

**Differences between Depression and Paranoia:
The role of emotional memories, shame and subordination**

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Abstract

The present study explores how emotional memories, shame and submissive behavior in adulthood are differently related to depression and paranoia, in a sample of 255 subjects from the general community population.

Results show that emotional memories (especially, shame traumatic memory) are significantly correlated with external and internal shame. Emotional memories are significantly associated with submissive behavior. Both types of shame are correlated with submissive behavior, particularly internal shame. Emotional memories, external and internal shame are linked to depressive symptoms. Emotional memories, external and internal shame and submissive behavior are significantly related to paranoia.

Path analysis results suggested that: (1) shame traumatic memory and recall of threat and submissiveness in childhood predicted depressive symptoms through external and internal shame; (2) early emotional memories of shame, threat and submissiveness predicted paranoid ideation both directly and indirectly, through external shame; and (3) emotional memories impact on paranoid ideation both through their effect upon external shame and also through their indirect effect upon submission, which in turn fully mediates the effect of internal shame upon paranoid ideation.

These findings highlight the differences between depression and paranoia. In depression, it is the internalization of early experiences of shame, threat and submissiveness that heighten the vulnerability to depressive states. In paranoia, not only shame traumas and recollections of threat and submissiveness directly influence paranoid beliefs, but also these memories promote external and internal shame thoughts and feelings and submissive defenses, which in turn increase paranoid ideation.

Key Practitioner Message

- Individuals with shame traumas, threat and submissiveness experiences in childhood and high levels of external and internal shame report more depressive symptoms.
- High levels of paranoid beliefs are associated with high negative emotional memories, external and internal shame thoughts and feelings and submissive behavior defenses.
- Therapy for depression needs to incorporate strategies that help individuals develop skills to deal with shame experiences and its outputs.
- Treatment for paranoid ideation must address external and internal shame, as well as emotional memories of shame, threat and submissiveness in childhood and development of assertive skills.

Keywords: Emotional memories; Shame; Submissive behaviour; Psychopathology; Path analysis.

**Differences between Depression and Paranoia: The role of emotional memories,
shame and subordination**

Depression and paranoia are two pervasive clinical problems that may cause serious suffering and deeply interfere with ones' well-being and quality of life. However, evolutionary models propose that these two conditions have underlying adaptative functions and should be understood within the dynamics of social ranking (Gilbert, 1992, 2001; Sloman, Gilbert, & Hasey, 2003). According to this approach, depression corresponds to an involuntary defeat strategy that may arise from loss or reductions in one's perceived ability to compete for social place (e.g., being rejected by a lover or for a job, feeling inferior to others because of personal qualities), that is perceptions of inferior social rank. So, defeat captures a sense of failed struggle, of being in an involuntary subordinate position, which links to feelings of helplessness, powerlessness and entrapment (Gilbert, 1992; Price, Sloman, Gardner, Gilbert, & Rohde, 1994; Sloman, Gilbert, & Hasey, 2003).

Fears related to in-group social rank where dominants can threaten and injure subordinates may give rise to paranoid fears. The evolutionary role of paranoia is then associated to its usefulness to detect threats to the self from potentially harmful others using the 'better safe than sorry' conditional rule (Freeman, 2007; Freeman, Garety, Kuipers, Fowler, & Bebbington, 2002; Freeman et al., 2005; Gilbert, 1998a, 2001; Gilbert, Boxall, Cheung, & Irons, 2005; Salvatore et al., 2011). Paranoid individuals tend to believe others hold negative intentions towards them and want to harm them, being generally suspicious and distrusting of others, what then leads to interpersonal difficulties.

Vulnerabilities to depressive and paranoid states may be linked to adverse experiences early in life, namely shame events, humiliating defeats and/or entrapping bullying experiences (Gilbert & Allan, 1998; Matos & Pinto-Gouveia, 2010; Matos, Pinto-Gouveia, & Gilbert, 2011).

Emotional Memory

Early interactions with caregivers, siblings and peers affect neurophysiological processes underpinning emotional maturation and regulation (Perry, Pollard, Blakley, Baker, & Vigilante, 1995; Schore, 1994; Siegel, 2001) and influence the emergence of self-other schemas (e.g., to see self as lovable and believe others are caring and safe vs. to see self as inferior to others, believe that others are hostile and look down on the self) (Baldwin, 1992, 1997; Beck, 1987; Bowlby, 1969, 1973, 1980; Gilbert, 2003). These early experiences with others may then lay down emotional memories of being loved, wanted, valued and accepted by others *or* of being rejected, unwanted, threatened, criticized, subordinate or alone (Gilbert, 2003, 2007). So, these emotional memories of self-other interactions are crucial to our self-identity, relational schema and relationships with others, and emotional regulation (Baldwin & Dandeneau, 2005; Mikulincer & Shaver, 2005; Pinto-Gouveia & Matos, 2011; Schore, 2001). Affect memories may work at an explicit or implicit processing level (Baldwin, 1992, 1997; Baldwin & Holmes, 1987; Gilbert, 2011).

Shame memories

An important type of emotional memories are shame memories. Shame experiences occur early on in our interactions with significant others and continue throughout our lives. Early shaming rearing experiences (where one experiences the

emotions of others being directed at oneself) are recorded in autobiographical memory as conditioned emotional memories and operate as traumatic memories, involving intrusiveness, hyperarousal, and efforts to avoid shame (Matos & Pinto-Gouveia, 2010). When triggered, they can affect body memory and the ‘felt sense of self’ (Brewin, 2006), and guide attention, emotional and cognitive processing, determining the activation of defensive strategies/behaviors (e.g., fight, flight, submission) (Gilbert, 2007; Matos & Pinto-Gouveia, 2010; Matos, Pinto-Gouveia, & Costa, 2011). Furthermore, these threat memories can texture the whole sense of self and become central to ones’ self-identity and life story (Pinto-Gouveia & Matos, 2011) and have a major impact on who and how we engage socially (Gilbert, 2007) .

