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RUNNING HEAD: SHAME AS A TRAUMATIC MEMORY

Shame as a traumatic memory

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Abstract

Background: This study explores the premise that shame episodes can have the properties of traumatic memories, involving intrusions, flashbacks, strong emotional avoidance, hyper arousal, fragmented states of mind, and dissociation. ***Method:*** A battery of self-report questionnaires was used to assess shame, shame traumatic memory and depression in 811 participants from general population (481 undergraduate students and 330 subjects from normal population). ***Results:*** Results show that early shame experiences do indeed reveal traumatic memory characteristics. Moreover, these experiences are associated with current feelings of internal and external shame in adulthood. We also found that current shame and depression are significantly related. Key to our findings is that those individuals whose shame memories display more traumatic characteristics show more depressive symptoms. A moderator analysis suggested an effect of shame traumatic memory on the relationship between shame and depression. ***Limitations:*** The transversal nature of our study design, the use of self-reports questionnaires, the possibility of selective memories in participants' retrospective reports and the use of a general community sample, are some methodological limitations that should be considered in our investigation. ***Conclusion:*** Our study presents novel perspectives on the nature of shame and its relation to psychopathology, empirically supporting the proposal that shame memories have traumatic memory characteristics, that not only affect shame in adulthood but also seem to moderate the impact of shame on depression. Therefore, these considerations emphasize the importance of assessing and intervening on shame memories in a therapeutic context.

Keywords: Shame; Shame memories; Traumatic memory; Depression; Moderator effect

1. Introduction

Shame

Shame can be a social event (e.g., being judged and shamed in the eyes of others) or a private feeling linked to our own person judgements of our feelings, fantasises abilities and characteristics. Shame can guide our behaviour, influence our feelings about ourselves, shape a sense of our self-identity and feelings about our social acceptability and desirability (Gilbert 1998; Tangney & Dearing, 2002). This rich and powerful human emotion has a crucial influence on several aspects of psychological functioning, such as cognition, behaviour, emotion, sense of self or physiology, operating at the individual, interpersonal, group and cultural levels throughout our life (Gilbert, 1998; Kaufman, 1989; Lewis, 1992; Tangney & Dearing, 2002).

Scheff (1988) described shame as the affect of deference and Kaufman (1989) defined it as the affect of inferiority. Several authors have associated shame to the internal experience of the self as undesirable, unattractive, defective, worthless and powerless (Gilbert, 1998; Nathanson, 1996; Lewis, 1992; Tangney & Fischer, 1995) within a social world, under pressure to limit possible damage to self-presentation, through flight or appeasement (Gilbert, 1998).

Despite often being seen as a self-focused and self-evaluative experience of being defective or inadequate in some way (Tangney & Dearing, 2002; Tracy & Robins, 2004), shame is fundamentally an experience of the self related to how we think we exist in the minds of others (Gilbert & McGuire, 1998; Keltner & Harker, 1998). Gilbert (1998, 2002) argues that shame can be both an inner experience of the self that involves an involuntary affective-defensive response to the threat of, or an actual experience of social rejection or devaluation because one is (or has become) unattractive as a social agent.

Therefore, shame can be external, when shame evaluations and feelings are focused on the social and external environment, on the self as seen and judged by others as inferior,

inadequate or bad; and/or shame can be internal, when shame affects and evaluations are internally focused, on the self as felt and judged by the self as bad, undesirable, weak, inadequate or disgusting (Gilbert, 1997, 2002, 2003).

Like pride or guilt, shame is a self-conscious emotion since it is an emotion that involves the self evaluating the self (internal shame) and also how the self exists in the mind of others (external shame). Shame arises from our early interactions with significant others and develops later than primary emotions (eg. anger, fear, joy) as it depends of certain unfolding mental abilities (Gilbert, 2002; Lewis, 1992, 1995; Tangney & Fischer, 1995) that include a form of self-awareness, a theory of mind of '*how we exist in the minds of others''* and our ability to imagine a self as thought about by others (symbolic representation and meta-cognition) (Gilbert, 2002, 2003). When these self-conscious competencies, for a sense of self as a social, agent blend with primary emotions self-conscious emotions arise. So a threat to the self as a social agent (e.g. shame) can recruit various negative and threat based emotions into the experience of self (e.g. anxiety, anger, disgust). Shame is a cognitive-emotion blend and not a separate emotion (Gilbert, 1998, 2002, 2003).

