never true) to 7 (always true). High scores in AAQ-II are reflective of greater experiential avoidance and immobility, while low scores reflect greater acceptance and action. The AAQ-II has been found to have adequate reliability and validity with college student and clinical samples (Bond et al.,

2011; Pinto-Gouveia et al., 2012). In both the Portuguese validation study and the current research, internal consistency was .89.

**2.2.4. Depression Anxiety Stress Scales (DASS-21; Lovibond & Lovibond, 1995; Portuguese version by Pais-Ribeiro, Honrado, & Leal, 2004)**

DASS-21 is a self-report measure composed by 21 items, which assesses three dimensions of psychopathological symptoms: depression, anxiety and stress. The items describe negative emotional symptoms, and participants rate each item using a 4-point Likert scale frequency (ranging from 0 to 3). Lovibond and Lovibond (1995) reported good internal consistency for these components (depression subscale Cronbach's  $\alpha = .91$ , anxiety subscale Cronbach's  $\alpha = .84$  and stress subscale Cronbach's  $\alpha = .90$ ). The Portuguese version showed good internal consistency, similar to the original version, and good convergent and discriminant validity (Pais-Ribeiro et al., 2004). In this study, internal consistency values were .87 for depression and stress subscales, and .82 for anxiety subscale.

**2.3. Data analysis**

Data analyses were conducted using the Mplus v6.0 (Muthén & Muthén, 2010) and IBM SPSS Statistic 21 software. Mplus was used for confirmatory factor analyses (CFA), following the premises that the measurement models for the Other as Shamer Scale had been previously investigated (though not with heterogeneous samples such as the current study). Multi-group analyses were subsequently conducted, to investigate for gender invariance and group invariance. We tested for configural, then metric, and then scalar invariance, following the guidelines provided by Dimitrov (2010); at least partial scalar invariance should be obtained in order to proceed with group comparisons.

Configural invariance represents that the same measurement model fits acceptably for all groups. Metric invariance signifies the additional constraint that the loadings of the observed on the latent variables be similar across groups. Scalar invariance subsequently adds to the equality of loading constraint the constraint of equal intercepts across groups (Dimitrov, 2010). In order for invariance to be established, more constraint models should not represent a significant worsening of the models' fit; the difference between models' fit was computed using the *Maximum Likelihood Robust* chi-square difference test (Muthen & Muthen, 2005). A unit loading constraint on the 1<sup>st</sup> item of each factor was used for scaling purposes. After obtaining partial scalar invariance, groups were compared based on latent mean comparisons, following the guidelines by Dimitrov (2006).

To ascertain for model fit, we considered cut off values in accordance with our samples sizes and number of observed variables (Hair Jr. et al., 2005). Therefore, when considering the complete and community samples, a *Comparative Fit Index*  $\geq .92$  combined with a *Root Mean Square Error of Approximation* (RMSEA)  $\leq .07$  or a *Standardized Root Mean Square Residual* (SRMR)  $\leq .08$  were considered as indicative of an acceptable/ good fit. For the referred and forensic samples we considered CFI  $\geq .95$  combined with either RMSEA  $\leq .08$  or a SRMR  $\leq .08$  was indicative of acceptable/ good fit.

### 3. Results

In order to decide the most appropriate estimator to use when conducting CFA and multi-group analyses, we started by testing the normality of the data, and concluded it to be not multivariate normal [Mardia's multivariate normality test = 6514.95,  $p <$

.001; Korkmaz, Goksuluk, & Zararsiz (2014)]. Hence, the *Maximum Likelihood Robust* estimator was used.

### 3.1. Other as Shamer Scale – Adolescent version (OAS-A)

#### 3.1.1. Evidence based on internal structure

The factorial structure of the OAS-A had been previously explored (via Exploratory Factor Analysis) with Portuguese community adolescents (Figueira, 2010), resulting in a three-factor solution that overlaps with the originally proposed three-factor constitution of the OAS (Goss et al., 1994), with two exceptions: item 3 highest loading value was on the *Inferior* construct instead of on the construct of *How others react when they seem me make mistakes*, and item 10 highest loading value was on the construct of *How other react when they seem me make mistakes*, when it had originally not achieved relevant loading value for any factor. Our results confirm the utility of this latter three-factor structure of the OAS-A (see Table 2 for fit indicators and Table 3 for loading and internal consistency values)<sup>1</sup>, even if for female participants acceptable fit was only achieved after allowing residual correlations, which were nevertheless kept to a minimum, making it so that the RMSEA values for these models overlap or are only slightly higher than the cutoff value.

Table 2.

*Fit Indicators for CFA and Multi-Group Configural Invariance Analyses of the OAS-A and OASB-A By Samples*

	$\chi^2$	<i>df</i>	<i>RMSEA</i>	<i>CI for RMSEA</i>	<i>CFI</i>	<i>SRMR</i>
OAS-A: 18-item three-factor model						
Complete sample	660.56	132	0.048	0.045; 0.052	0.951	0.034
Male participants	301.11	132	0.038	0.032; 0.044	0.968	0.031

<sup>1</sup> We also tested the original three-factor structure via CFA in all of our samples. Though achieving acceptable or very close to acceptable fit for all samples, results were always indicative of worse fit in comparison with those obtained with the Portuguese three-factor structure, as represented by higher RMSEA and SRMR values and lower CFI values. Detailed results on these analyses can be requested from the first author.