Several studies have shown that recall of aversive early experiences is associated with a range of psychological problems in adulthood, especially depression (Gilbert, Cheung, Grandfield, Campey, & Irons, 2003; Perris, 1994; Perris & Gilbert, 2000; Stuewig & McCloskey, 2006; Webb, Heisler, Call, Chickering, & Colburn, 2007). Particularly, recent research has found that shame traumatic memories from childhood and adolescence are related to shame feelings in adulthood and moderate the impact of shame on depression (Matos & Pinto-Gouveia, 2010). In addition, Matos, Pinto-Gouveia and Gilbert (2012) reported that shame trauma memories were significantly associated with paranoid symptoms, but not social anxiety, even when controlling for current external and internal shame.

Shame

The self-conscious emotion of shame emerges from our evolved abilities to be aware of ‘how we exist for others’ as a response to the social threat of being unattractive. So, key to the experience of shame is external shame, related to how one

experiences oneself as living in the minds of others (e.g., as inferior, inadequate, worthless, bad). In external shame, the world is experienced as unsafe since others are perceived as harsh, critical and hostile and may reject, criticize, harm or even persecute the self. In order to deal with external shame people may engage in defensive maneuvers, with the behavior orientated towards trying to positively influence one's image in the mind of other (e.g., by submitting, appeasing, displaying desirable qualities, avoiding).

On the other hand, the internalization of external shame can result in seeing and evaluating the self in the same way others have, that it is flawed, inferior, rejectable and globally self-condemning (negative internal models of self and others; Gilbert, 1998, 2002a; Mikulincer & Shaver, 2005). Internalized shame is then linked to complex memory systems (e.g., previous shaming episodes; Kaufman, 1989) and to negative self-evaluations and feelings (Tracy & Robins, 2004), which are partly related to ones *imaginary audiences* created through experiences with others (Baldwin, 1997). Therefore, external and internal shame are closely linked, given that both are important for social functioning and shame experiences usually involve their interaction, fueling one another (Gilbert, 2007; Kim, Thibodeau, & Jorgensen, 2011).

Shame, both externally or internally focused, has been associated with increased vulnerabilities to psychopathology, namely depression (Andrews, Qian, & Valentine, 2002; Cheung, Gilbert, & Irons, 2004; Matos & Pinto-Gouveia, 2010), and paranoia (Gilbert et al., 2005; Matos et al., 2012).

One of the major defenses to (external) shame is the internalized shame response, where one adopts a subordinate, submissive strategy associated with self-monitoring and self-blaming (Gilbert, 1998, 2002a). In fact, research has shown that shame is highly associated with tendencies to behave submissively, inhibit anger

expression, self-monitoring and self-attribitional styles in an effort to avoid aggression and conflict with powerful hostile others or appease them (Allan & Gilbert, 1997; Gilbert, 1998, 2000a).

From early (shame) experiences to submissiveness

Early shaming and devaluing experiences can then locate the child as unattractive and in an inferior rank position, setting the child up to view themselves as subordinate, having poor status and attractiveness in the eyes of others (Gilbert, Allan, & Goss, 1996).

Evolutionary theory, specifically social rank theory (Gilbert, 1992, 2001; Gilbert, Allan, Brough, Melley, & Miles, 2002; Irons, Gilbert, Baldwin, Baccus, & Palmer, 2006), considers the child–parent relationships as power relationships, and focuses on down rank threats and submissive behavior. Thus, when children are frightened of their parents and feel forced into *unwanted* or *involuntary* subordinate positions they may adopt a variety of submissive and ‘low rank’ defensive behaviours (Gilbert, 2000b; Gilbert et al., 2002; Gilbert, Cheung, Grandfield, Campey, & Irons, 2003).

Therefore, submissive behavior is a basic defensive strategy common to animals and humans (MacLean, 1990; Gilbert, 2000b) and is associated with dominant-subordinate hierarchies (Allan & Gilbert, 1997). In humans, the consequences of losing social rank or being allocated a lower rank against ones wishes (i.e., involuntary subordination; Gilbert, 1992) can involve defensive emotions (e.g., anger, shame) and entail primitive social defensive behaviors (e.g., submissive behaviors of escape, passive inhibition). Moreover, human subordinate behaviors can involve either seeking closeness or seeking/keeping distance (Birtchnell, 1993). Besides aimed at signaling no

threat and avoiding conflict and aggression from the other, subordination in humans can involve complying with others or appear friendly when one wants to be dominant, to appease others and avoid being excluded from the group (Allan & Gilbert, 1997; Gilbert, 2000b).

Submissive displays involve behaviours such as backing down quickly if challenged, eye gaze avoidance (e.g., subordinate non-human primates always avoid eye gaze with dominants), fear grinning, and not confidently making claims on resources or advertising oneself. As mentioned before, there is much in submissive behaviour that is mirrored in shame displays: e.g., backing down and wanting to hide or escape if challenged, eye gaze avoidance, lack of, or inhibition of, confidence, (Gilbert 1998, 2000a). In addition, a shame display seems to have a similar purpose to that of a submissive display: inhibiting and reducing attacks from other and avoid losing social status (Keltner & Harker, 1998).

Research has suggested that, a fearful subordinate/submissive style, particularly involuntary submissive behaviour, is highly linked to depression (Allan & Gilbert, 1997; Gilbert & Allan, 1998; Gilbert, 2002b). In fact, depressed people tend to see themselves as inferior in comparison to others, to behave submissively in conflict situations and feel trapped and defeated (Gilbert & Allan, 1994). Furthermore, submissive behaviour was found to be associated with paranoid beliefs and ideation and social anxiety in mixed clinical and student samples (Gilbert, 2000a; Gilbert, Boxall, Cheung, & Irons, 2005).