Shame and psychopathology

Research on shame has stressed the key role this emotion plays in human functioning in general and, mainly, its powerful impact in a wide range of psychological symptoms and numerous intrapersonal and interpersonal problems (Birtchnell, 2000; Gilbert, & Andrews, 1998; Harder, 1995). Particularly, recent research has drawn attention to the importance of shame in the onset and course of depression in non-clinical and clinical samples. For instance, Tangney, Wagner, and Gramzow, (1992) and Tangney, Burggraf and Wagner (1995) showed that shame-proneness had a unique association with depression. In other study, Cheung, Gilbert and Irons, (2004) found that shame was still significantly related to depression after controlling for the

mediating influence of rumination. Andrews (1995) argued that bodily shame, but not childhood abuse, was related to chronic or recurrent depression when both factors were considered together and current depressive symptoms were controlled. Also, Allan and Gilbert, (1997) ascertained that shame, as an experience invoking a sense of defeat and powerlessness, appeared as a central component in depression. Andrews, Qian and Valentine (2002) argue that shame plays a significant role in the onset and course of depression by demonstrating a prospective association between shame and depressive symptoms. Furthermore, using clinical samples, Andrews and Hunter (1997), concluded that shame was related to a chronic or recurrent course in depressed patients; and Thompson and Berenbaum (2006) explained that, compared to controls, individuals in current depressive episodes, as well as individuals with a past history of depressive disorder who were in remission, reported more shame in response to both hypothetical interpersonal and real life everyday dilemmas.

Additionally, several studies have also pointed to an association between shame and anxiety (Irons, & Gilbert, 2005; Tangney, Wagner, & Gramzow, 1992); social anxiety (Gilbert, 2000b; Grabhorn, Stenner, Stangier, & Kaufhold, 2006); post-traumatic stress disorder (Lee, Scragg, & Turner, 2001; Leskela, Dieperink, & Thuras, 2002); eating disorders (Skarderud, 2007; Troop, Allan, Serpell, & Treasure 2008); personality disorders, specially borderline personality disorder (Rüsh et al., 2007) and dissociation (Talbot, Talbot & Xin Tu, 2004).

In therapy, recent clinical and empirical advances demonstrate that shame may constitute a significant obstacle to the therapeutic process and to the client-therapist relationship and point out the importance of addressing shame using specific intervention techniques/strategies (Hahn, 2004; Hook & Andrews, 2005; Gilbert, & Leahy, 2007; Retzinger, 1998; Scheff, 1998).

Emotional memory

Research has shown that shame-proneness seems to have trauma-like origins in early negative rearing experiences, namely experiences of shaming, abandonment, rejection, emotional negligence or emotional control, and several forms of abusive, critical and/or harsh parental styles. (Andrews, 2002; Claesson & Sohlberg, 2002; Gilbert, Allan & Goss, 1996; Gilbert & Gerlsma, 1999; Gilbert & Perris, 2000; Schore, 2001; Stuewig & McCloskey, 2005; Webb et al., 2007). These shaming and devaluing experiences seem to have major effects on brain psychobiological maturation and have been associated not only to proneness to shame but also to vulnerability to psychopathology. (Schore, 1998, 2001; Tangney, Burggraf, & Wagner, 1995).

According to Gilbert (2003), these early (shaming) rearing experiences (where a child experiences the emotions of others being directed at himself) become the foundations for self-beliefs. They are recorded in autobiographical memory as emotionally textured experiences. These experiences can then become descriptors of the self, for example "*having elicited withdrawal in others and being treated as undesirable – therefore I am undesirable*" (p.1222). Thus, vulnerability to shame-based problems is commonly rooted in *feeling memories* of being rejected, criticised and shamed (Tomkins, 1981; Gilbert, 1998, 2002) and/or abused (Andrews, 2002). The internalization of these experiences 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, 2002; Mikulincer & Shaver, 2005).

Traumatic memory

Some authors have proposed that shame experiences may be recorded in autobiographical memory as conditioned emotional responses, with an impact in the formation of self-relevant beliefs, in attentional and emotional processing, and with neurophysiologic correlates (Lewis, 1992, 2000; Gilbert, 2002, 2003; Kaufman, 1989; Tomkins, 1981). It is well known that abusive experiences can be coded as traumas although the fear-based and shame-based aspects of these

experiences can be difficult to entangle (Andrews, 1995; Lee, Scragg, & Turner, 2001; Leskela, Dieperink, & Thuras, 2002; Stuewig & McCloskey, 2005; Webb et al., 2007). However, even though the nature of (less traumatic) shame experience suggests that it has the powerful characteristics of a traumatic memory, such as intrusion, flashbacks, strong emotional avoidance, hyper arousal, fragmented states of mind, dissociation (Ehlers & Clark, 2000; Gilbert, 2002; Gilbert & Irons, 2005; Gilbert & Procter, 2006; Hackmann, Ehlers, Speckens, & Clark, 2004), this has never been empirically supported.

