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## Constructing a Self Protected against Shame: The Importance of Warmth and Safeness Memories and Feelings on the Association between Shame Memories and Depression

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### ABSTRACT

Positive and negative affiliative experiences in early life have a major impact on affect regulation and vulnerability to psychopathology. However, while shame memories have been linked to psychopathology, the protective effects of affiliative experiences on this relationship were never explored. This study examines two moderator models of early memories of warmth and safeness on the association between shame memories and depressive symptoms. A mediator model of current feelings of social safeness on these linkages is further tested. Participants described an early shame experience and completed a set of self-report measures assessing the centrality and traumatic characteristics of the shame memory, early memories of warmth and safeness, current social safeness and connectedness and depressive symptoms. Early memories of warmth and safeness moderated the relationship between centrality of shame memory and depression, by attenuating its impact. No moderator effect was found for the relation between shame traumatic memory and depression. Furthermore, feelings of social safeness fully mediated the effect of early affiliative memories on depression, and partially mediated the effect of centrality of shame memories on depression. Affiliative relationships may engender the source of safeness and warmth that buffers the effects of early shame experiences on negative affect.

**Key words:** shame memory, safeness memories, social safeness, depression.

### Novelty and Significance

*What is already known about the topic?*

- Early affiliative experiences have a major impact on brain neurodevelopment, affect regulation and vulnerability to mental health problems.
- Warm and nurturing social relationships are related to well-being, health and resilience to adverse life events.
- Shame experiences entail a fundamental threat to the social self and can function as traumatic memories and become central to self-identity and life story.

*What this paper adds?*

- Individuals whose shame experiences become central to their identity and life story but that recall feeling nurtured and safe within their family present less depressive symptoms.
- When shame experiences are structured as traumatic memories, their effect on depressive symptoms is not buffered by the presence of early affiliative memories.
- The protective effect of early affiliative memories on depressive symptoms operates through their influence on one's ability to feel safe with others and use social relationships as ways of soothing oneself.

Human's survival and well-being greatly depends on affiliative relationships (Baumeister & Leary, 1995; Bowlby, 1969, 1973; Buss, 2003; Gilbert, 1989). It is now well established that early rearing interactions have a major impact on expression of genes, brain maturation, autonomic, neuroendocrine and immune function, development of a whole range of cognitive competencies and affect regulation (Belsky, Steinberg, &

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Draper, 1991; Cacciopo, Berston, Sheridan, & McClintock, 2000; Carter, 1998; Cozolino, 2006; Gerhardt, 2004; Kennedy, Kiecolt-Glaser, & Glaser, 1989; Mikulincer & Shaver, 2004, 2007; Schore, 1994; Siegel, 2001).

In fact, the quality of early care/affection one receives significantly impacts on brain neurodevelopment, especially on affect regulation systems (Gerhardt, 2004; Panksepp, 1998; Schore, 2001; Siegel, 2001; Teicher, 2002). Recently, based on neuroscience research, authors have proposed the existence of three evolved interacting affect regulation systems, that comprise central and peripheral physiological systems and are linked to specific neurohormones. These are threat-protection, resource-seeking, and contentment-affiliation and soothing systems (Depue & Moronne-Strupinsky, 2005; Gilbert, 2005a, 2009a, 2010; Wang, 2005). Common to all living things is the threat system, which comprises basic and quick threat detection (through attention-focusing and attention-biasing) and protection devices, such as the activation of defensive feelings (e.g., anxiety, anger, disgust) and consequent protective actions (e.g., fight, flight, freeze and submission) (Gilbert, 1989, 2001). This threat protection system can be activated by several threat signalling stimuli, such as emotional memories or social cues. It operates through specific brain structures (e.g., the amygdala and the hypothalamic-pituitary-adrenal axis) and is linked to serotonin genetic and synaptic regulation (Caspi & Moffitt, 2006; LeDoux, 1998; Gilbert, 2009a, 2010). This system can be linked to the drive system which promotes positive feelings of activation, pleasure and excitement, directing and motivating individuals towards important rewards and resources (such as food, alliances or sexual opportunities) (Depue & Moronne-Strupinsky, 2005; Gilbert, 2009a).

When animals are neither threatened nor seeking resources, they may experience contentment (Depue & Moronne-Strupinsky, 2005). These positive feelings of warmth, soothing and well-being refer to the contentment-affiliative and soothing system, which is linked to endorphins/opiates and oxytocin (Depue & Moronne-Strupinsky, 2005; Gilbert, 2009a, 2010; MacDonald & MacDonald, 2010). This system developed with the evolution of the attachment system to register social safeness, and is triggered by signals of affection and care. In this sense, affiliative interactions stimulate this system by promoting feelings of safeness, connectedness and warmth, and soothing the over-arousal and distress generated by threat (Gilbert, 2009a, 2010, Gilbert, McEwan, Mitra, Franks, Richter, & Rockliff, 2008). Experiencing feelings of safeness and soothing in childhood is not only related to the absence of threat, but also to the presence of specific affiliative signals and experiences (e.g., affection, being valued, accepted, praised) that can lay down positive soothing emotional memories that become major emotional regulators latter in life (Baldwin & Dandeneau, 2005).