The current study

Taken together these theoretical considerations and empirical findings, this study intended to explore how emotional memories, shame and submissive behavior in

adulthood are related to psychopathology, particularly whether they are differently associated with depressive symptoms and paranoid ideation.

The first aim of the present study was explore how emotional memories were related to submissive behavior in adulthood. It is known that recollections of feeling subordinate and acting in a submissive way in childhood contribute to submissive behavior (Allan & Gilbert, 1994, 1997). However, little is known about the influence of shame traumatic memories on these basic defensive behaviors. We hypothesized that both emotional memories would be linked to submissive behaviour. Second, we sought out to understand the relationships between external shame and internal shame and submissive behaviour. We expected that individuals with higher levels of shame would engage in submissive behaviors.

Finally, the main goal of this study was to investigate how emotional memories, internal and external shame, and submissive behavior are distinctively related depression and paranoia. Thus, we a mediational chain path model for the relationships among emotional memories, external shame, internal shame and submissive behaviour and depression and paranoid beliefs (Figure 1). In the theoretical model we predicted that shame traumatic memory and recall of threat and submissiveness in childhood would indirectly impact upon depression and paranoid beliefs through their effect upon external shame, internal shame and submissive behavior. Also, we test whether emotional memories indirectly impact upon submissive behavior through their effect upon external and internal shame. In turn, we hypothesize that external and internal shame would indirectly impact upon depression and paranoid beliefs through their effect upon submissive behavior.

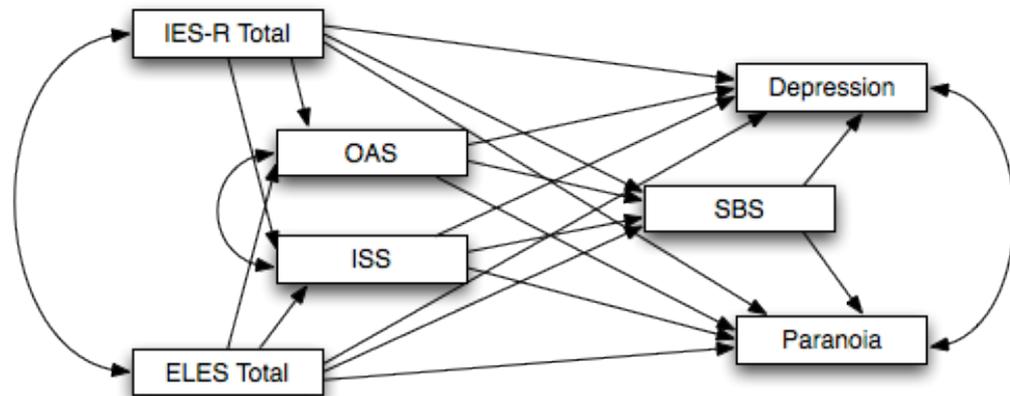


Figure 1. Theoretical model for the mediational chain between emotional memories, external shame, internal shame, submissive behavior and depression and paranoid beliefs. Key: IES-R Total = Impact of Event Scale-Revised; ELES Total = Early Life Experiences Scale; OAS = Other As Shamer Scale; ISS = Internalized Shame Scale; SBS = Submissive Behavior Scale.

Method

Participants

Participants in this study were 255 subjects from general community population. 68.2% were females ($n = 174$) and 31.8% males ($n = 81$). The mean age is 36.96 ($SD = 10.99$) and the mean years of education is 13.34 ($SD = 3.54$). Concerning marital status, 56.4% of the participants were married or in a relationship ($n = 144$), 36.5% were single ($n = 93$), 5.5% were divorced ($n = 14$) and 1.6% were widows ($n = 4$). 61.2% of the subjects have middle class professions ($n = 156$).

Procedures

A battery of self-report questionnaires was administered to participants by the authors, within the staff of institutions, namely schools and private corporations. These institution's boards were contacted, the research aims were clarified and authorization

was obtained so that their employees could participate in the study. Afterwards, the personnel was elucidated about the investigation goals and invited to voluntarily participate. Then, self-report questionnaires were filled by volunteers in the presence of the researcher. In line with ethical requirements, it was emphasized that participants cooperation was voluntary and that their answers were confidential and only used for the purpose of the study.

Measures

Recall of Threat and Submissiveness in Childhood

Early Life Experiences Scale (ELES; Cheung, Grandfield, Campey, & Irons, 2003; Portuguese version by Lopes & Pinto-Gouveia, 2005). This scale was designed to measure recall of perceived threat and subordination in childhood. ELES consists of 15 items focusing on recall of perceived threat (six items) and feeling subordinate and acting in a submissive way (nine items). The response measure consisted of a Likert type scale with participants required to rate how frequently and how true each statement was for them in childhood (1 = completely untrue, 2 = very occasionally true, 3 = sometimes true, 4 = fairly true, 5 = very true).

This scale is composed by three factors: a factor for *threat* (e.g., “*In order to avoid getting hurt I used to try to avoid my parents.*”), a factor related to *submissiveness* (e.g., “*I often had to go along with others even when I did not want to.*”) and a factor related to feeling *(un)valued* (e.g., “*I felt able to assert myself in my family.*” – reversed item). In the original study (Gilbert et al., 2003), the Cronbach’s alpha of the subscales were .89 for threat, .85 for submissiveness and .71 for (un)valued. Given our research aims, and as performed in previous studies (Gilbert et al., 2003), the total of the ELES was used as a general measure of recall of threat and submissiveness in childhood.

Shame traumatic memory.