Moreover, recent studies on traumatic memory have also shown that traumatic memories influence cognitive and emotional processing and are related to numerous psychopathological symptoms, like depression, anxiety, anger, post-traumatic stress disorder and personality disorders, specially, borderline. (Berntsen, & Rubin, 2007; Brewin, Reynolds, Tata, 1999; Greenberg, Rice, Cooper, Cabeza, Rubin & LaBar, 2005; Rubin, & Siegler, 2004; Rubin, Schrauf & Greenberg, 2003; Thomsen, & Berntsen, 2008).

Despite clinical and empirical data suggest that early shame experiences are recorded as powerful and distressful emotional memories, with characteristics of a traumatic memory, having a main impact on shame in adulthood and on psychopathology, these linkages have not been investigated.

Aims

This study sets out to explore the nature of shame as a 'traumatic memory'. Specifically, we propose to study the traumatic characteristics of early shame experiences (from childhood and adolescence) and to investigate the relation between the shame trauma-like memories to current external and internal shame. We should expect that recalled memories of early shame experiences show traumatic memory characteristics and that individuals whose shame memories were traumatic reveal more shame both externally and internally focused.

In addition, we sought to explore the association between shame trauma-like memories, external and internal shame and psychopathology. Given that the literature has focused specially on the relation between shame and depression (Andrews & Hunter, 1997; Cheung, et al 2004; Thompson & Berenbaum, 2006), in this study we are particularly interested in exploring the relationship between shame, shame traumatic memories and depression.

Moreover, we sought to explore the potential moderator effect of shame trauma-like memories on the relationship between shame (external and internal) and depression. Specifically, we are interested in investigating if shame memories that function as traumatic memories amplify the empirically acknowledged effect of shame on depression (Andrews et al, 2002; Tangney, et al, 1995).

2. Method

Participants

Participants in this study were eight hundred and eleven subjects from general population, with four hundred and eighty one undergraduate students recruited from the University of Coimbra (Portugal) (59,3%) and three hundred and thirty subjects recruited from the normal population (40.7%). 59.9% were females (N=486), mean age 28.82 (*SD*=11.08) and 4.1% males (N=325), mean age 26.35 (*SD*=10.61). Seventy four per cent of the subjects are single (N=596). Fifty nine per cent were students (N=481) and nineteen per cent of the normal population subjects have middle class professions (N=153). The participants years of educations mean is 14 (*SD*=3.21). Both groups (the undergraduate students and the community sample) showed similar mean and standard deviation values on the research variables. Also, no significant differences were found so between males and females on the research variables (see Table I). So the data analysis considered only one group.

Procedure

Participants were given a battery of self-report questionnaires designed to measure external shame, internal shame, traumatic memory characteristics and psychopathology. The questionnaires were administered by the author, MM, with assistance of undergraduate students. In the student sample, the battery was completed by the volunteers at the end of a lecture, with previous knowledge and authorization of the Professor in charge. A convenience sample was used in the general population, collected 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, the self-report questionnaires were filled by volunteers in the presence of the researcher. In line with ethical requirements, it was emphasized that participants co-operation was voluntary and that their answers were confidential and only used for the purpose of the study.

Measures

All instruments used in this study were translated into Portuguese by a bilingual translator and the comparability of content was verified through stringent back-translation procedures.

Shame

Researchers have conceptualised and measured shame in different ways (Andrews, 1998; Gilbert, 1998; Tangney, 1996). In this study we were interested on two aspects of shame. One was external shame, as measured by the beliefs about what one thinks others think about the self (Allan, Gilbert, & Goss, 1994). The other was to assess internal shame, using the Andrews, Qian

and Valentine (2002) scale that taps feelings of shame around three key domains of self: character, behaviour and body.

Other As Shamer Scale (OAS) was developed by Allan, Gilbert, and Goss (1994) and Goss, Gilbert, and Allan (1994) and translated and adapted to Portuguese by Lopes, Pinto-Gouveia and Castilho (2005). The scale consists of 18 items measuring external shame (global judgements 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 α of .92. In this study, the Cronbach's α was .91.

Experience of Shame Scale (ESS) was derived from Andrews and Hunter's (1997) interview measure of shame by Andrews et al. (2002) and translated and adapted to Portuguese by Lopes and Pinto-Gouveia (2005). It consists of 27 items measuring three areas of shame: character (personal habits, manner with others, what sort of person you are and personal ability), behaviour (shame about doing something wrong, saying something stupid and failure in competitive situations) and body (feeling ashamed of one's body or parts of it). Although we used this instrument to assess internal shame, it isn't a measure specifically designed to evaluate internal shame (since it comprises a few items that might be related to external shame, e.g. concerns about what others think about the self). Each item indicates the frequency of experiencing, thinking and avoiding any of the three areas of shame in the past year and rated on a 4-point scale (1–4). In their study, Andrews et al. (2002) found this scale to have a high internal consistency (Cronbach's α=.92) with good test–retest reliability over 11 weeks (r=.83).