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Female participants	501.36	130	0.059	0.053; 0.064	0.939	0.040
Community sample	623.48	132	0.054	0.049; 0.058	0.940	0.038
Male participants	323.34	132	0.051	0.044; 0.058	0.940	0.039
Female participants	474.36	129	0.060	0.054; 0.066	0.938	0.040
Referred sample	180.04	132	0.042	0.025; 0.057	0.970	0.039
Male participants	186.75	132	0.060	0.038; 0.078	0.946	0.051
Female participants	170.88	129	0.061	0.033; 0.084	0.947	0.055
Forensic sample	184.85	132	0.043	0.027; 0.057	0.963	0.045
OASB-A: 8-item one-factor model						
Complete sample	171.65	20	0.067	0.058; 0.076	0.964	0.032
Male participants	77.02	20	0.057	0.044; 0.070	0.972	0.027
Female participants	115.23	20	0.076	0.063; 0.090	0.960	0.037
Community sample	172.54	20	0.077	0.067; 0.088	0.953	0.036
Male participants	85.50	20	0.077	0.061; 0.094	0.946	0.036
Female participants	120.72	20	0.082	0.069; 0.097	0.955	0.039
Referred sample	30.75	20	0.051	0.000; 0.085	0.983	0.030
Male participants	24.49	20	0.044	0.000; 0.095	0.989	0.032
Female participants	24.56	20	0.051	0.000; 0.111	0.983	0.042
Forensic sample	30.45	20	0.049	0.000; 0.082	0.978	0.034

*Note.*  $\chi^2$  values were always significant at  $p < .01$ , except for the OASB-A for total referred participants ( $p = .058$ ), referred boys and girls ( $p = .022$ ), and detained boys ( $p = .062$ ); the forensic sample included only male participants. Acceptable fit indicators were only achieved after allowing residual correlations between items 1 and 2 and 9 and 13 for girls taken from the complete sample, between items 1 and 2, 9 and 13, and 13 and 14 for community girls, and between items 13 and 9, 3 and 7, and 8 and 10 for referred girls.

Table 3.

*Loading and Internal Consistency Values for the Three-factor Model of the OAS-A By Samples*

		Complete sample			Community sample			Referred sample			Forensic sample
		Total	Male	Female	Total	Male	Female	Total	Male	Female	
F1: Inferior		$\alpha = .90$	$\alpha = .90$	$\alpha = .91$	$\alpha = .90$	$\alpha = .89$	$\alpha = .91$	$\alpha = .92$	$\alpha = .92$	$\alpha = .91$	$\alpha = .90$
1	(...) see me as not good enough	.59	.60	.60	.63	.63	.63	.56	.56	.55	.58
2	(...) other people look down on me	.75	.76	.73	.75	.78	.73	.75	.79	.69	.70
3	(...) put me down a lot	.73	.70	.76	.72	.69	.74	.77	.73	.80	.73
4	I feel insecure (...)	.62	.64	.63	.61	.63	.60	.74	.72	.76	.63
5	(...) as not measuring up to them	.71	.79	.82	.79	.76	.81	.85	.83	.87	.82
6	(...) small and insignificant	.72	.81	.84	.81	.76	.85	.84	.89	.79	.83
7	(...) defective as a person	.75	.74	.76	.73	.72	.75	.83	.86	.80	.71
8	(...) unimportant compared to others	.71	.79	.82	.81	.79	.83	.79	.82	.74	.78
F2: How others react when they me make mistakes		$\alpha = .82$	$\alpha = .81$	$\alpha = .83$	$\alpha = .81$	$\alpha = .79$	$\alpha = .82$	$\alpha = .86$	$\alpha = .85$	$\alpha = .87$	$\alpha = .82$
9	(...) look for my faults	.67	.62	.72	.64	.57	.70	.75	.75	.74	.67
10	(...) unable to reach my own standards	.67	.66	.69	.63	.59	.66	.75	.74	.74	.73
11	(...) able to see my defects	.45	.45	.47	.46	.44	.79	.54	.50	.56	.52



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12	(...) critical or punishing when I make a mistake	.68	.68	.69	.68	.68	.68	.71	.66	.75	.67
13	(...) distance (...) from me when I make mistakes	.74	.73	.74	.73	.73	.72	.77	.76	.79	.67
14	(...) remember my mistakes	.74	.75	.74	.74	.77	.72	.76	.73	.79	.69
F3: Emptiness		$\alpha = .82$	$\alpha = .82$	$\alpha = .82$	$\alpha = .81$	$\alpha = .81$	$\alpha = .81$	$\alpha = .86$	$\alpha = .86$	$\alpha = .85$	$\alpha = .82$
15	(...) see me as fragile	.63	.72	.59	.61	.69	.59	.71	.77	.66	.77
16	(...) empty and unfulfilled	.79	.79	.81	.78	.77	.79	.84	.86	.82	.79
17	(...) something missing in me	.77	.72	.83	.77	.72	.81	.81	.73	.89	.72
18	(...) lost control over my body and feelings	.73	.73	.73	.73	.73	.72	.75	.77	.72	.68

*Note.* All loading values were significant at  $p < .001$ . Short paraphrases of the items are presented. For complete versions of the items in their original version please see Goss et al. (1994); for complete versions of the items in their Portuguese version please see Cunha et al. (2014).