Early positive social relationships operate through this safeness system, by promoting a sense of being loved, accepted, valued and chosen by others (e.g., caregivers, friends, lovers, one's superiors) for important social roles (e.g., friend, lover, team member), and thus, fostering feelings of safeness, connectedness and a sense of belonging (Baumeister & Leary, 1995; Bowlby, 1969, 1973; Gilbert, 2005a, 2010; Gilbert *et al.*, 2009). These feelings provide the deactivation of the threat system and offer important resources to cope with adversity (Cacciopo *et al.*, 2000; Masten, 2001; Porges, 2003, 2007). There is considerable evidence that safe, warm and nurturing environments are related to

well-being and various health indices (Martin, 2006), to the development of self-esteem, happiness, self-accepting/nurturing abilities and to the protection against vulnerability to psychopathology (Cacioppo *et al.*, 2000; Cheng & Furnham, 2004; DeHart, Pelham, & Tennen, 2006; Gilbert, Baldwin, Irons, Baccus, & Palmer, 2006; Mikulincer & Shaver, 2004; Schore, 1994). A recent study by Richter, Gilbert, and McEwan (2009) demonstrated that recall of positive emotional memories, i.e., of feeling warmth, safe, and cared for as a child within the family, was significantly and negatively associated with psychopathology (e.g., depressive symptoms) and positively related to a disposition to experience positive affects (e.g., of safeness, warmth and security). Furthermore, recall feeling loved and safe in childhood was linked to a less harsh critical self-evaluative attitude (self-criticism) and to a higher ability to reassure oneself (self-reassurance) when facing setbacks or failures.

The quality of one's early interactions with caregivers regulate the maturation of positive affect and stress sensitivities, and constitute the bio-emotional foundation for the emergence of internal working models of self (e.g., as worthy or unworthy of care and support) and others (e.g. as caring and available or threatening and unavailable) (Bowlby, 1969, 1973, 1980; Gilbert, 1989; Mikulincer & Shaver, 2005, 2007). These self-other schema are believed to operate consciously and non-consciously to guide emotional and thought processing about the self and others throughout life, and impact on one's social behaviour (Baldwin, 1992, 1997; Bowlby, 1969, 1973; Gilbert, 1989, 1993; Mikulincer & Shaver, 2005, 2007).

In contrast, there is strong empirical evidence emphasizing that neglectful, rejecting, shaming, critical and abusive experiences damage brain development (e.g., of caring behaviour and cognitive abilities) in a drastic and lasting way and are one of the most powerful elicitors of stress responses (e.g., cortisol and serotonin), triggering the threat system (Dickerson & Kemmeny, 2004; Eisenberger, 2011; Eisenberger, Lieberman, & Williams, 2003; Perry, 2002; Perry, Pollard, Blakley, Baker, & Vigilante, 1995; Taylor, Karlamangla, Friedman, Seeman, 2011; Taylor, Way, Welch, Hilmert, Lehman, & Eisenberg, 2006). In turn, they undermine the development of the affiliative-soothing system (Gilbert *et al.*, 2006). Such adverse rearing experiences elevate vulnerability to physical and mental health problems, namely depression (Andrews, 2002; Gilbert, Cheung, Grandfield, Campey, & Irons, 2003; Gilbert & Gerlsma, 1999; Parker, 1983; Perris, 1994; Perris & Gilbert, 2000; Rohner, 2004; Webb, Heisler, Call, Chickering, & Colburn, 2007). In fact, when those negative experiences occur in early life, children are unable to develop secure attachments and are left in a threatened state, where safety-defensive and damage limitation behaviours are over-stimulated (Bowlby, 1969, 1973; Mikulincer & Shaver, 2005; Perry *et al.*, 1995).

Furthermore, Gilbert (1989, 2005b, 2007) argued that when one does not feel safe in the world, and particularly in one's social context, threat and social rank concerns guide self-other processing. So, one becomes prone to feel inferior to others and believe others perceive him/her negatively (i.e., experiencing shame), adopting defensive submissive strategies in social relationships which, in turn, make one more vulnerable to psychopathological symptoms. Particularly, shame emerges as a response to such social threat of being an unattractive social agent, that is, as a warning signal that one

exists negatively in the mind of others and thus, stands at risk of rejection, exclusion, being passed by, harmed or even persecuted (Gilbert, 1998, 2003, 2007). Also, shame can be internalized, being linked to the experience of the self as undesirable, worthless, inferior, and defective or flawed in some way (Kaufman, 1989; Lewis, 1992; Gilbert, 1998, 2002; Tangney & Dearing, 2002; Tangney & Fisher, 1995).

Shame experiences encompass a major threat to the (social) self and can occur early in life. According to recent research (Matos & Pinto Gouveia, 2010), shame events may be recorded as conditioned emotional memories which function as traumatic ones, characterized by intrusion, hyperarousal and avoidance symptoms. In addition, these threat activating memories can texture the whole sense of self and become central to one's personal identity and life narrative (Pinto Gouveia, & Matos, 2011). Besides, these memories can deeply impact on the way and with whom one engages socially (Gilbert, 2007). In fact, these self-defining trauma memories can influence the development of negative internal working models of self and others and structure autobiographical knowledge, guiding emotional, attentional and cognitive processing (Berntsen & Rubin, 2007; Conway, 2005; Matos, Pinto Gouveia, & Costa, 2013; Matos, Pinto Gouveia, & Gilbert, 2013). Thus, the self is felt as defective and inferior, a target of a world experienced as a threatening and hostile place, where others may reject, criticize or harm the self. Moreover, shame traumatic central memories have been associated with shame feelings in adulthood and found to increase the impact of shame on depression (e.g., they moderate such relationship) (Matos & Pinto Gouveia, 2010, 2014; Pinto Gouveia & Matos, 2011).