Impact of Event Scale-Revised (IES-R; Weiss & Marmar, 1997; Portuguese version by Matos, Pinto-Gouveia, & Martins, 2010). The *IES-R* is a self-report measure designed to assess current subjective distress for any specific life event, in our study specifically, a shame experience from childhood or adolescence. The IES-R has 22 items, seven items having been added to the original 15-item IES (Weiss & Marmar, 1997), each item is rated on a 5-point scale (0–4). This scale is constituted 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 Diagnostic and Statistical Manual of Mental Disorders – Fourth Edition (DSM-IV) criteria for Post-Traumatic Stress Disorder (PTSD). In the original study, the Cronbach’s alpha of the subscales ranged from .87 to .92 for intrusion, .84 to .86 for avoidance and .79 to .90 for hyperarousal (Weiss & Marmar, 1997). In the current study, all analyses were conducted using the total of the IES-R, since the validation study for the Portuguese population found a unidimensional structure that revealed strong psychometric properties (Matos, Pinto-Gouveia, & Martins, 2011).

Priming for a Shame Memory

In this study, as performed in previous studies (Matos & Pinto-Gouveia, 2010; Matos, Pinto-Gouveia, & Costa, 2011), instructions of the IES-R were modified to prime participants with a shame memory and complete the scale with that memory as their focus. Participants were instructed to answer the questionnaire based on the impact throughout their lives that a significant shame experience they recalled from their

childhood or adolescence had. After a brief introduction about the concept of shame it was instructed: *'Now, please try to recall a (significant) situation or experience in which you think you felt shame, during your childhood and/or adolescence. Below, is a list of comments made by people after stressful life events. Using the following scale, please indicate the degree of distress that each difficulty has caused you throughout your life. That is, concerning the shame experience you recalled, how much were you distressed by these difficulties?'*

Shame.

Other As Shamer Scale (OAS; Goss, Gilbert, & Allan, 1994; Portuguese version by Matos, Pinto-Gouveia, & Duarte, 2011a). The scale consists of 18 items measuring external shame (global judgments of how people think others view them). For example, respondents indicate the frequency on a 5-point scale (0–4) of their feelings and experiences to items such as, *"I feel other people see me as not quite good enough"* and *"I think that other people look down on me"*. Higher scores on this scale reveal high external shame. In their study, Goss et al. (1994) found this scale to have a Cronbach's alpha of .92.

Internalized Shame Scale (ISS; Cook, 1994, 2001; Portuguese version by Matos, Pinto-Gouveia, & Duarte, 2011b) comprises a 24-item measure of internal shame, consisting of negatively worded items (e.g., *"Compared with other people, I feel like I somehow never measure up"*) assessing the frequency in which people experience feelings of shame and a 6-item scale consisting of positively worded items (e.g., *"All in all, I am inclined to feel that I am a success"*) assessing self-esteem. All items are rated on a scale ranging from "0", meaning *"never"*, to "4", meaning *"almost always"*. The shame subscale items were based on phenomenological descriptions of shame feelings,

whereas the self-esteem subscale items were taken from the Rosenberg Self-Esteem Scale (Rosenberg, 1965). In this study, only the shame subscale was used as a measure of internal shame. Previous studies (Cook, 1996) have reported test–retest correlations of .84 and .69, respectively, and have reported good convergent and divergent validity.

Depression.

Depression Anxiety Stress Scales (DASS-42; Lovibond & Lovibond, 1995; Portuguese version by Pais-Ribeiro, Honrado, & Leal, 2004) is a self-report measure of 42 items and designed to assess three dimensions of psychopathological symptoms: depression, anxiety and stress. The items indicate negative emotional symptoms and the respondents are asked to rate each item on a 4-point scale (0–3). In the original version, Lovibond and Lovibond (1995) found the subscales to have high internal consistency (depression subscale Cronbach's $\alpha = .91$; anxiety subscale Cronbach's $\alpha = .84$; stress subscale Cronbach's $\alpha = .90$). In the present research, only the depression subscale of the *DASS-42* was used.

Submissive behaviour.

Submissive Behaviour Scale (SBS). Derived from the work of Buss and Craik (1986), the *Submissive Behaviour Scale* was developed by Gilbert and Allan (1994) and refined by Allan and Gilbert (1997). It consists of 16 examples of submissive behaviour (e.g., “*I agree that I am wrong even though I know I'm not*”) which people rate as a behavioural frequency (from 0 = Never to 4 = Always). The scale has good reliability, with a Cronbach's alpha of .82 for the student sample and .85 for the clinical sample, and four-month test-retest reliability of $r = .84, p < .001$ (Allan & Gilbert, 1997; Gilbert

& Allan, 1994). The Portuguese version by Castilho & Pinto-Gouveia (2004) was used in the study.

Paranoia.

General Paranoia Scale (GPS) was developed by Fenigstein and Venable (1992; Portuguese version by Lopes & Pinto-Gouveia, 2005) The GPS is the most widely used dimensional measure of paranoia (Freeman et al., 2005). This 20-item self-report scale was designed to measure paranoia in college students, particularly, the following characteristics: the belief that another person, or a powerful external influence, is commanding the individual's thoughts and behaviours (e.g., "*Someone has been trying to influence my mind*"); the belief of a conspiracy against oneself, i.e. others are working together to conspire against the individual (e.g., "*My parents and family find more fault in me than they should*"); the belief of being spied on and talked negatively about oneself behind one's back (e.g., "*I sometimes feel as if I am being followed*"); a general suspicion regarding others and a lack of trust on people (e.g., "*It is safer to trust no one.*") and finally the presence of feelings of resentment (e.g., "*I am sure I get a raw deal from life*"). Each item is rated on a 5-point Likert scale (1-5). Scores can range from 20 to 100, with higher scores indicating greater paranoid ideation. Fenigstein and Venable (1992) found this scale to have good internal consistency across four North-American samples (Cronbach $\alpha = .84$).

Results

Data analysis

All analyses were carried out using PASW (Predictive Analytics Software, version 18, SPSS, Chicago, IL, USA), for PCs and Amos (Analysis of Moment

Structures) version 18 (Amos Development Corporation, Crawfordville, FL, USA). Gender differences were tested for using independent sample t Tests and two-tailed *Pearson correlation coefficients* were performed to explore the relationships between independent variables (recall of threat and submissiveness in childhood, shame traumatic memory, external shame, internal shame) and dependent variables (submissive behaviour, depression, paranoid beliefs) (Cohen, Cohen, West, & Aiken, 2003; Tabachnick & Fidell, 2007).