### 3.1.2. Measurement invariance

Configural invariance was established based on acceptable fit indicators being obtained for by each male and female sample separately (*i.e.*, from the complete sample, and from the community, referred, and forensic samples independently). Thus we could proceed with further gender invariance analysis and externalization-based groups invariance analysis.

Considering the complete sample, only partial metric and partial scalar invariance were achieved, after allowing the loading of item 17 ( $\Delta\chi^2 = 16.28$ ,  $df = 14$ ,  $p > .20$ ) and the intercepts of items 1, 4, 9, 10, 11 and 15 ( $\Delta\chi^2 = 16.13$ ,  $df = 9$ ,  $p > .05$ ) to vary between gender groups, respectively. Likewise, only partial metric and partial scalar invariance were achieved for the OAS-A using the community sample, after allowing the loading of item 14 ( $\Delta\chi^2 = 20.10$ ,  $df = 14$ ,  $p > .10$ ) and the intercepts of items 1, 4, 7, 11 and 15 ( $\Delta\chi^2 = 13.96$ ,  $df = 9$ ,  $p > .10$ ) to vary between gender groups, respectively. Full metric and scalar invariance was found for the referred sample ( $\Delta\chi^2 = 23.26$ ,  $df = 15$ ,  $p > .05$  and  $\Delta\chi^2 = 22.62$ ,  $df = 15$ ,  $p > .05$ , respectively).

As for group invariance analyses, we full no metric invariance between the three male groups was not achieved ( $\Delta\chi^2 = 47.54$ ,  $df = 30$ ,  $p \approx .02$ ); partial metric invariance was obtained after relaxing the loading of item 1 on the first factor in the community group ( $\Delta\chi^2 = 36.69$ ,  $df = 29$ ,  $p > .1$ ). Subsequent full scalar invariance was also not achieved ( $\Delta\chi^2 = 112.29$ ,  $df = 30$ ,  $p < .001$ ); partial scalar invariance was achieved after allowing the intercepts of items 4, 10, 11 and 18 to vary in the community group and of items 5 and 17 to vary in the detained group ( $\Delta\chi^2 = 31.86$ ,  $df = 24$ ,  $p > .1$ ).

### 3.1.3. Latent mean comparisons

Concerning gender-based comparisons, no significant differences were found between boys and girls as taken from the complete sample for the *Inferior* and *How others react when they see me make mistakes* constructs; contrarily, boys seem to experience feelings of *Emptiness* significantly more frequently than girls (latent mean for girls =  $-.18, p = .001$ ). Nonetheless, no significant gender differences were found when considering either the community sample or the referred sample, separately.

As for comparisons between male participants from the three independent samples, community male participants reported lower scores in all factors, when compared with either referred or community participants. The differences were significant when comparing community with referred male participants for the *Inferior* (latent mean for referred participants =  $.35, p < .001$ ) and *Emptiness* (latent mean for referred participants =  $.34, p = .001$ ) dimension. When comparing community and detained participants, the difference was significant for the *How others react when they see me make mistakes* (latent mean for detained participants =  $.35, p < .001$ ). No significant differences were found when comparing referred and forensic male participants. These results were in line with the descriptive values presented in Table 4.

Table 4.

*Descriptive Measures for the Three-factor and Short One Factor Model of the OAS by Samples*

	OAS-A: 18-item three-factor model						OASB-A: 8-item one-factor model	
	Inferior		How others react when they see me make mistakes		Emptiness		M	SD
	M	SD	M	SD	M	SD		
Complete sample	9.93	6.15	9.20	4.73	4.24	3.90	9.97	6.12

Male	9.68	6.15	9.22	4.72	4.26	3.41 <sup>a</sup>	9.84	6.12
Female	10.19	6.13	9.17	4.74	4.22	3.37 <sup>a</sup>	10.11	6.13
Community sample	9.63	5.88	8.85	4.48	3.94	3.19	9.59	5.85
Male	9.25 <sup>b</sup>	5.84	8.75 <sup>d</sup>	4.42	3.84 <sup>c</sup>	3.20	9.32 <sup>e</sup>	5.81
Female	9.90	5.89	8.93	4.52	4.02	3.19	9.80	5.87
Referred sample	11.91	7.33	10.28	5.62	5.53	4.03	11.97	7.31
Male	11.36 <sup>b</sup>	7.16	9.60	5.28	5.24 <sup>c</sup>	3.81	11.39 <sup>e,f</sup>	7.11
Female	12.64	7.52	11.21	5.96	5.92	4.30	12.74	7.55
Forensic sample	9.88	6.20	10.23 <sup>d</sup>	4.97	4.79	3.52	10.32 <sup>f</sup>	6.14

*Note:* Each pair of superscript letters denotes a significant latent mean comparison.

### 3.1.4. Construct validity in relation to external variables.

The measures of the OAS-A correlated positively with depressive, anxious, and stress symptoms, as well as with experiential avoidance, the perception of an inadequate self and the perception of a hated self. Negative correlation values were found between the OAS-A and the OASB-A and the perception of a tranquilizing self (see Table 5).