Also, the quality of attachment relationships was found to be key in the way shame memories are structured and impact mental well being (Matos & Pinto Gouveia, 2011; Matos, Pinto Gouveia, & Costa, 2013). So, when a child is shamed, neglected or fearful of withdrawal of love and support, this may over stimulate several brain pathways that mediate the threat system leading to more easily triggered and intense negative affect and defensive strategies, such as depression (Matos & Pinto Gouveia, 2014; Perry *et al.*, 1995). At the same time, the affiliative-soothing system may be under stimulated in these individuals compromising physiological and emotional regulation. This makes them less able to articulate positive self (as lovable and worthy) and others (as soothing and reassuring) schema and to self-soothe when facing distress (Gilbert, 2009b; Gilbert *et al.*, 2006).

In summary, there is considerable evidence that resilience to aversive life events is linked to positive memories of others (Gilbert *et al.*, 2006; Masten, 2001; Richter *et al.*, 2009). Nevertheless, the research on the protective effects of affiliative experiences on the face of shame events has never been investigated.

So, this study set out to explore the protective effect of memories of warmth and affection and current experiences of social affiliation and connectedness, against the pathogenic effects of shame memories on depression. We hypothesise that shame traumatic and central memories would show a positive association with depression and negative with feelings of social connectedness and safeness, whereas recall feeling loved and cared for as a child would be positively linked to such positive social feelings and negatively to depressive symptoms.

Specifically, the primary aim of the current study is to test two moderator models in which it is predicted that early memories of warmth and safeness moderate the effect of, in the first moderator model, centrality of shame memory and, in the second moderator model, shame traumatic memory, on depressive symptoms. Furthermore, we aim at completing these moderator models testing the mediating effect of social safeness and pleasure on the direct effects of shame memories and affiliative positive memories and their interaction on depression. We predict that the extent in which early positive or shame memories impact on depression is further explained through their effects on current feelings of the social world as a safe and warm place.

## METHOD

### *Participants*

Participants in this study were 181 undergraduate and graduate students (155 women) from the University of Coimbra. Participants mean age was 23.39 ( $SD= 6.45$ ) with ages ranging from 18 to 60. Ninety three per cent of the subjects were single. The participants years of education mean was 14.67 ( $SD= 1.74$ ). These participants were recruited as part of a larger study examining the relationship between affiliative and shame memories and psychopathology.

### *Procedure*

All participants completed a battery of self-report questionnaires, administered in the same order, at the end of a lecture after the consent of the educational institution board. In line with ethical requirements, before filling the measures it was emphasized that their co-operation was voluntary and their answers were confidential and only used for the purpose of the study.

### *Instruments*

- *Priming for the shame memory.* Before completing the measures, participants were given a brief introduction on the concept of shame and were asked to recall a significant and stressful shame experience from their childhood or adolescence. Afterwards they were asked to briefly describe the shame event, identify who was the shamer or present in the situation and the age they were at that time. Then, they were instructed to answer the two shame memory related questionnaires based on that experience. This adjustment in the instructions has been made in other studies (Matos & Pinto Gouveia, 2010; Pinto Gouveia & Matos, 2011) and it doesn't seem to affect the validity of this measure, since the items' content is well suited for both instructions.
- *Centrality of Event Scale* (CES; Berntsen & Rubin, 2006; Portuguese version by Matos, Pinto Gouveia, & Gomes, 2010) assesses the extent to which a memory for a stressful event (in this case a shame experience reported by each participant) forms a reference point for personal identity and to attribution of meaning to other experiences in a person's life. This self-report questionnaire consists of 20 items, rated on 5-point Likert scale (1-5), that measure three interdependent characteristics of a highly negative emotional event that load on to a single underlying factor: the extent to which the

event is a central component of one's personal identity (e.g., "I feel that this event has become part of my identity."), is viewed as a landmark in one's life story (e.g., "I feel that this event has become a central part of my life story.") and acts as a reference point for inferences and attributions in everyday life (e.g., "This event has coloured the way I think and feel about other experiences."). In its original study and Portuguese version, CES showed sound psychometric properties with a high internal consistency (Cronbach  $\alpha = .94$  and  $.96$  respectively). Cronbach' alpha for this measure in the current study is given in Table 1.