In this study, we found the ESS total to have a Cronbach's α of .94. In the present research, only the total of the ESS was used.

Psychopathology

Depression, Anxiety and Stress Scale (DASS-42; Lovibond & Lovibond, 1995; translation and adaptation: 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. To this research we were interested on the depression subscale. The items indicate negative emotional symptoms and the respondents are asked to rate each item on a 4-point scale (0-3). On the original version, Lovibond & Lovibond (1995) found the subscales to have high internal consistency (Depression subscale Cronbach's α=.91; anxiety subscale Cronbach's α=.84; Stress subscale Cronbach's α=.90). In the present study, the three subscales also shown high internal consistency (Depression subscale Cronbach's α=.94; anxiety subscale Cronbach's α=.90; Stress subscale Cronbach's α=.93).

Traumatic memory of the shame experience

Impact of Event Scale – Revised (*IES-R)* was developed by Weiss & Marmar (1997) and translated and adapted to Portuguese by Matos and Pinto-Gouveia (2006). 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, 7 items having being 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 ("*I stayed away from reminders of it*"), intrusion ("*Any reminder brought back feelings about it*") and hyperarousal ("*I was jumpy and easily startled*") that parallel the DSM-IV criteria for PTSD. In the original study, the Cronbach

α's of the subscales range from .87 to .92 for intrusion, .84 to .86 for avoidance and .79 to .90 for hyperarousal (Weiss & Marmar, 1997). In our research, we found the total of the IES-R and its subscales to have high internal consistency (IES-R Total Cronbach's α=.96; Intrusion subscale Cronbach's α=.94; Avoidance subscale Cronbach's α=.88; Hyperarousal subscale Cronbach's α=.91).

Priming for a shame memory

In this study, we modified the instructions of the IES-R 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?"*.

We consider that this adjustment in the instructions doesn´t seem to affect the validation of this scale, since the items' content is well suited for both instructions.

3. Results

Study: Shame, traumatic memory and psychopathology

Descriptives

The means and standard deviations for this study are presented on Table 1.

The descriptive statistics for the variables studied are similar to previous studies (e.g. Andrews et al., 2002; Creamer, Bell & Salvina, 2003; Gilbert, 2000; Goss, Gilbert, & Allan, 1994; Weiss & Marmar, 1997) despite the adaptation into another language, given that all instruments were translated into Portuguese and the comparability of content was verified through back-translation procedures. No gender differences were found concerning the variables under consideration.

(Table 1 around here)

Shame and traumatic memory

Table 2 illustrates the correlations between current external shame and internal shame, and shame traumatic memory subscales. The Pearson product-moment correlation coefficients showed that the traumatic memory of shame experience and its subscales intrusion, avoidance and hyperarousal were moderately and positively correlated with external shame (r=.43; p<.01) and internal shame (r=.44; p<.01).

(Table 2 around here)

Shame, traumatic memory and depression

Table 2 gives the correlations between shame traumatic memory subscales, external and internal shame and psychopathology. The Pearson product-moment correlation coefficients showed that the traumatic memory of shame experience and its subscales intrusion, avoidance and hyperarousal were moderately and positively correlated with depression, anxiety and stress. This is in line with recent work of Brewin and colleagues, who discovered intrusive memories to be expressively related to depression and to high levels of distress and re-experiencing symptoms

(Patel et al, 2007). Moreover, as found in previous studies (Cheung, et al. 2004; Andrews, Qian & Valentine, 2002; Gilbert, 2000; Gilbert & Gerlsma, 1999; Andrews & Hunter, 1997; Gilbert, Allan & Goss, 1996), external shame and internal shame were also found to be significantly correlated with depression, anxiety, and stress.

To better understand these results, we conducted a multiple regression analysis, using external shame, internal shame and shame traumatic memory to predict depression (Table 3). Regression analysis results revealed that the predictor variables produce a significant model (R^2 =.265; $F_{(3,\ 807)}$ = 96,742; p <.001), accounting for 26.5% of the variance in depression. Additionally, these results showed that external shame, internal shame and shame traumatic memory have a significant and independent contribution on the prediction of depression. Thus, external shame emerged as the best global predictor (β=.262; p=.000), followed by shame traumatic memory characteristics (β=.208; p=.000) and internal shame (β=.169; p=.000).

(Table 3 around here)

The moderator effect of shame traumatic memory on the relationship between shame and depression

Finally, given the previous findings we explored the impact of shame traumatic memory on the relation between shame and depression.