Table 5.

*Correlation Values Between the Other as Shamer Scale and the DASS, AAQII and FSCRS*

	OAS-A: 18-item three factor model			OASB-A: 8-item one-factor model
	Inferior	How others react when they see me make mistakes	Emptiness	
<b>DASS</b>				
Depression	.49**	.51**	.48**	.48*
Anxiety	.59**	.66**	.57**	.61*
Stress	.47**	.56**	.53**	.48*
AAQII	.70**	.62**	.53**	.72*
<b>FSCRS</b>				
Inadequate Self	.59**	.51**	.41**	.61*

Hated Self	.59**	.53**	.40**	.59*
Reassure Self	-.41**	-.32**	-.19**	-.39*

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*Note.* OAS-A: Other as Shamer Scale – Adolescent version, OASB-A: Other as Shamer Scale Brief –

Adolescent version, DASS: Depression Anxiety Stress Scales; AAQII: Acceptance and Action

Questionnaire; FSCRS: The Forms of Self-Criticising/ Attacking & Self-Reassuring Scale

\*\*  $p < .001$ , \*  $p < .05$

### **3.2. Other as Shamer Scale Brief – Adolescent version (OASB-A)**

#### **3.2.1. Evidence based on internal structure**

The 8-item one-factor measurement model underlying the Other as Shamer Brief version for Adolescents (Cunha et al., 2014) was also corroborated in the current study. The CFA results indicate this model to be an acceptable fit for the data taken from all samples (Table 2), in addition to presenting excellent internal consistency values and to all items showing high and significant loading values (see Table 6).

Table 6.

*Loading and Internal Consistency Values for the One-factor Model of the OASB-A By Samples*

	Complete sample			Community sample			Referred sample			Forensic sample
	Total	Male	Female	Total	Male	Female	Total	Male	Female	
	$\alpha = .90$	$\alpha = .89$	$\alpha = .91$	$\alpha = .90$	$\alpha = .89$	$\alpha = .90$	$\alpha = .92$	$\alpha = .92$	$\alpha = .91$	$\alpha = .89$
1 (... see me as not good enough	.59	.59	.59	.62	.62	.62	.56	.56	.55	.58
2 (... other people look down on me	.74	.76	.71	.74	.78	.72	.72	.78	.64	.70
4 I feel insecure (...)	.61	.62	.61	.59	.62	.58	.75	.73	.78	.61
5 (... as not measuring up to them	.81	.80	.82	.79	.77	.81	.85	.84	.86	.83
6 (... small and insignificant	.83	.81	.86	.82	.76	.86	.83	.88	.78	.84
7 (... defective as a person	.75	.74	.76	.74	.73	.75	.84	.85	.83	.69
8 (... unimportant compared to others	.81	.79	.83	.81	.79	.84	.79	.82	.77	.79
17 (... something missing in me	.65	.60	.72	.65	.59	.71	.70	.68	.72	.57

*Note.* All loading values were significant at  $p < .001$ . Short paraphrases of the items are presented. For complete versions of the items in their original version please see Goss et al. (1994); for complete versions of the items in their Portuguese version please see Cunha et al. (2014).

### 3.2.2. Measurement invariance

Configural invariance was again established based on acceptable fit indicators being obtained for by each male and female sample separately (*i.e.*, from the complete sample, and from the community, referred, and forensic samples independently). Thus we could proceed with further gender invariance analysis and externalization-based groups invariance analysis.

Full metric invariance for gender was found for the complete sample ( $\Delta\chi^2 = 9.90$ ,  $df = 7$ ,  $p > .20$ ), and the community ( $\Delta\chi^2 = 9.94$ ,  $df = 7$ ,  $p > .20$ ) and referred samples ( $\Delta\chi^2 = 12.95$ ,  $df = 7$ ,  $p > .20$ ). Only partial scalar invariance was found for the complete sample and for the community sample. For the complete sample, it was achieved after allowing the intercepts of items 1, 4 and 7 to be freely estimated across groups ( $\Delta\chi^2 = 7.89$ ,  $df = 5$ ,  $p > .10$ ); for the community sample, it was achieved after allowing the intercepts of items 1 and 4 (and the correlation between items the residuals of items 5 and 6) to be freely estimated across groups ( $\Delta\chi^2 = 1.41$ ,  $df = 4$ ,  $p > .20$ ). Full scalar invariance was achieved for the referred sample ( $\Delta\chi^2 = 14.99$ ,  $df = 7$ ,  $p > .05$ ).

Considering male groups representing diverse degrees of behavioral problems severity, we found full metric invariance across the three groups ( $\Delta\chi^2 = 21.50$ ,  $df = 14$ ,  $p > .10$ ). Full scalar invariance was not achieved ( $\Delta\chi^2 = 51.93$ ,  $df = 14$ ,  $p < .001$ ); partial scalar invariance was obtained after allowing the intercepts of item 4 to vary in the community group and of items 5 and 17 to vary in the detained group ( $\Delta\chi^2 = 15.59$ ,  $df = 11$ ,  $p > .1$ ).