- *Impact of Event Scale -Revised* (IES-R Weiss & Marmar (1997; Portuguese version by Matos, Pinto Gouveia, & Martins, 2011). The IES-R is a self-report instrument designed to measure current subjective distress for any specific life event, and specifically in this study in relation to the shame memory described by the participants. This scale has 22 items rated on a 5-point Likert scale (0-4). The IES-R is composed by three subscales that measure the three main characteristics of traumatic memories: avoidance (e.g., "I stayed away from reminders of it"), intrusion (e.g., "Any reminder brought back feelings about it") and hyperarousal (e.g., "I was jumpy and easily startled") that parallel the DSM-IV criteria for PTSD. In the original study, Cronbach alphas of the subscales ranged from  $.87$  to  $.92$  for intrusion,  $.84$  to  $.86$  for avoidance and  $.79$  to  $.90$  for hyperarousal (Weiss & Marmar, 1997). The Portuguese version revealed a one-dimensional structure with sound psychometric properties, with a Cronbach' alpha of  $.96$  (Matos, Pinto Gouveia, & Martins, 2011). Cronbach' alpha for this measure in this study is shown in Table 1.
- *Early Memories of Warmth and Safeness Scale* (EMWSS, Richter *et al.*, 2009; Portuguese version by Matos, Pinto Gouveia & Duarte, 2013) was designed to measure personal emotional memories, specifically recall of feeling warm, safe, accepted and cared for in childhood. It comprises 21 items (e.g. 'I felt cared about', 'I felt appreciated the way I was' and 'I felt part of those around me') rated on a Likert scale assessing how frequently each statement applied to the participants childhood (0= No to 4= Yes, most of the time). Both in its original study and in the Portuguese version, the EMWSS presented an excellent internal consistency, with a Cronbach's alpha of  $.97$ . Cronbach' alpha for the current study is reported in Table 1.
- *Social Safeness and Pleasure Scale* (SSPS Gilbert *et al.*, 2009; Portuguese translation and adaptation by Pinto Gouveia, Matos & Dinis, 2008) was developed to measure the positive affects linked to experiencing one's social world as safe, warm and soothing (e.g., "I feel content within my relationships"; "I feel secure and wanted"; "I feel a sense of warmth in my relationships with people"). Respondents rate on a five-point Likert scale the extent to which they agree with each of the 12 statements ranging from 0 ("almost never") to 4 ("almost all the time"). In its original version, the scale presented a Cronbach' alpha of  $.91$ . Cronbach alpha for this subscale in this study is presented in Table 1.
- *Depression, Anxiety and Stress Scale* (DASS-42 Lovibond & Lovibond, 1995; Portuguese version by Pais-Ribeiro, Honrado & Leal, 2004) is a self-report measure composed of 42 items and designed to assess three dimensions of psychopathological symptoms: depression, anxiety and stress. The items indicate negative emotional symptoms and are rated on a 4-point Likert scale (0-3). On the original version, Lovibond and Lovibond (1995) found the subscales to have high internal consistency (Depression subscale  $\alpha = .91$ ; Anxiety subscale  $\alpha = .84$ ; Stress subscale  $\alpha = .90$ ). In the present study, only the Depression subscale will be considered. Cronbach alpha for this subscale in this study is shown in Table 1.

### Data Analysis

Data analyses were carried out using PASW (v. 18 SPSS, Chicago Inc.) and path analyses were estimated in AMOS (v.18, SPSS Inc, Chicago, IL). Two studies were conducted. The first one tested for the moderator effect of early memories of warmth and safeness on the relationship between measures of shame memories (CES, IES-R) and depressive symptoms. Two path models were examined, considering early memories of warmth and safeness to be the moderator (EMWSS). The independent (exogenous) variables were, in the first model, centrality of shame memory (CES), and in the second model shame traumatic memory (IES-R). The dependent (endogenous) variable in both models was depression (DASS-42 Depression subscale). The second study tested whether current feelings of social safeness and connectedness (SSPS) had a mediational effect on the previous model relationships. Pearson correlation coefficients were conducted to explore the association between independent, outcome, moderator and mediator variables (Cohen, Cohen, West & Aiken, 2003).

Three path analyses were conducted testing for the moderator and mediator effects described above. This technique is a special case of structural equation modeling (SEM) and considers hypothetic causal relations between variables that have already been defined. A Maximum likelihood method was used to evaluate the regression coefficients significance. SEM procedure estimates the optimal effect of one set of variables on another set of variables in the same equation, controlling for error (Byrne, 2010; Kline, 2005). Multivariate outliers were screened using Mahalanobis squared distance (D2) method (Kline, 2005). Uni and multivariate normality was assessed by skewness and kurtosis coefficients. There was no severe violation of normal distribution ( $|Sk| < 3$  and  $|Ku| < 8-10$ ) (Kline, 2005).

Regarding moderation models, to reduce error associated with multicollinearity, the variables were standardized converting their raw score into  $z$  scores and then obtained the interaction product by multiplying the created variables (Kline, 2005). Furthermore, considering that both the CES and IES-R refer to the same shame memory, sharing covariance between them, two separate path analyses were performed. To illustrate the relationship between the independent variables (CES, IES-R) and depression with different levels of the moderator variable (EMWSS), we plotted a graphic considering one curve for each of the three levels of the moderator ( $M-SD$ ,  $M$ ,  $M+SD$ ) (Cohen *et al.*, 2003). For tests of mediation, the significance of direct, indirect and total effects was assessed using  $\chi^2$  tests (Kline, 2005). Bootstrapping resampling method was further used to test the significance of the mediational path, using 1000 bootstrap samples and 95% confidence intervals (CI) (Kline, 2005). Effects with  $p < .050$  were considered statistically significant.

## RESULTS

The means, standard deviations and Cronbach' alphas of the variables studied are reported in Table 1. All scales showed high internal consistency. The means and standard deviations for these variables are similar to those obtained in previous studies

(Gilbert *et al.*, 2009; Matos & Pinto Gouveia, 2010; Pinto Gouveia & Matos, 2011; Richter *et al.*, 2009). No significant gender differences were found.

Table 1 shows the Pearson product-moment correlations for all variables. Centrality of shame memory and shame traumatic memory were significantly and positively correlated with each other and with depression. On the other hand, these shame memories variables were negatively associated with early memories of warmth and safeness and feelings of being connected with and cared by others. Early memories of warmth and safeness within the family correlated positively with social safeness and pleasure. These two variables were negatively related to depressive symptoms.

*Table 1.* Means (M), Standard Deviations (SD), Cronbach's alphas ( $\alpha$ ) and Interrelation scores on self-report measures (N= 181).