In order to analyze the moderation effect of shame traumatic memory on the relation between external shame and depression, we conducted a multiple hierarchical regression analysis considering the interaction of a continuous predictor (Cohen et al, 2003). In this procedure, in an attempt to reduce the error associated with multicollinearity, we have used a standardized procedure, centering the values of the two predictors (external shame and shame traumatic

memory) and then obtained the interaction product by multiplying two created variables (Aiken & West, 1991).

Therefore, we can verify that the three steps of the model are statistically significant (Table 4). On step one, we entered external shame as a predictor and on step two we further included shame traumatic memory as a predictor variable. In both steps the predictors entered produced statistically significant models. The third step, where the interaction terms were entered, presents a R^2 of .26 ($F_{(1, 809)}$ = 94. 483; p<.001). Thus, there was a significant interaction of shame traumatic memory and external shame on predicting depression.

(Table 4 around here)

From the regression coefficients analysis (Table 5) we can see that both external shame and shame traumatic memory are statically significant predictors, in all steps of model. The interaction between these two variables points out to the existence of a moderator effect of shame traumatic memory on the relation between external shame and depression (β=.601; $t_{(810)}$= 3.985; p<.001).

(Table 5 around here)

With the purpose of better understanding the relation between external shame and depression with different levels of shame traumatic memory, we plotted a graphic (Figure 1) considering one curve for each the three shame traumatic memory (IES-R) levels (low, medium and high). This procedure is recommended to highlight this relation and can be done with centered and uncentered variables (Aiken & West, 1991; Cohen et al, 2003). We decided to use the uncentered variables to be the closest to the real values of the subjects as possible. To proceed with this representation, and since we didn't had theoretical cut points, we plotted the

three curves taking into account the following cut-point values of IES-R variable on the x axis: one standard deviation below the mean, the mean and one standard deviation above the mean as recommended by Cohen and colleagues (2003).

We can observe that individuals with high levels of shame traumatic memory show a positive and high relation with depression comparing to those who have medium and low values. In these two cases the relation is less expressive, being noteworthy that individuals who have low levels of shame traumatic memory and high levels of external shame only show a small to moderate relation with depression (Figure 1).

(Figure 1 around here)

Then, we replicated the same procedure to explore the relation between internal shame and depression moderated by shame traumatic memory (Table 6). We could also verify that the three steps of the regression model are statistically significant. Internal shame was entered on step one as a predictor and shame traumatic memory was further added as a predictor variable in step two. In both steps these predictors produced statistically significant models. The interaction terms were entered on the third step and produced a R^2 of .22 ($F_{(1, 809)} = 77.351$; $p<.001$). Hence, there was a significant interaction of shame traumatic memory and internal shame on depression prediction.

(Table 6 around here)

The regression coefficients results (Table 7) reveal that both internal shame and shame traumatic memory are independent and significant predictors of depression. Moreover, the interaction of these two variables indicates that shame traumatic memory has moderator effect on the relation between internal shame and depression (β=.408; $t_{(810)}$= 2.354; p=.019).

(Table 7 around here)

To enhance the understanding of the relation between internal shame and depression when we have different levels of shame traumatic memory, we plotted a graphic replicating the same procedure described above (Figure 2). In this case, we can also see that individuals with high levels of shame traumatic memory reveal a high and positive relation with depression when compared to those who have medium and low values, who show a less evident association with depression.

(Figure 2 around here)

Therefore, in both moderator analysis, when the interaction terms were entered on the regression models they produced a significant increase in R^2, and also revealed an expressive and significant effect upon depression.

Analysis of the interaction terms implies that subjects who had more shame traumatic memory and scored higher on external shame/internal shame were found to be more depressed than those who had less shame traumatic memory: that is, for subjects with the same shame scores, those whose shame functions as a traumatic memory would tend to present more depressive symptoms. Therefore, an interaction effect between shame traumatic memory and shame (external and internal) was corroborated suggesting that shame traumatic memory moderates the effect of shame on depression.

4. Discussion

Clinical and empirical data suggest that early shame experiences might operate like traumatic memories in autobiographical memory, increasing the vulnerability to psychopathology (Claesson & Sohlberg, 2002; Gilbert, 2002; Gilbert & Perris, 2000; Schore, 2001). The current study was designed to understand this traumatic nature of shame and its psychological implications.

Our first prediction was that early shame experiences could show characteristics of traumatic memory. In the present study, the recalled shame experiences from childhood and adolescence presented traumatic memory characteristics, particularly memory intrusion, avoidance and hyperarousal symptoms. So, our findings support the hypothesis and provide evidence for the theoretical suggestion that shame experiences are recorded in the autobiographical memory as emotional memories with characteristics of traumatic memories (Gilbert, 2002, 2003; Kaufman, 1989; Lewis, 1992; Tomkins, 1981).