### 3.2.3. Latent mean comparisons

No significant gender differences were found, either for the complete, community or referred samples. Considering comparisons between male participants taken from the three groups, participants from the community sample reported less

frequently feeling ashamed by other in comparison with referred participants (latent mean = .34,  $p < .001$ ), who in turn reported feeling more ashamed by others in comparison with detained participants (latent mean = -0.271,  $p = 0.045$ ). The difference between community and detained participants was non-significant. These results were also in line with the descriptive values reported in Table 4.

### **3.2.4. Construct validity in relation to external variables**

Correlation analysis on the OASB-A were similar to those obtained with the OAS-A (see Table 5). Also, correlation values between OASB-A and the factors of the OAS-A were always significant ( $p < .001$ ):  $r = .98$  with *Inferior*,  $r = .79$ , with *How others react when they see me make mistakes*, and  $r = .72$  with *Emptiness*.

## **4. Discussion**

The Other As Shamer Scale (Goss et al., 1994) is a trait measure that has been designed to assess external shame (i.e., negative personal beliefs about the self in the mind of others), a construct that seems to play an important role in several psychopathological outcomes (Cunha et al, 2012; Gilbert, 2009; Gilbert & Irons, 2009; Harper, 2011; Tangney & Tracy, 2012). We intended to further investigate the usefulness and psychometric properties (i.e., factorial validity, internal consistency, and construct validity in relation to other variables) of the OAS, as applied to diverse **Portuguese** adolescent samples. Gender differences in relation to diverse dimensions of adolescent shame had not previously been explored; neither had been the experience of shame in non-community samples.

We tested the alternative measurement models that had proven acceptable representations of the data collected with adolescent samples: a three-factor model including the constructs of feeling inferior, feeling shameful by others' reaction to



personal mistakes, and feeling empty (the OAS-A), and a brief single measure of shame (the OASB-A). Both measures acceptably fitted our data, thus validly representing the shame experiences of boys and girls from the community, of boys and girls who have been referred for disruptive behaviors, and also of boys who were placed in juvenile detention facilities.

The three factor solution is overall more informative and descriptive, in as much as it gives information on various dimensions of external shame. This could be especially relevant for research and clinical proposes, since it could help to explore the specific associations of each dimension of external shame with different types of mental health problems. For instance, as Goss et al. (1994) suggest, inferiority is probably strongly associated with narcissism, while emptiness is likely a borderline phenomenon. On the other hand, the brief external shame measure, although representing a narrow perspective on shame, has the advantage of being a short and quick measure that probably will be more honestly and comfortably answered by youth with externalizing problems. Moreover, given its constitution in relation to the complete version of the OAS-A, it may be particularly addressing the inferiority dimension of shame, which the facet of external shame that accounted for the largest proportion of variance of the data (Goss et al, 1994). Our findings, along with previous results with adult (Matos et al., 2015) and adolescent (Cunha et al., 2015) community samples reinforce that the brief external shame measure is not only a good screening instrument, but also an economic, valid, and reliable instrument to assess external shame.

The Other As Shamer Scale seems an appropriate measure to explore gender differences, though some of the differences may be located at the item level. Results suggest no gender differences in the experience of shame as inferiority and a shameful reaction from others and the overall experience of shame (though briefly evaluated).

These results are in line with findings from a meta-analytic research which reports no gender differences in self-conscious emotion experiences, including the experience of shame (Else-Quest et al., 2012). Significant differences were found when comparing boys and girls from the complete sample, but only for the *Emptiness* factor, and only when considering latent scores based on partial invariance. Unlike what would be theoretically expected, boys reported higher experiences of emptiness than girls; the reverse pattern, however, was found when looking at the descriptive measures by gender for the community and referred samples. The male forensic sample presented higher emptiness scores when compared to the community sample, and so it may be the case that the complete samples' score for boys was inflated by including only detained boys (and not detained girls). Following the trend found for the community and referred samples, it probably would be the case that including detained girls into the complete sample would imply that girls would score higher than boys. Future studies should try to clarify gender differences on shame, particularly in the *Emptiness* dimension, and explore the course and implications of shame for males and females across the life span.

As for comparisons between boys presenting different degrees of severity of behavioral problems, we found that, overall, referred and detained participants presented similar frequency of shameful experiences. This is in line with the literature that indicates a high prevalence of traumatic experiences, including shameful ones (Kerig & Becker, 2010), in both referred and forensic samples (Abram et al, 2004; Brigs et al, 2013; Dierkhising et al., 2013; Willis et al., 2013). Moreover, referred participants, as compared to community participants, reported more frequently having experienced shame, concurring with findings of a lower prevalence of trauma exposure in community samples of youth when compared to referred ones (Brigs et al., 2013). Surprisingly, the group representing the most extreme point of misbehavior (*i.e.*,

forensic sample) was not the one reporting more frequent experiences of shame, particularly for its dimensions of inferiority and emptiness, where they scored similarly to boys from the community sample. This finding might be related to the fact that detained youth, though possessing a high prevalence of trauma exposure (Abram et al., 2004; Dierkhising et al., 2013; Willis et al., 2013), tend to deal with negative emotions by dissociation (Bennetti-McQuoid et al., 2015), denial (Ribeiro da Silva et al., 2015), or emotional numbing (Kerig & Becker, 2010; Kerig et al., 2012). This fact could difficult the assessment of shame and other negative emotions by self-report measures in this specific population. Further studies should consider the inclusion of other type of measures, namely interviews, to overcome this limitation. In comparison with community participants, detained youth only reported more significantly experiencing shameful reactions of others to their mistakes. This may be related to the fact that this factor is, among the three assessed with the OAS-A, the one that is less related to an inner sense of devaluation. In other words, the dimension *How others react when they see me make mistakes* is more associated with a tendency to blame others for negative events (a phenomena highly prevalent in detained youth; Gold et al., 2011; Kerig & Becker, 2010; Tangney et al., 2015), which probably make it less vulnerable to denial processes.