Measure	M	SD	$\alpha$	CES	IES-R	EMWSS	SSPS
CES	41.26	17.08	.97	-			
IES-R	3.57	2.34	.94	.52	-		
EMWSS	65.91	14.72	.97	-.28	-.26	-	
SSPS	42.34	8.38	.94	-.31	-.22	.59	-
Depression	7.08	8.43	.95	.26	.26	-.26	-.36

*Notes:* All coefficients are significant at  $p < .001$ ; CES= Centrality of shame memories; IES-R= Shame traumatic memory; EMWSS= Early memories of warmth and safeness; SSPS= Social safeness and pleasure; Depression= DASS-42 Depression subscale.

Given the previous findings and the proposed hypotheses, we intended to test whether recalls of feeling safe, nurtured and cared for within the family lessen the impact of centrality of shame memories and shame traumatic memories on depressive symptoms.

*Study 1: The moderator effect of early memories of warmth and safeness on relationship between shame memory measures and depression.* In the first path model (Figure 1) we tested for the moderator effect of early memories of warmth and safeness on the relationship between centrality of shame memory and depression. A fully saturated model (i.e., zero degrees of freedom) was used consisting of 14 parameters. Given that fully saturated models always produce a perfect fit to the data, model fit indices were neither examined nor reported.

All the paths considered in the model were statistically significant. Centrality of shame memory (CES) presented a direct effect of .24 ( $Z = 3.200$ ;  $p = .001$ ) on depression, early memories of warmth and safeness (EMWSS) presented a direct effect of -.16 ( $Z = -2.165$ ;  $p = .030$ ) and the moderation effect between the two variables was -.16 ( $Z = -2.135$ ;  $p = .033$ ).

To better understand the relation between centrality of shame memory and depression with different levels of early memories of warmth and safeness, we plotted a graphic considering one curve for each the three levels of the moderator (EMWSS) ( $M-SD = -14.8084$ ;  $M = 0$ ;  $M+SD = 14.8084$ ) (Figure 2). Results show that individuals who present low or medium levels of recall feeling safe and cared for in childhood show a positive and high relation with depression comparing to those who have high values. In this case the relation is much less expressive, suggesting that individuals with high levels of centrality of shame memory but that, simultaneously, present high

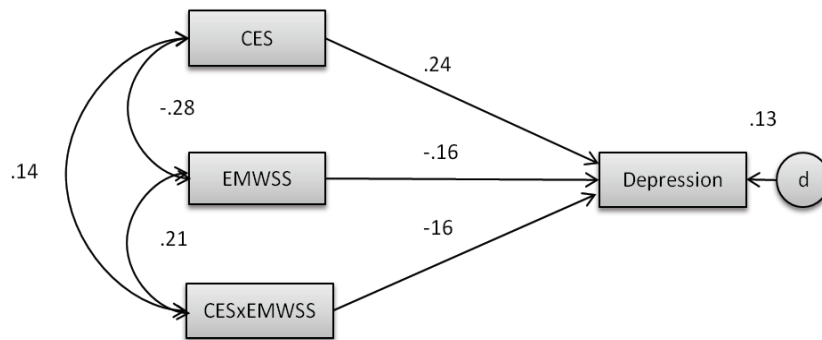


Figure 1. Results of a moderation path analysis showing the relationships among centrality of shame memory (CES), early memories of warmth and safeness (EMWSS), the interaction between the two (CESxEMWSS), and depression variables, with standardized estimates ( $N = 181$ ).

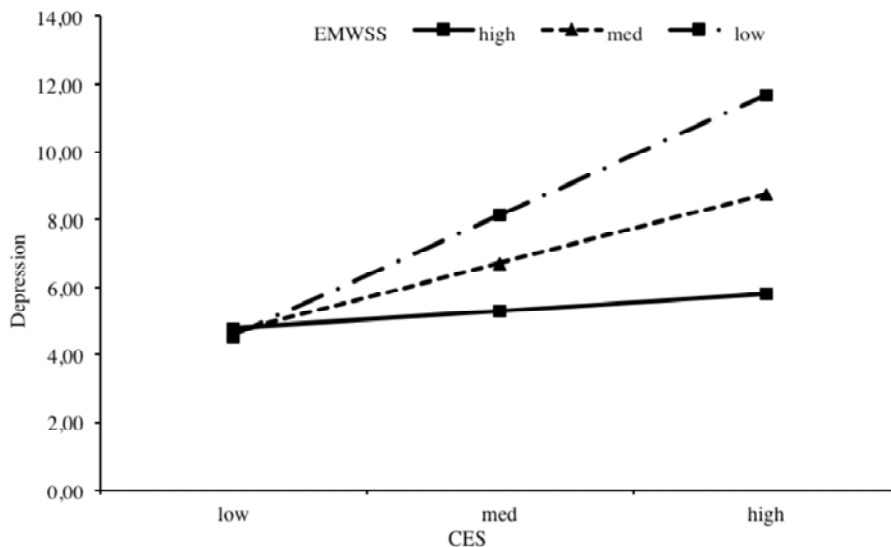


Figure 2. Relation between centrality of shame memory (CES) and depression with different levels of early memories of warmth and safeness (EMWSS).

levels of early memories of warmth and safeness, show only a moderate association with depression. So, amongst individuals with the same levels of centrality of shame memory, those who recall feeling nurtured and cared for the most are the one who reveal less depressive symptoms.