Our results demonstrate that traumatic memory of shame experiences and its characteristics of intrusion, avoidance and hyperarousal were positively and significantly associated with external shame and internal shame, that is, the recalled shame experiences from childhood or adolescence are related to current shame. We believe this probably means that individuals, whose early shame experiences are associated with trauma phenomenology, tend to believe others see and judge them as inferior or inadequate and also perceive and feel themselves as undesirable, bad or inadequate. This data corroborates our prediction that shame memories with traumatic characteristics were related to current shame. This is also in accordance to previous studies linking memories of early experiences of indifference, put-down, shaming, abandonment, emotional negligence and rejection to shame in adulthood (Claesson, & Sohlberg, 2002; Gilbert, Allan, & Goss, 1996; Lutwak, & Ferrarri, 1997; Stuewig, & McCloskey, 2005).

In regard to the relationship between shame traumatic memory and psychopathology, in our study we found meaningful and positive correlations between shame traumatic memory characteristics: intrusion, avoidance and hyperarousal, and depression, anxiety and stress. Despite these significant linkages, in this research we were only interested on studying the interactions with depression. These data are consistent to our predictions and allow us to conclude that shame experiences from childhood and adolescence with traumatic memory characteristics are associated to psychopathology, especially depression, being the individuals whose shame memories have more traumatic characteristics those who tend to be more depressed.

These data of the present study is in line with prior studies that have already suggested adverse rearing experiences, in particular those of shaming, devaluation, abuse, abandonment, rejection, emotional negligence or emotional control, can significantly affect psychobiological maturation and functioning (Schore,1998, 2001) and shape vulnerability to later psychopathology (Bifulco, & Moran, 1998; Gilbert, & Gerlsma, 1999; Gilbert, Allan, & Goss, 1996; Gilbert, & Perris, 2000; Gilbert, et al, 2003; Rutter et. al, 1997; Stuewig, & McCloskey, 2005). On the other hand, this link we found between the traumatic memory of shame experiences and psychopathology is also in accordance with previous work on traumatic memory, that has reported traumatic memories influence cognitive and emotional processing, are connected to emotional suffering and psychopathological symptoms, like depression and anxiety (Berntsen & Rubin, 2007, 2008; Brewin, Reynolds, & Tata, 1999; Greenberg, Rice, Cooper, Cabeza, Rubin & LaBar, 2005; Reynolds & Brewin, 1999; Rubin, & Siegler, 2004; Rubin, Schrauf, & Greenberg, 2003). Furthermore, our results are in line with Brewin and colleagues work, who recently found that depressed patients were likely to experience intrusive memories, which were associated with high levels of distress, uncontrollability, and symptoms of re-experiencing. These intrusive memories were in some patients part of a wider network of key

defining autobiographical memories, consistent with the idea that they are likely to play a significant role in maintaining the patient's depressive mood (Patel et al., 2007).

Besides, significant correlations were found in our study between external shame and depression and internal shame and depression. These data corroborated our hypothesis and is consistent with several prior studies (Andrews & Hunter, 1997; Andrews, Qian, & Valentine, 2002; Cheung, Gilbert & Irons, 2004; Harper, & Arias, 2004; Thompson & Berenbaum, 2006; Webb et al., 2007). These authors, using clinical and non clinical samples, have emphasized importance of shame in the onset and course of depression. Particularly, the link between shame and chronic depression found by Andrews (1995) has been argued to be the result of trauma-based shame, despite this had never been empirically supported.

In addition, our study sought to further explore the relationship between shame traumatic memory, shame and depression. Results from regression analysis not only revealed that external shame, traumatic memory and internal shame accounted for a significant proportion of the variance in depression but also accentuate that external shame was the best predictor of depression, followed by shame traumatic memory, with a unique and independent contribution to depression, and at last, internal shame, that added to depression prediction. Therefore, our data add to previous research by verifying the key and independent role external shame, followed by shame traumatic memory and internal shame had in explaining depressive symptomatology.

Given these previous conclusions, we predicted that shame traumatic memory might have a moderator effect on the relationship between shame and depression. Two hierarchical multiple regressions analyses with shame traumatic memory as the continuous moderator were conducted: one to test the effect of the interaction between external shame and shame traumatic memory on depression and the second to examine the effect of interaction between internal shame and shame traumatic memory on depression. Results from both hierarchical multiple regression analyses revealed that when the interaction between external shame and shame traumatic memory and the

interaction between internal shame and shame traumatic memory were entered on the regression models, they produced a significant increase in the model prediction, and also showed an expressive and significant effect upon depression. The same is to say that it is mainly in those individuals with high levels of shame traumatic memories where the external shame and internal shame impact on depression is greater. We can also observe that in those individuals with low levels of shame traumatic memories, the high levels of external shame and internal shame have a negative impact on depression.