In the two mediational studies, we tested whether external shame (OAS), internal shame (ISS), and submissive behavior (SBS) (mediator endogenous variables) mediated the effect of shame traumatic memory (IES-R) and recall of threat and submissiveness (ELES) (independent, exogenous variables) on depression (DASS-42) (Model 1) and paranoid beliefs (Model 2) (dependent endogenous variables). Simultaneously, we tested whether the effects of external shame (OAS) and internal shame (ISS) on psychopathology variables (depression and paranoid beliefs) were mediated by submissive behavior (SBS) (mediator variable).

A path analysis was carried out to test for the mediator effects described above. This is a special case of structural equation modeling (SEM) and considers hypothetical causal relations between variables that have already been defined (Kline, 2005). According to Kline (2005), path analysis “involves the estimation of presumed causal relations among observed variables” (p. 93) and test theoretical relationships based on covariation and correlations among variables. 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 (D^2) method and 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). The significance of direct, indirect and total effects was assessed using χ^2 tests (Kline, 2005). Bootstrapping resampling method was further used to test the significance of the meditational paths, using 1000 bootstrap samples and 95% confidence intervals (CIs). Sample size was determined according to the recommendation of 5 cases/individuals per parameter (Kline, 2005). Effects with $p < .050$ were considered statistically significant.

Descriptives

The means, standard deviations and Cronbach alphas for all variables are presented in Table 1. All scales showed good to very good internal consistencies. Gender differences were tested for and no significant differences were found in the majority of variables, although women scored significantly slightly higher than men in internal shame, (Internal shame: Women $M = 31.32$, $DP = 15.51$, Men $M = 23.30$, $DP = 14.65$, $p = .000$) and shame traumatic memory (Women $M = 1.36$, $DP = .84$, Men $M = 1.05$, $DP = .72$, $p = .006$). For this reason we controlled for gender in the regression analyses regarding these measures, and entered gender in the first step of these analyses. In all regression analyses, gender did not emerge as a significant predictor nor did it alter the results regarding the predictor variables. Therefore, all statistical analyses were conducted in the total sample.

(Insert Table 1 around here)

Correlation analysis

Pearson correlation coefficients for all variables are given in Table 2.

Emotional memories

Recall of threat and submissiveness experiences in childhood (ELES) showed a low correlation with shame traumatic memory (IES-R). The low variance shared by these recollections of adverse experiences in childhood, suggests that they are important but distinctive memories.

Emotional memories and shame

Recall of threat and submissiveness experiences in childhood (ELES) was significantly associated with internal shame (ISS) and external shame (OAS), with a low coefficient magnitude. Shame traumatic memory was positively and moderately correlated with internal shame and external shame.

Emotional memories and submissive behavior

Recall of threat and submissiveness experiences in childhood (ELES) and shame traumatic memory (IES-R) were positively correlated with submissive behavior in adulthood (SBS),

Types of shame and submissive behavior

External shame was moderately correlated with submissive behavior in adulthood (SBS). Internal shame was also showed a moderate but higher correlation with the tendency to engage in submissive behaviors in adulthood (SBS).

Psychopathology variables

Both recall of threat and submissiveness experiences in childhood (ELES) and shame traumatic memory (IES-R) were significantly associated with depressive symptoms. In regard to current shame feelings, external and internal shame were positively and strongly correlated with depressive symptoms. Submissive behavior was significantly associated with depressive symptoms.

For paranoid beliefs, recall of threat and submissive experiences in childhood was significantly correlated with GPS, as well as shame traumatic memory, that revealed a moderate, but larger, correlation with paranoia. External and internal shame were positively and strongly correlated with paranoid beliefs. Finally, submissive behavior was significantly and moderately associated with paranoid beliefs.

Path Analyses

Taken together these findings and our hypothesis, we tested a path model in which we investigated the mediational chain among emotional memories, external shame, internal shame, submissive behavior and depressive and paranoid symptoms (see Figure 1).

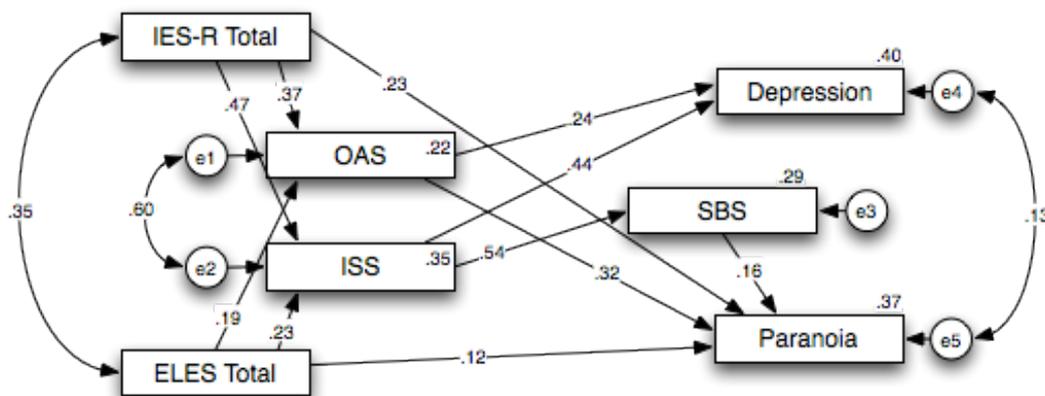


Figure 2. Results of path analysis showing the relationships among emotional memories, internal and external shame, and submissive behavior and depression and paranoid beliefs variables, with standardized estimates. Key: IES-R Total = Impact of Event Scale-Revised; OAS = Other As Shamer Scale; ISS = Internalized Shame Scale; ELES Total = Early Life Experiences Scale; SBS = Submissive Behavior Scale.