In the second moderator model (Figure 3), we tested for the moderator effect of early memories of warmth and safeness on the relationship between shame traumatic memory and depression. Again, a fully saturated model with 14 parameters was used. All the paths considered in the model were statistically significant with the exception of the direct effect of the interaction terms on depression ( $b_{\text{IES-RxEMWSS}} = .003$ ;  $Z = .185$ ;

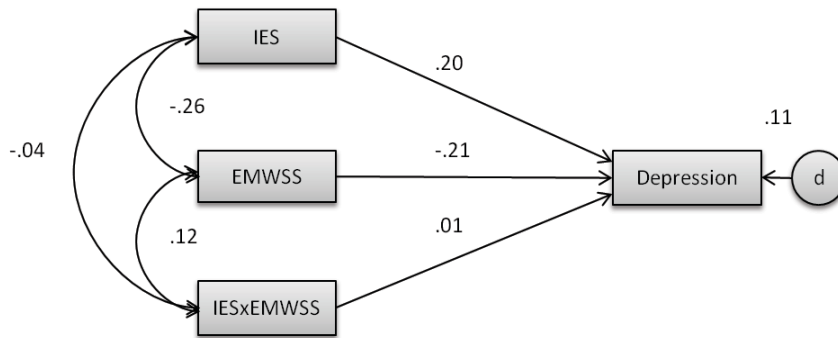


Figure 3. Results of a moderation path analysis showing the relationships among shame traumatic memory (IES-R), early memories of warmth and safeness (EMWSS), the interaction between the two (IES-RxEMWSS), and depression variables, with standardized estimates ( $N=181$ ).

$p=.854$ ;  $b_{\text{IES-RxEMWSS}}=.013$ ). Shame traumatic memory (IES-R) presented a direct effect of .20 ( $Z=2.737$ ;  $p=.006$ ) on depression, early memories of warmth and safeness (EMWSS) presented a direct effect of -.21 ( $Z=-2.868$ ;  $p=.004$ ). Hence, there was no significant interaction of early memories of warmth and safeness and shame traumatic memory on predicting depression.

To sum up, these results show that early memories of warmth and safeness are a moderator on the relationship between centrality of shame memory and depression, by lessening its impact. The same is to say that, in individuals whose shame memories became central to their identity, those who simultaneously recall feeling safe and nurtured in family interactions tend to present less depressive symptoms. In turn, in individuals whose shame experiences were structured as traumatic memories, their effect on depression seems to be independent and not diminished by early affiliative memories, which also have a significant independent effect on depression.

*Study 2: The mediation effect social safeness and pleasure on the relationship between early memories and depression.* The previous findings allowed for the test of a mediational model of social safeness and pleasure (SSPS) as a mediator on the relationship between centrality of shame traumatic memory, early memories of warmth and safeness, the interaction between these two variables and depression. The hypothesized model was tested through a fully saturated model, consisting of 18 parameters. The model explained 18% of depression variance. In this model all paths were statistically significant with the exception of the direct effect of the early memories of warmth on depression ( $b_{\text{EMWSS}}=-.014$ ;  $SE_b=.048$ ;  $Z=-.286$ ;  $p=.775$ ;  $b_{\text{EMWSS}}=-.025$ ) and the direct effect of the interaction terms on social safeness and pleasure ( $b_{\text{CESxEMWSS}}=.001$ ;  $SE_b=.002$ ;  $Z=.517$ ;  $p=.606$ ;  $b_{\text{CESxEMWSS}}=.032$ ). Thus, these non significant paths were removed and the model recalculated (Figure 4). In the evaluation of the adjusted model, we found a very good model fit with a non significant chi-square test [ $\chi^2_{(2)}=.349$ ;  $p=.840$ ]. We chose well-known and recommended goodness of fit indices to evaluate the model fit (Kline, 2005). The analysis of these indices indicated an excellent model fit (CMIN/DF=.174; CFI=1.000; TLI=1.060; RMSEA=.000). All the paths were statistically significant, according to the Bootstrap resampling method, and the model accounted for

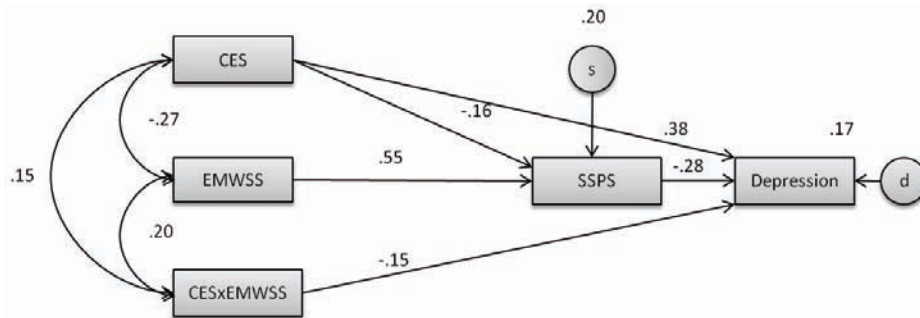


Figure 4. Results of moderation mediation path analysis showing the relationships among centrality of shame memories (CES), early memories of warmth and safeness (EMWSS), the interaction between the two (CESxEMWSS), and depression variables, having social safeness and pleasure (SSPS) as a mediator, with standardized estimates ( $N=181$ ).