Additionally, the OAS-A and the OASB-A achieved very good to excellent internal consistency values, and construct validity in relation to measures of psychopathological symptoms, experiential avoidance, and forms of self-criticizing and self-reassuring. Our findings are in line with the existing literature stating that shame is associated with depressive, anxious, and stress related symptoms (Cunha et al., 2012; Gilbert & Irons, 2009; Cunha et al., 2015; Matos et al, 2015), avoidance of potentially shameful events (Pinto-Gouveia et al, 2012), and with self-criticism (Alves et al., 2010).

Moreover, like Alves et al. (2010), we also found that those more frequently ashamed are less reassuring towards themselves. Thus, our findings concur with an appraisal of shame as associated with several psychological symptomatology (Gilbert, 2009, 2010), and may also contribute to its maintenance, by undermining more health ways of relating with oneself.

Despite being able to compare how adolescents presenting diverse degrees of disruptive behaviors differ on their inner experience of shame as arising from the interaction with others, our findings are limited to boys. Gender invariance analyses point to special caution when considering the shame experience of boys and girls, and so the experience of detained girls should be carefully considered in future studies. The differential role that dimensions of external shame play in externalization symptoms should also be studied, in addition to considering the validation of the OAS-A with adolescents with internalizing disorders. Even with the current externalizing sample we found associations between shame and internalizing symptoms (namely depression), which would lead us to expect that the constructs associated with shame might also be adequately represented by this measure in adolescents presenting internalizing symptomatology. Another limitation is related to the fact that this study relies only on self-report measures. Although shame is inherently a self-experienced social emotion, it would be interesting for future research to look into combined findings on self-reported and, for example, neurophysiological markers of shame.

The Other as Shamer Scale has been widely used for assessing shame and its theoretical and clinical correlates, particularly in adult samples. Nevertheless, the importance and interest of evaluating and addressing this construct in adolescence has known an increased grow, following the recognition of its potential impact in the psychosocial development and mental health of youth. The current research supports the

use of this instrument with heterogeneous samples of adolescents, and provides the researcher and the clinician with diverse evaluation options that may better serve individual research or intervention objectives.

#### References

- Abram, K. M., Teplin, L. A., Charles, D. R., Longworth, S. L., McClelland, G. M., & Dulcan, M. K. (2004). Posttraumatic stress disorder and trauma in youth in juvenile detention. *Archives of General Psychiatry*, *61*, 403-410. doi: 10.1001/archpsyc.61.4.403
- Alves, S., Castilho, P., & Pinto-Gouveia, J. (2010). Recordação de experiências de ameaça e subordinação na infância, auto-criticismo, vergonha e submissão: A sua contribuição para a depressão em estudantes universitários [Recall of threat and submissiveness in childhood, self-criticism, shame and submission: Their contribution to depression in university students]. *Psychologica*, *52*, 449-474.
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5<sup>th</sup> ed.). Washington, DC: Author.
- Benetti-McQuoid, J. & Bursik, K. (2005). Individual differences in experiences of and responses to guilt and shame: Examining the lenses of gender and gender role. *Sex Roles*, *53*, 133–142. doi: 10.1007/s11199-005-4287-4
- Bennett, D. C., Modrowski, C. A., Kerig, P. K., & Chaplo, S. D. (2015). Investigating the dissociative subtype of posttraumatic stress disorder in a sample of traumatized detained youth. *Psychological Trauma: Theory, Research, Practice, and Policy*, *25*, 465-472. doi: 10.1037/tra0000057
- Bond, F. W., Hayes, S. C., Baer, R. A., Carpenter, K. M., Guenole, N., Orcutt, ... Zettle, R. D. (2011). Preliminary psychometric properties of the Acceptance and