The hypothesized model (Figure 1) was tested through a fully saturated model (i.e., zero degrees of freedom, consisting of 35 parameters). Model fit indices are not

reported since fully saturated models always produce a perfect fit to the data. In this models the following paths were not statistically significant: the direct effect of external shame (OAS) on submission ($b = .027$; $SE_b = .056$; $Z = .480$; $p = .631$; $b = .036$), the direct effects of shame traumatic memory (IES-R) on submission ($b = -.063$; $SE_b = .568$; $Z = -.112$; $p = .911$; $b = -.007$), and on depression ($b = -.249$; $SE_b = .395$; $Z = -.631$; $p = .528$; $b = -.037$), the direct effects of recall of threat and submissiveness (ELES) on submission ($b = .073$; $SE_b = .040$; $Z = 1.819$; $p = .069$; $b = .105$), and on depression ($b = .009$; $SE_b = .028$; $Z = .326$; $p = .745$; $b = .018$), the direct effect of internal shame (ISS) on paranoia ($b = .032$; $SE_b = .056$; $Z = .571$; $p = .568$; $b = .047$), and the direct effect of submission (SBS) on depression ($b = .025$; $SE_b = .044$; $Z = .581$; $p = .561$; $b = .034$).

Thus, these non significant paths were removed and the model, consisting of 28 parameters, was recalculated (Figure 2). In the evaluation of the adjusted model we found a very good model fit with a non significant chi-square of 4.833 ($df = 7$, $p = .680$). Furthermore, the examination of well-known and recommended goodness of fit indices (Kline, 2005) revealed an excellent model fit (CMIN/DF = .690; CFI = 1.00; TLI = 1.010; NFI = .993; RMSEA = .000). All the paths were statistically significant and the significance of indirect mediational paths was further confirmed through bootstrap resampling method. The model accounted for 35% of internal shame, 22% of external shame, 29% of submissive behaviour, 40% of depressive symptoms and 37% of paranoid ideation variances.

Regarding depression, indirect mediational tests results showed that shame traumatic memory (IES-R) predicted increased depression fully through heightened feelings of external shame (OAS) and internal shame (ISS) ($b_{IES-R} = .296$, 95% CI = .205 to .373; $p = .002$). Recall of threat and submissiveness in childhood (ELES) predicted elevated depressive symptoms fully through greater external shame (OAS)

and internal shame (ISS) ($b_{IES-R} = .143$, 95% CI = .061 to .230; $p = .002$). Both external shame ($b_{OAS} = .241$) and internal shame ($b_{IES-R} = .437$) directly predicted increased depressive symptoms.

For paranoia, indirect mediational tests results indicated that shame traumatic memory (IES-R) predicted elevated paranoid ideation partially through increased external shame (OAS) ($b_{IES-R} = .159$, 95% CI = .087 to .239; $p = .002$) and showed a significant direct effect of .227. Similar results were found for recall of threat and submissiveness (ELES), which predicted greater paranoid ideation partially through increased external shame (OAS) ($b_{IES-R} = .079$, 95% CI = .026 to .142; $p = .002$) and also revealed a direct effect of .124. External shame (OAS) ($b_{IES-R} = .318$) and submissive behaviour (SBS) ($b_{IES-R} = .157$) predicted greater paranoid ideation directly, whereas internal shame (ISS) predicted elevated paranoia fully through greater submissive behaviour ($b_{IES-R} = .085$, 95% CI = .006 to .158; $p = .030$).

In addition, as to submission (SBS), only internal shame (ISS) directly predicted greater submissive behaviour. Shame traumatic memory (IES-R) ($b_{IES-R} = .256$, 95% CI = .177 to .333) and recall of threat and submissiveness (ELES) ($b_{IES-R} = .122$, 95% CI = .055 to .192) predicted increased submissive behaviour fully through heightened internal shame (ISS). External shame (OAS) had no significant effect on submission. This also means that the effect of emotional memories (IES-R and ELES) on paranoia is not only indirect through their effect upon external shame (OAS), but also through their impact upon internal shame (ISS), which in turn indirectly predicts increased paranoia fully through submissive behaviour (SBS).

In conclusion, emotional memories impact upon depression fully through their effects upon external and internal shame. Emotional memories also impact upon paranoia directly and indirectly through external shame. The effects of emotional

memories on submission are fully through their effects upon internal shame. In turn, external shame has a direct effect on depression and paranoia, whereas internal shame has a direct effect on depression and indirectly impacts upon paranoia through its effect upon submission.

Discussion

Recent studies have shown that shame traumatic memories influence cognitive and emotional processing and are related to psychopathology, specifically depression, anxiety, paranoia and current shame feelings (Matos & Pinto-Gouveia, 2009; Pinto-Gouveia & Matos, 2010; Pinto-Gouveia, Castilho, Matos, & Xavier, 2012). Moreover, emotional memories of threat and feeling subordinate in childhood and submissive behavior in adulthood are both associated with psychopathological symptoms (Allan & Gilbert, 1997; Gilbert et al., 2003; Irons & Gilbert, 2003).

The current study investigated the relations among emotional memories, shame traumas, current shame feelings and submissive behavior on depression and paranoia. Following previous research on the role of early negative rearing experiences and shame memories to the emergence of shame in adulthood (Andrews, 2002; Claesson & Sohlberg, 2002; Gilbert & Gerlsma, 1999; Gilbert et al., 2003; Matos & Pinto-Gouveia, 2010; Matos, Pinto-Gouveia, & Gilbert, 2011), we began to explore the relationship between emotional memories and shame feelings in adulthood. Results showed that the emotional memories evaluated were significantly correlated with shame but it was especially shame traumatic memory that was strongly linked to external and internal shame. So, individuals whose shame memories reveal traumatic characteristics and who recall feeling frightened of their parents and having to behave in subordinate ways in their family tend to believe they exist negatively in the minds of others (e.g., as

unattractive, worthless, inadequate) and to perceive themselves as inferior and undesirable.