17% of depression variance. Centrality of shame memory (CES) presented a total effect of .243 on depression, with a direct effect of .199 and an indirect effect, mediated by social safeness and pleasure (SSPS), of .045 (95%  $CI= .005$  to .114). Early memories of warmth and safeness (EMWSS) had an indirect effect, fully mediated by social safeness and pleasure (SSPS), of -.153 (95%  $CI= -.252$  to -.046) on depression. The interaction between CES and EMWSS presented a direct effect of -.154. Figure 4 presents the mediation model with regression coefficients standardized estimates and depression  $R^2$ .

In conclusion, these findings reveal that social safeness and pleasure fully mediates the effect of early affiliative memories on depression, and partially mediates the effect of centrality of shame memories on depression. The moderation effect between early affiliative memories and centrality of shame memories has a direct effect on depression. The same is to say that early affiliative memories impact on depressive symptoms through their influence on one's ability to feel socially safe and connected to others. In turn, the impact of shame memories that become central to one's identity on depressive symptomatology is partially explained by their influence on current feelings of the social world as a safe and warm place. Besides, these results confirm the previous analyses by showing that recall of warmth and safeness emotional experiences within the family, diminishes the impact of shame memories central to one's identity on depression.

## DISCUSSION

There is increasing evidence showing that early exposure to threats, in form of shame, neglect, abuse, are associated with increased vulnerabilities to mental health difficulties (Gilbert *et al.*, 2003; Matos & Pinto Gouveia, 2010; Perry *et al.*, 1995; Perris, 1994; Schore, 1994; Taylor, 2010). In contrast, feeling safe, connected and supported in attachment and social relationships is linked to affiliative positive affects and well-being, and promotes resilience against adverse life events (Cacciopo *et al.*, 2000; Masten, 2001; Gilbert *et al.*, 2009; Richter *et al.*, 2009). Thus, this study focused on the protective

effect of recalls and current experiences of feeling soothed, safe and connected with others, on the negative impact of shame memories on depression.

Consistent with theory, previous research (Matos & Pinto Gouveia, 2010; Pinto Gouveia & Matos, 2011; Gilbert, 2010; Gilbert *et al.*, 2009; Richter *et al.*, 2009) and our hypothesis, centrality of shame memory and shame traumatic memory were positively associated with depression and negatively linked to early memories of warmth and safeness and feelings of being connected with others in adulthood. Also, we found that recall feeling loved and cared for as a child was negatively associated with depressive symptoms and positively related to positive affiliative social feelings.

Key to this investigation was to examine whether early affiliative memories would buffer the impact of shame central and traumatic memories on depression. The path moderator models revealed that early memories of warmth and safeness were a moderator on the relationship between centrality of shame memory and depressive symptoms, by lessening its impact. Hence, these findings suggest that individuals whose shame experiences become central to their personal identity and autobiographical narrative, but that, simultaneously, recall feeling nurtured and safe in the family, present lower levels of depressive symptoms. The same is to say that, in face of shame memories that reveal the same level of centrality, individuals who recall feeling nurtured and cared for are the ones who reveal less depressive symptoms. However, no moderator effect of positive emotional memories was found on the relationship between shame traumatic memories and depression. So, it seems that when shame experiences are structured as traumatic memories, their effect on depression seems to be independent and not diminished by early affiliative memories, which also have a significant independent effect on depression.

These results partially confirm our hypothesis in that only when shame memories become central to one's identity and life story, early affiliative emotional memories seem to have a buffering effect on psychopathology. However, this is not true when the same shame experiences function as traumatic memories. These data adds to previous empirical evidence on the protective role of affiliative early experiences against the negative effects of early life events (Cacciopo *et al.*, 2000; Masten, 2001; Gilbert *et al.*, 2006; Richter *et al.*, 2009).

This may be understood in light of the tripartite model of affect regulation (Depue & Moronne-Strupinsky, 2005, Gilbert, 2005a, 2009a, 2011; Wang, 2005), according to which shame memories that operate as self-defining memories, by guiding self-other processing (where the self is viewed as inferior, defective and undesirable and others as rejecting, critical or harmful) (Bernsten & Rubin, 2007; Baldwin & Dandeneau, 2005), encompass a threat to the (social) self, and thus may trigger the threat system. By becoming highly accessible and integrated in autobiographical memory, shame central memories function as reference points to emotional, attentional and cognitive processing, and may further activate the threat system. This system triggers, in turn, defensive feelings (e.g., anxiety, sadness, anger) and behaviours (e.g., submission, avoidance), rendering one more vulnerable to engage in involuntary defeat responses in face of aversive life events (e.g., being rejected by a lover or for a job, feeling inferior to others because of personal qualities), where one feels defeated and/or trapped in an unwanted and low unfavourable social rank position (Gilbert, 1992; Sloman, Gilbert & Hasey, 2003).

However, affiliative memories may work in different ways. Emotional memories where one recalls feeling safe, reassured and accepted in childhood underlie the development of the affiliative-soothing system, responsible for promoting feelings of safeness and connectedness and soothing the distressed caused by threat (Gilbert, 2009a, 2010). Notably, a central shame memory in the context of an affiliative environment, where one recalls to feel loved, cared for and nurtured as a child, which provides opportunities for reparation or re-connectedness to others, may be encoded and function differently than the shame event experienced in the context of a less affiliative and hostile environment. Hence, recall of central shame memories may have their impact buffered by being able to recall affiliative memories. Without an affiliative memory an individual is more likely to feel alone and withdraw from others, to be open to shame, which is known to involve a feeling of loneliness and inferiority (Gilbert, 2003, 2007).