- Action Questionnaire-II: A revised measure of psychological inflexibility and experiential avoidance. *Behavior Therapy*, 42, 676–688.
- Briggs, E. C., Fairbank, J. A., Greeson, J. K. P., Steinberg, A. M., Amaya-Jackson, L. M., Ostrowski, ... Pynoos, R. S. (2013). Links between child and adolescent trauma exposure and service use histories in a national clinic-referred sample. *Psychological Trauma: Theory, Research, Practice, and Policy*, 5, 101-109. doi: 10.1037/a0027312
- Cook, D. R. (1987). Measuring shame: The Internalized Shame Scale. *Alcoholism Treatment Quarterly*, 4, 197-215. doi: 10.1300/J020v04n02\_12
- Castilho, P. & Pinto-Gouveia, J. (2011). Auto-Criticismo: Estudo de validação da versão portuguesa da Escala das Formas do Auto-Criticismo e Auto-Tranquilização (FSCRS) e da Escala das Funções do Auto-Criticismo e Auto-Ataque (FSCS) [Self-criticism: Validation study of the Portuguese version of The Forms of Self-Criticising/Attacking & Self-Reassuring Scale (FSCRS) and Functions of Self-Criticizing Scale (FSCS)]. *Psychologica*, 54, 63-86.
- Cunha, M., Matos, M., Faria, D., & Zagalo, S. (2012). Shame memories and psychopathology in adolescence: The mediator effect of shame. *International Journal of Psychology & Psychological Therapy*, 12, 203-218. Retrieved from <http://www.ijpsy.com/volumen12/num2/327/shame-memories-and-psychopathology-in-adolescence-EN.pdf>
- Cunha, M., Xavier, A., Cherpe, S., & Pinto-Gouveia, J. (2015). Avaliação da vergonha em adolescentes: The Other as Shamer Scale [The assesement of shame in adolescents: The Other as Shamer Scale]. (Manuscript submitted for publication).

- Dierkhising, C. B., Ko, S. J., Woods-Jaeger, B., Briggs, E. C., Lee, R., & Pynoos, R. S. (2013). Trauma histories among justice-involved youth: Findings from the National Child Traumatic Stress Network. *European Journal of Psychotraumatology*, *4*, 1-12. doi: 10.3402/ejpt.v4i0.20274
- Dimitrov, D. M. (2010). Testing for Factorial Invariance in the Context of Construct Validation. *Measurement and Evaluation in Counseling and Development*, *43*(2), 121–149. doi:10.1177/0748175610373459
- Dimitrov, D. M. (2006). Comparing groups on latent variables: A structural equation modeling approach. *Work (Reading, Mass.)*, *26*, 429–36. Retrieved from [https://www.researchgate.net/profile/Dimiter\\_Dimitrov4/publication/6996484\\_Comparing\\_groups\\_on\\_latent\\_variables\\_a\\_structural\\_equation\\_modeling\\_approach/links/0046352385b9b03bf7000000.pdf](https://www.researchgate.net/profile/Dimiter_Dimitrov4/publication/6996484_Comparing_groups_on_latent_variables_a_structural_equation_modeling_approach/links/0046352385b9b03bf7000000.pdf)
- Else-Quest, N.M., Higgins, A., Allison, C., & Morton, L.C. (2012). Gender differences in self-conscious emotional experience: A meta-analysis. *Psychological Bulletin*, *138*, 947-81. doi: 10.1037/a0027930
- Ferreira, C., Pinto-Gouveia, J., & Duarte, C. (2013). Self-compassion in the face of shame and body image dissatisfaction: Implications for eating disorders. *Eating Behaviors*, *14*, 207-210. doi: 10.1016/j.eatbeh.2013.01.005
- Figueira, S. (2010). A vivência de vergonha nos adolescentes: Estudo da vergonha externa e sua relação com a comparação social e o auto-criticismo [The experience of shame in adolescents: A study of external shame and its relation with social comparison and self-criticism]. (Unpublished master thesis). Coimbra: University of Coimbra.
- Figueira, S. & Salvador, M. C. (2012). A vivência de vergonha nos adolescentes: Estudo da vergonha externa e sua relação com a comparação social e o auto-

criticismo [The experience of shame in adolescents: A study of external shame and its relation with social comparison and self-criticism]. Poster presented at the III Colóquio de Doutorandos/as do CES (Centro de Estudos Sociais). Coimbra, Portugal.

Gilbert, P. (2009). Introduction to compassion focused therapy. *Advances in Psychiatric Treatment, 5*, 199–208. doi: 10.1192/apt.bp.107.005264

Gilbert, P (2010). *Compassion focused therapy*. New York: Routledge.

Gilbert, P. & Irons C. (2009). Shame, self-criticism, and self-compassion in adolescence. In N. Allen (Ed.), *Psychopathology in adolescence* (pp. 195-214). Cambridge: Cambridge University Press.

Gilbert, P., Clark, M., Hempel, S., Miles, J.N.V. & Irons, C. (2004) Criticising and reassuring oneself: An exploration of forms, styles and reasons in female students. *British Journal of Clinical Psychology, 43*, 31-50.

Gold, J., Sullivan, M. W., & Lewis, M (2011). The relation between abuse and violent delinquency: The conversion of shame to blame in juvenile offenders. *Child Abuse & Neglect, 35*, 459– 467. doi: 10.1016/j.chiabu.2011.02.007

Goss, K., Gilbert, P., & Allan, S. (1994). An exploration of shame measures I: The “Other as Shamer Scale”. *Personality and Individual Differences, 17*, 713-717. doi: 10.1016/0191-8869(94)90149-X

Hair Jr., J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2005). *Multivariate data analysis* (7th ed.). Upper Saddle River: Prentice Hall.

Harper, J. M. (2011). Regulating and coping with shame. In R. Trnka, K. Balcar, & M. Kuska (Eds.), *Reconstructing emotional spaces: from experience to regulation* (pp. 189-206). Prague: Prague of College of Psychological Studies Press.