The present study also aimed at exploring the relationship between emotional memories and submissive behavior. In accordance to our hypothesis, we found that emotional memories of threat and submissiveness and shame traumatic memories were significantly associated with submissive behaviour. These results suggest that individuals with memories of feeling threatened and subordinate in their family and shame traumatic experiences tend to behave more submissively in their relations with others.

As expected, both types of shame were correlated with submissive behavior, particularly internal shame. It seems that the experience of the self as inferior, worthless, defective, inadequate or bad in its own eyes along with the perception that one exists negatively in the mind of the other (e.g., to see self as inferior to others, thinking that other look down on the self), can trigger submissive behaviours in order to compete for social acceptance and avoid losing social status.

Regarding psychopathology, both emotional memories were related to depression, although shame traumatic memories showed more expressive associations with depressive symptoms. As expected, current external and internal shame were strongly linked to depressive symptoms, with internal shame revealing the highest correlation. Interestingly, for paranoia, positive correlations were found with both emotional memories variables, external and internal shame and submissive behavior. Shame traumatic memories, external and internal shame showed the strongest associations. Thus, individuals with emotional memories of being shamed, devalued, subordinate or threatened by their parents, who see themselves negatively and believe to exist negatively in the mind of the others and who tend to adopt a subordinate attitude,

seem to see others as hostile, powerful and harmful, with negative intentions towards the self, and feel they are in the attentional field of others.

Taken together these results and the aforementioned hypothesis, we tested a path model in which we investigated a mediational chain among emotional memories, external and internal shame, submissive behavior, depressive symptoms and paranoid ideation. Path analyses results show that shame traumatic memory and recall of threat and submissiveness in childhood predicted elevated depressive symptoms through increased external and internal shame. So, current shame feelings fully mediated the effects of emotional memories upon depression.

In regard to paranoid ideation, we found that early emotional memories of shame, threat and submissiveness predicted great paranoid ideation both directly and indirectly, through greater external shame. That is external shame partially mediated effects of emotional memories on paranoid beliefs. Furthermore, while external shame and submissive behavior revealed a direct effect on paranoid ideation, internal shame only predicted paranoid beliefs indirectly, through submissive behavior. So, submissive behavior fully mediated the effect of internal shame on paranoid ideation.

In addition, early memories of threat and submissiveness and shame traumatic memories predicted an increased submissive behavior fully through heightened internal shame. That is, internal shame fully mediated the effect of emotional memories upon submissive behavior. External shame had no significant impact on submissive behavior. Moreover, the impact of emotional memories on paranoid ideation seems to operate both through their effect upon external shame and also through their indirect effect upon submission, which in turn fully mediates the effect of internal shame upon paranoid ideation.

These findings are in line with previous research emphasizing the importance of the quality of early interactions with significant others to the construction of self-identity and self-other schemas and thus, to the emergence of the self-consciousness emotion of shame (Claesson & Sohlberg, 2002; Gilbert, Baldwin, & Dandena, 2005; Gilbert, & Gerlsma, 1999; Gilbert et al., 2003; Matos & Pinto-Gouveia, 2010; Matos, Pinto-Gouveia, & Costa, 2011). Hence, shame, threat, subordination and devaluing experiences in early life may lead to self-perceptions of being inferior (in a low rank position), subordinate, unattractive and unvalued in one's own eyes and in those of the others. These perceptions of inferior social rank may then give rise to shame feelings and to the subsequent activation of submissive defenses, in order to minimize harm from others, avoid conflict and appease others. Thus, these data are in line with Gilbert's theoretical model (2003; Irons & Gilbert, 2003) suggesting that children who are frightened of their parents and feel forced into unwanted or involuntary subordinate positions and who went through severe and traumatic shame experiences in childhood or adolescence, may adopt various submissive and "low rank" defensive behaviours. Our results add to this view by suggesting that these negative emotional memories seem to foster negative perceptions of the self as inferior, subordinate, powerless (i.e., internal shame), which in turn may trigger submissive defenses in order to keep the self safe by signaling no threat and prevent harm or attack from others.

The evolutionary and biopsychosocial model of shame (Gilbert, 1998, 2007) postulates that the experience of not being able to create positive images/feelings in the mind of the other creates a sense of the world as unsafe and leads people to engage in defensive strategies. These findings support the idea that one of these major defenses is the internalization of shame where one adopts a subordinate, submissive strategy

associated with self-blaming and self-monitoring in an effort to minimize harm and promote social approval.

A key finding was the indirect effect of shame traumatic memory and recall of threat and submissiveness on depression fully through external and internal shame. So, it seems that shame memories that function as trauma memories and recollections of feeling threatened and subordinated within family may promote a perceptions of the self as inferior, inadequate, defective, worthless, unattractive in the mind of the others and in one's own eyes. These devaluating self-perceptions and feelings may in turn render one more vulnerable to enter defeat and entrapment states in face of difficult life events. These data are in line with the evolutionary model of shame and depression, that conceives depression as a defensive response to defeat states, perceptions of being inferior to others, feelings of entrapment and powerlessness (Gilbert, 2000b; Gilbert & Allan, 1995; Gilbert, Allan, Brough, Melley, & Miles, 2002). These result are also consistent with recent empirical studies on the role of shame on depression vulnerability (Cheung, Gilbert, & Irons, 2004; Gilbert, 2000a; Pinto-Gouveia & Matos, 2011; Pinto-Gouveia, Castilho, Matos, & Xavier, 2011; Pinto-Gouveia, Castilho, Matos, & Xavier, 2012).