Interestingly, when considering shame memories that act as traumatic ones, their effect on depressive symptoms is independent and not diminished by their interaction with early affiliative memories. A possible explanation for this may be linked to the phenomenology of trauma and intrusive memories, especially those that occur in the context of depression (Brewin, Gregory, Lipton, & Burgess, 2010; Ehlers & Clark, 2000; Patel, Brewin, Wheatley, Wells, Fisher, & Myers, 2007; Reynolds & Brewin, 1999), and to recent accounts on the role of shame in post traumatic stress disorder (Brewin, Andrews, & Rose, 2000; Harman & Lee, 2010; Holmes, Grey, & Young, 2005; Lee, Scragg, & Turner, 2001). Hence, shame traumatic memories, by eliciting intrusions, flashbacks, intense reliving of emotions, hyperarousal symptoms and strong emotional avoidance, might represent an ongoing attack to one's psychological integrity, leaving one to constantly feel defective, inferior, powerless, and unattractive. This might cause a sense of current threat to one's sense of self, representing a constant triggering of the threat system, and having a direct effect on negative affect, which cannot be toned down by the affiliative-soothing system related memories.

In addition, we tested the mediating effect of feelings of social safeness and pleasure on the effects of shame and affiliative positive memories and their interaction on depression. As hypothesised, and consistent with previous findings (Gilbert *et al.*, 2009), current social related positive affect fully mediated the effect of early affiliative memories on depression, and partially mediated the effect of centrality of shame memories on depression. This means that the protective impact of early affiliative memories on depressive symptoms operates through their influence on one's ability to feel safe with others and use social relationships as ways of soothing oneself. In turn, the impact of shame memories that become central to personal identity on depressive symptomatology is partially explained by their negative influence on current feelings of the social world as a safe and warm place. This means that those who cannot use others as agents of soothing may be more vulnerable to experience negative affect and have fewer sources of positive affect (Cassidy & Shaver, 1999; Mikulincer & Shaver, 2005) when dealing with shame recollections.

Overall, our findings illuminate the crucial role of affiliative relationships on providing the source of security and safeness that weakens the effects of early shame experiences (that become central memories to self-identity and life narrative) on generating

negative affect linked to the threat system. Therefore, the quality of one's early experiences may either foster (warmth and safeness interactions) or undermine (shame experiences) one's ability to generate warmth and feel safe within social relationships using them to soothe one's distress which, in turn, determines the vulnerability to depressive symptoms.

Several clinical implications may be derived from these data. First, they suggest the importance of using specific strategies to assess (e.g., through structured clinical interviews such as the Shame Experiences Interview, Matos & Pinto Gouveia, 2014) and target shame memories and current feelings of shame in order to lessen their impact on current symptoms. This seems to be especially pertinent when working with high shame and/or depressed patients. Compassion Focused Therapy (Gilbert, 2005a, 2009a, 2009c; 2010) is well known to be suited for these individuals since it was specifically developed to address these issues and focuses on developing compassionate attributes and skills that enable effective affect regulation. By emphasizing the importance of early and current feelings of affiliation, safeness and closeness, for mental well-being, our findings point to the relevance of cultivating the undeveloped affiliative soothing system, promoting a self-to-self relationship based on feelings of kindness, warmth and compassion which enable the individual to tone down distress and negative affect via self-soothing. This is particularly true given that the human brain evolved to be highly sensitive to cues of warmth and affection (Cacciopo *et al.*, 2000; Panksepp, 1998). So, building up and experiencing these compassionate feelings, both from the self and from others (e.g., within a supportive therapeutic relationship), and helping patients to recognize the evolved defensive function of their symptoms, may be fundamental when early shame memories become the basis for experiencing and understanding the self and translate on emotional difficulties. However, clinicians should be aware that, as argued elsewhere (Gilbert, 2010; Gilbert *et al.*, 2006; Gilbert, McEwan, Matos, & Ravis, 2011; Matos & Pinto Gouveia, 2014), some patients, especially those for whom early shame experiences function as conditioned traumatic memories, might feel frightened and uncomfortable when experiencing self-compassion and receiving compassion from others. So, dealing with these patients shame memories and developing their self-warmth and soothing abilities should be a key goal in therapy.

Our results should be interpreted considering some limitations. The first is the predominantly female student sample, which restrains the generalization of conclusions to other populations. Future studies should seek to replicate these path models using more heterogeneous and representative samples from the general community population. Also, future research could test these models in clinical samples, e.g., with depressed patients. Another limitation is the cross-sectional design of the present study which precludes robust conclusions regarding causality. Longitudinal studies using younger samples (e.g., adolescents) to test the effect of these social experiences over time, should be carried out to strengthen the conclusions drawn from our data. At last, although the type of shame experiences were controlled for and confidentiality was assured, the use of self-report questionnaires to tap early memories may raise some concerns regarding the influence of current emotional states on these recollections. However, Brewin, Andrews and Gotlib (1993) argue that retrospective recall data are generally accurate and stable over time, not distorted by depressed mood. Recent research using structured

interviewing methodology along with self-report measures to assess shame memories also support the reliability of these self-report data (Matos & Pinto Gouveia, 2014; Matos, Pinto Gouveia & Costa, 2013).

Nonetheless, the data presented here offers tantalizing suggestions that the presence of love, approval, warmth and mirroring in early interactions and its impact on how one comes to feel socially safe and connected in adulthood has a protective effect against the pathogenic nature of aversive, harming and threatening experiences in early life to later vulnerability to psychopathology.

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