- Lovibond, P. F., & Lovibond, S. H. (1995). The structure of negative emotional states: Comparison of the Depression Anxiety Stress Scales (DASS) with the Beck Depression and Anxiety Inventories. *Behaviour Research and Therapy*, *33*, 335–343. doi:10.1016/0005-7967(94)00075-U
- Kerig, P. K., & Becker, S. P. (2010). From internalizing to externalizing: Theoretical models of the processes linking PTSD to juvenile delinquency. In S. J. Egan (Ed.), *Posttraumatic stress disorder (PTSD): Causes, symptoms and treatment* (pp. 33-78). Hauppauge, NY: Nova Science Publishers
- Kerig, P. K., Bennett, D. C., Thompson, M., & Becker, S. P. (2012). “Nothing really matters”: Emotional numbing as a link between trauma exposure and callousness in delinquent youth. *Journal of Traumatic Stress*, *25*, 272–279. doi: 10.1002/jts.21700
- Korkmaz, S., Goksuluk, D., & Zararsiz, G. (2014). MVN: An R package for assessing multivariate normality. *The R Journal*, *6*, 151-162. Retrieved from <https://journal.r-project.org/archive/2014-2/korkmaz-goksuluk-zararsiz.pdf>
- Lewis, M. (1992). *Shame: The exposed self*. New York: Free Press
- Matos, M., Pinto-Gouveia, J., Gilbert, P., Duarte, C., & Figueiredo, C. (2015). The Other As Shamer Scale – 2: Development and validation of a short version of a measure of external shame. *Personality and Individual Difference*, *74*, 6-11. doi: 10.1016/j.paid.2014.09.037
- Mills, R. S. L., Arbeau, K.A., Lall, D. I. K., & De Jaeger, A. E. (2010). Parenting and child characteristics in the prediction of shame in early and middle childhood. *Merrill-Palmer Quarterly*, *56*, 500–528. Retrieved from <http://digitalcommons.wayne.edu/mpq/vol56/iss4/4>

- Muthen, L.K., & Muthen, B. O. (2005) Chi-square difference testing using the S-B scaled chi-square. Note on Mplus website, [www.statmodel.com](http://www.statmodel.com).
- Muthén, L.K., & Muthén, B. O. (2010). *Mplus user's guide* (6<sup>th</sup> ed.). Los Angeles, CA: Muthén & Muthén.
- Nathanson, D. L. (1992). *Shame and pride; Affect, sex and the birth of the self*. New York: W. W. Norton.
- Pais-Ribeiro, J. L., Honrado, A., & Leal, I. (2004). Contribuição para o estudo da adaptação portuguesa das escalas de ansiedade, depressão, stress de Lovibond e Lovibond [Contribution for the Portuguese validation of depression, anxiety and stress scales of Lovibond and Lovibond]. *Psychologica*, *36*, 235–246.
- Pinto-Gouveia, J., Gregório, S., Dinis, A., & Xavier, A. (2012). Experiential avoidance in clinical and non-clinical samples: AAQ-II Portuguese version. *International Journal of Psychology & Psychological Therapy*, *12*, 139-156. Retrieved from <http://www.ijpsy.com/volumen12/num2/323/experiential-avoidance-in-clinical-and-non-EN.pdf>
- Pinto-Gouveia, J. & Matos, M. (2011). Can shame memories become a key to identity? The centrality of shame memories predicts psychopathology. *Applied Cognitive Psychology*, *25*, 281-290. doi: 10.1002/acp.1689
- Ribeiro da Silva, D., Rijo, D., & Salekin, R. T. (2015). The evolutionary roots of psychopathy. *Aggression and Violent Behavior*, *21*, 85-96. doi: 10.1016/j.avb.2015.01.006
- Roos, S. Hodges, E. V. E., & Salmivalli, C. (2014). Do guilt and shame-proneness differentially predict prosocial, aggressive, and withdrawn behaviors during early adolescence? *Developmental Psychology*, *50*, 941-946. doi: 10.1037/a0033904

- Szentágotai-Táatar, A., Chiş, A., Vulturar, R., Dobrean, A., Căndea, D. M., & Miu, A. C. (2015). Shame and guilt-proneness in adolescents: Gene-environment interactions. *PLoS ONE*, *10*, e0134716. doi: 10.1371/journal.pone.0134716
- Tangney, J. P., Stuewig, J., & Martinez, A. G. (2015). Two faces of shame: The roles of shame and guilt in predicting recidivism. *Psychological Science*, *25*, 799-805. Doi: 10.1177/0956797613508790
- Tangney, J. P., Stuewig, J., & Mashek, D. J. (2007). Moral emotions and moral behavior. *Annual Review of Psychology*, *58*, 22.1-23.28. doi: 10.1146/annurev.psych.56.091103.070145
- Tangney, J. T. & Tracy, J. L. (2012). Self-conscious emotions. In M. R. Leary and J. P. Tangney (Eds), *Handbook of self and identity* (pp. 446-480). New York: The Guilford Press.
- Willis, A. C., Best, C. C., & Aalsma, M. C. (2013). Trauma experiences among detained youth: Predictors of recidivism. *Journal of Adolescent Health*, *52*, S53–S54. doi: 10.1016/j.jadohealth.2012.10.126