In conclusion, our study adds to previous knowledge concerning the relation between shame and depression (Andrews, 1995; Andrews, Qian, & Valentine, 2002; Cheung, Gilbert & Irons, 2004; Thompson & Berenbaum, 2006) by suggesting that shame traumatic memories have a significant moderator effect on the relationship between shame and depression, hence to the same shame, individuals who experienced shame as more traumatic are the ones who show more depressive symptoms.

Clinical implications

Giving shame key role to our intrapersonal and interpersonal adjustment and to psychopathology vulnerability, the current study may contribute to a better elucidation of shame genesis. Our findings reinforce the central role of early shame experiences, recorded in our memory system as traumatic memories, to the proneness to shame in adulthood and to the vulnerability to psychopathological symptoms. These shame memories seem to function as conditioned emotional memories (e.g. flashbacks) that, when triggered, generate high arousal and fear that interferes with processing (experience the memory 'as if it were happening now' and with the full impact of sensory emotional meaning assigned at the time of the experience) (Gilbert, 2006). In addition, this research may add to an enhanced understanding of this

emotional experience that seems to have a traumatic impact and a central role to psychopathology vulnerability and maintenance.

In a therapeutic context, as proposed by Gilbert (2006, 2007; Gilbert, & Irons, 2005) on his Compassion Focused Therapy (CFT), our results sustain the importance of assessing and intervening on shame. Particularly, therapists should recognize and address shame as a potential obstacle to therapeutic relationship and process (for example, shame-prone patients may be particularly reluctant to disclose potentially shameful information about their experiences, behaviour and perceived personal shortcomings); use therapeutic strategies to deal with external and internal shame, safety/defensive behaviours and self-criticism; work with shame traumatic memories that have an impact on client's problems; and use (self-)compassion as a shame antidote.

Limitations & Future research

Our data should be evaluated considering some methodological limitations.

The first limitation is the transversal nature of our study design, because it doesn't allow determine the antecedent-consequent relation of the variables. Prospective studies should be developed in the future to better evaluate the causal relation between the studied variables.

Besides, participants were asked to recall past experiences from their childhood or adolescence in a self-report questionnaire, raising the limitations of self-reports questionnaires and also the possibility of selective memories in their retrospective reports. Future research might benefit from the use of other non self-report measures (for instance, structured interviews) that allow as well a more profound, precise and complete exploration of shame experience memories.

In what concerns the use of retrospective reports, it is noteworthy that the evidence reviewed by Brewin, Andrews and Gotlib (1993) suggests that claims that retrospective reports

are inherently unreliable are exaggerated. These authors concluded that adult recollections of central features of an early experience are generally accurate and reasonably stable over time, pointing to a fundamental integrity to one's autobiographical recollections. Also, they noted that there is little support for the claim that recall childhood experiences is distorted by depressed mood.

Another possible limitation to our study may be the fact that we used the Andrews and colleagues (2002) Experience of Shame Scale (ESS) to assess internal shame, but doubts can arise concerning this questionnaire as an external shame measure instead. Items such as "*Have you worried about what other people think when you do something wrong*?" add to this reservation. Future studies could replicate our findings using other measures to assess internal shame, like the Social Comparison Scale (SCS) (Allan & Gilbert, 1995).

Finally, we used a general community sample so these findings cannot be generalized to clinical populations. We are now replicating these findings using a clinical sample and future studies should replicate this investigation using diverse general population samples to enable more solid conclusions to be drawn.

Nevertheless, our study presents novel perspectives on the nature of shame and its relation to psychopathology, empirically supporting the proposal that shame memories have traumatic memory characteristics, that not only affect shame in adulthood but also seem to moderate the impact of shame on depression.

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Table 1: Means and standard deviations for all subjects (n=811) and *t*-test differences between males (n=325) and females (n=486)

Variables	Total (n=811)		Males (n=325)		Females (n=486)		*t*	*p*
	Mean	SD	Mean	SD	Mean	SD		
Psychopathology								
DASS Depression	7.65	7.75	8.08	7.37	7.36	7.99	1.297	.195
DASS Anxiety	7.29	6.69	7.69	6.24	7.02	6.97	1.393	.164
DASS Stress	12.38	8.12	11.95	7.59	12.67	8.45	-1.239	.216
Shame								
Other As Shamer (OAS)	19.76	9.32	20.02	8.69	19.59	9.72	.666	.506
Experience of Shame Scale (ESS)	48.94	13.41	48.25	13.22	49.40	13.55	-1.197	.232
Shame traumatic memory								
Impact of Event Scale _ Revised (IES-R)	3.76	2.57	3.70	2.47	3.79	2.64	-.527	.598
IES-R Intrusion	1.25	.90	1.22	.86	1.26	.92	-.670	.530
IES-R Avoidance	1.41	.88	1.39	.86	1.45	.90	-.949	.343
IES-R Hyperarousal	1.08	.96	1.09	.92	1.09	.99	-.086	.932