Of note was also the finding that early emotional memories impact upon paranoid beliefs both directly and indirectly through external shame. In other words, it seems that, on the one hand, memories of shame traumas, threat and subordination experiences in childhood may influence the emergence of negative relational schemas linked to perceptions of others as critical, hostile, dominant and thus may hold malevolent intentions towards the self. On the other hand, it seems that this association between these adverse emotional memories and paranoid ideation also operates through the impact of such negative experiences on promoting a negative sense of self as

existing negatively for others, which in turn may increase one's vulnerability to beliefs that others are harsh and powerful and may want to harm the self. These findings are in line with the evolutionary models of paranoia (Freeman, 2007; Freeman et al., 2002, 2005; Gilbert, 1998a, 2001; Gilbert et al., 2005; Salvatore et al., 2011) and give further support to recent research showing that shame memories that function as traumatic ones and external shame were particularly related to paranoid ideation (Matos et al., 2011).

In addition, the indirect effect of shame traumatic memories and recalls of threat and submissiveness on paranoid ideation also operated through internal shame, which had an indirect effect upon paranoid beliefs through submissive behavior. These results suggest that emotional memories of shame, feeling threatened and forced into a subordinate position by one's parents may lead to negative self-directed thoughts and feelings, of being inferior, defective, inadequate (i.e., internal shame), which in turn may activate defensive outputs, such as submissive behaviors. These defensive/safety strategies function as a way to protect the self against damages to one's self-image and possible criticism and attacks from others. In line with previous research (Freeman et al., 2005; Gilbert et al., 2005), we found that these perceptions of inferior social rank associated with submissive behaviors may increase one's focus on being vulnerable to rejection and attacks from others, which might contribute to the occurrence of paranoid ideation. Key to our findings is the confluence of these variables (emotional memories, external shame and internal shame and submissive behavior) in the prediction of paranoia. These results extend previous findings on the role of shame and shame memories in the development of paranoid symptoms (Gilbert et al., 2005; Matos, Pinto-Gouveia, & Gilbert, 2011; Pinto-Gouveia, Castilho, Matos, & Xavier, 2012).

In conclusion, our results point to relevant differences in how negative emotional memories, shame and submission impact on depression and paranoia.

Specifically, in depressive symptoms it is the internalization of early experiences of shame, threat and submissiveness into beliefs that one exists as an unattractive social agent in the others' minds and into perceptions of the self as inferior, worthless, powerless, that heightens one's vulnerability to enter depressive states. However, in paranoia, not only shame traumas and recollections of threat and submissiveness directly influence paranoid beliefs, but also these memories promote external and internal shame thoughts and feelings and submissive defenses, which in turn increase perceptions of the self as vulnerable in face of others who hold malevolent intentions towards he self.

We hope that the data offered here helped shed light on the importance of emotional memories, shame traumatic memories, shame, and submissive behavior to the understanding of the nature of depression and paranoid beliefs.

Clinical implications

Although the present study has some limitations, it intends to understand more deeply the differences between depression and paranoia, by exploring the relationship between emotional memories, shame traumatic memories, shame feelings and submissive behavior, and their contribution to depressive symptoms and paranoid beliefs.

Our findings have some implications for therapy. First, it points to the importance of using specific intervention strategies to target shame when dealing with depressed patients. Thus, for depression, it seems particularly appropriate to put in the clinical picture issues related to negative images of the self, and the self as seen by others (Depue & Morrone-Strupinsky, 2005; Gilbert, 2005; Gilbert & Procter, 2006).

Regarding paranoia, our findings highlight the importance of working with external and internal shame, as well as with emotional memories of shame, threat and submissiveness in childhood and suggest the need to help the patients developing assertive behaviors that may increase social acceptance and approval and decrease paranoid fears.

Limitations & Future research

There are a number of limitations in this study. First, this is a cross-sectional study and, although we used a robust statistical procedure which tests presumed causal relations among variables, no strong causal conclusions can be drawn from our results. Future prospective studies should further clarify the causality and direction of the relationships among these variables. Also, our participants belong to a particular social group (general community population), age and gender. It remains to be seen how far our findings replicate in other populations, such as clinical samples, particularly with depressive and paranoid patients. Future research could look at the similarities and differences between several psychopathological diagnoses that have the existence of paranoid beliefs as a common feature (e.g., paranoia, paranoid personality disorder, paranoid schizophrenia). Nonetheless, this study might contribute to a better understanding of the underlying mechanisms that differentiate depressive and paranoid psychopathology, improving the state of art in this domain.

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Table 1

Means (M), standard deviations (SD) and Cronbach's alphas for all subjects (N = 255)

Variables	Total (N = 255)		Cronbach' α
	M	SD	
<i>Early Life Experiences Scale (ELES)</i>	34.42	10.46	.89
<i>Impact of Event Scale-Revised (IES-R)</i>	1.26	.82	.96
<i>Shame</i>			
External shame (OAS)	16.94	9.66	.92
Internal shame (ISS shame subscale)	28.77	15.67	.95
<i>Submissive Behaviour Scale (SBS)</i>	19.31	7.26	.79
<i>Depression</i>			
DASS Depression	5.21	5.44	.89
<i>Paranoia</i>			
Paranoia (GPS)	44.20	10.61	.90

Table 2

Correlations (2-tailed Pearson r) between variables in study ($N = 255$)

Variables	ELES	IES-R	OAS	ISS	SBS	DASS
	Total					Depression
IES-R	.35***					
OAS	.32***	.44***				
ISS	.39***	.55***	.71***			
SBS	.30***	.31***	.41***	.54***		
DASS	.26***	.32***	.55***	.61***	.36***	
Depression						
GPS	.35***	.45***	.52***	.50***	.40***	.42***

Note. * $p < .05$. ** $p < .01$. *** $p < .001$. ELES = Early Life Experiences Scale; IES-R = Impact of Event Scale-Revised; OAS = Other As Shamer Scale; ISS = Internalized Shame Scale; SBS = Social Behavior Scale; DASS = Depression Anxiety Stress Scales; GPS = General Paranoia Scale.