Table 2: Correlations (2-tailed Pearson *r*) between External Shame, Internal Shame, IES-R subscales and DASS-42 subscales (n=811)

Variables	OAS	ESS	IES-R Total	IES-R Intrusion	IES-R Avoidance	IES-R Hyperarousal
OAS		.52*	.43*	.43*	.38*	.38*
ESS	.52*		.44*	.44*	.41*	.40*
DASS Depression	.44*	.40*	.40*	.39*	.33*	.39*
DASS Anxiety	.38*	.37*	.42*	.40*	.36*	.43*
DASS Stress	.33*	.40*	.40*	.38*	.33*	.40*

IES-R, Impact of Event Scale _ Revised; OAS Other As Shamer ; ESS, Experience of Shame Scale; DASS, Depression Anxiety and Stress Scales

* $p<.01$

Table 3: Regression analysis using external shame (OAS) internal shame (ESS) and shame traumatic memory (IES-R) (independent variables) to predict DASS depression (dependent variable) (Standard method)

Predictors	R	R^2	F	β	p
Model I	.514	.265	96.742		.000
OAS				.262	.000
ESS				.169	.000
IES-R				.208	.000

Table 4: Model summary of the three steps hierarchical multiple regression using external shame (OAS) to predict DASS depression having shame traumatic memory (IES-R) as moderator (n=811)

Model	R	R^2	*F*	*p*
1	.439	.193	192.936	.000
2	.495	.245	131.363	.000
3	.510	.260	94.483	.000

Table 5: Regression coefficients for the three steps of the hierarchical multiple regression equation (n=811)

Model	Preditors	*β*	*t*	*p*
1	OAS	.439	13.890	.000
2	OAS	.331	9.794	.000
	IES-R	.254	7.519	.000
3	OAS	.926	6.050	.000
	IES-R	.239	7.107	.000
	OASxIES-R	.601	3.985	.000

Table 6: Model summary of the three steps hierarchical multiple regression using internal shame (ESS) to predict DASS depression having shame traumatic memory (IES-R) as moderator (n=811)

Model	R	R^2	*F*	*p*
1	.398	.159	152.625	.000
2	.467	.218	112.623	.000
3	.473	.223	77.351	.000

Table 7: Regression coefficients for the three steps of the hierarchical multiple regression equation (n=811)

Model	Preditors	*β*	*t*	*p*
1	ESS	.398	12.354	.000
2	ESS	.278	8.017	.000
	IES-R	.272	7.827	.000
3	ESS	.683	3.892	.000
	IES-R	.264	7.585	.000
	ESSxIES-R	.408	2.354	.019

Figure 1:

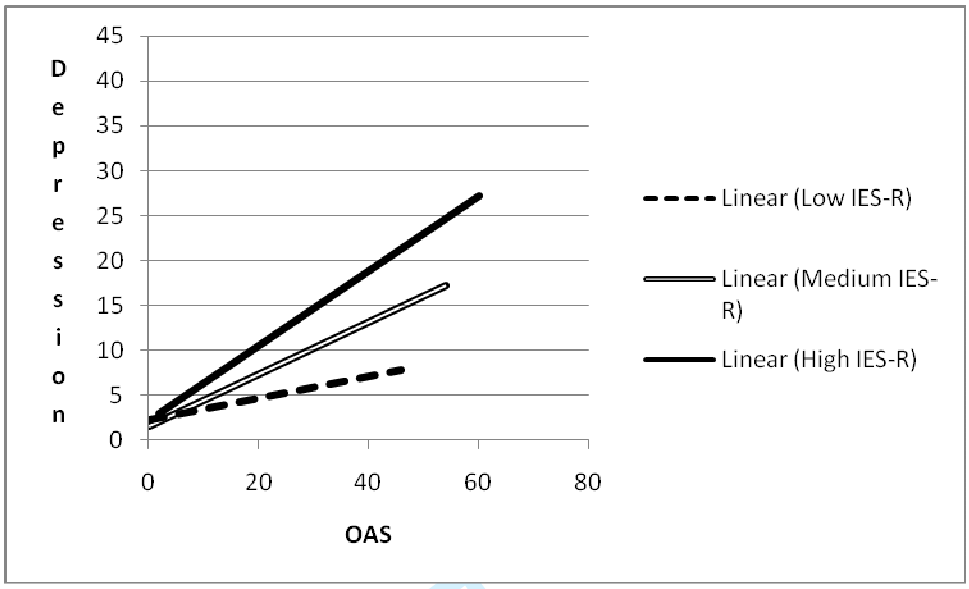

Figure 2: