

Running Head: Centrality of shame memories and psychopathology

## **Can shame memories become a key to identity?**

### **The centrality of shame memories predicts psychopathology**

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*Keywords:* Shame; Centrality of event theory; Autobiographical memory; Psychopathology

## **ABSTRACT**

This study investigates the premise that a shame memory can become a central component of personal identity, a turning point in the life story and a reference point for everyday inferences. We assessed shame, centrality of shame memory, depression, anxiety, stress and traumatic stress reactions in 811 participants from general population (481 undergraduate students and 330 subjects from normal population) to explore the interactions between these variables. Results show that early shame experiences do indeed reveal centrality of memory characteristics. Furthermore, the centrality of shame memories is associated with current feelings of internal and external shame in adulthood. Key to our findings is that the centrality of shame memories shows a unique and independent contribution to depression, anxiety and stress prediction, even when controlling for shame measures. In addition, our results show that the centrality of shame memories is highly and positively associated with traumatic stress reactions.

## **ACKNOWLEDGEMENTS**

We would like to thank Professor Paul Gilbert for the encouragement and support given to our research.

## INTRODUCTION

### *Shame*

Shame is an emotion of outstanding social importance (Gilbert, 2003; Tangney & Dearing, 2002) and crucial implications to one's self-identity (Kaufman, 1989; Gilbert, 1998; Nathanson, 1996). This rich and powerful human emotion has been associated to the internal experience of the self as undesirable, unattractive, defective, worthless and powerless; (Lewis, 1992; Nathanson, 1996; Gilbert, 1998) within a social world, under pressure to limit possible damage to self-presentation, through flight or appeasement (Tangney & Fischer, 1995; Gilbert, 1998).

Although shame is often conceived as a self-focused and self-evaluative experience of being defective or inadequate in some way (Tangney & Dearing, 2002; Tracy & Robins, 2004), it is essentially 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.

Thus, shame can be a painful social experience (also defined as external shame), linked to the perception that one is being judged and seen as inferior, defective or unattractive in the eyes of others, and that might result in rejection or some form of put-down (Kaufman, 1989; Gilbert, 2002). Shame can also be internalized, emerging as a private feeling (also designed as internal shame) related to our own negative personal judgements of our attributes, characteristics, feelings and fantasises and linked to self-directed affects (e.g. disgust, anger, anxiety) (Cook, 1996; Gilbert, 2003). Therefore, shame can guide our behaviour in social contexts, 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).

The self-conscious emotion of shame arises from our early interactions with significant others (Lewis, 1995; Tangney & Dearing, 2002) and develops later than primary emotions (e.g. fear, joy)

as it depends of certain unfolding mental abilities, namely symbolic representation, theory of mind, self-awareness and meta-cognition, that only mature around two years of age (Gilbert, 2002, 2003; Tangney & Fisher, 1995; Schore, 1998).

During the past two decades, several empirical studies have systematically shown that shame is associated to a wide variety of psychopathological symptoms and disorders in clinical and non clinical samples, particularly, depression (Andrews, 1995; Andrews, Qian & Valentine, 2002; Andrews & Hunter, 1997; Cheung, Gilbert, & Irons, 2004; Thompson & Berenbaum, 2006); anxiety (Irons, & Gilbert, 2005; Tangney, Wagner, & Gramzow, 1992); social anxiety (Gilbert, 2000; 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).

### ***Emotional and autobiographical memory***

Proneness to feel shame is an innate capacity (Gilbert & McGuire, 1998), however excessive shame-proneness is believed to emerge from internal negative self-representations of the self derived from previous experiences of being shamed (Lewis, 1992; Nathanson, 1994).

Moreover, empirical studies have 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 & Gerlsma, 1999; Gilbert & Perris, 2000; Schore, 2001; Stuewig & McCloskey, 2005; Webb, Heisler, Call, Chickering, & Colburn, 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).

Gilbert (2003) argues that 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).

In fact, some authors have suggested 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). Moreover, the nature of shame experience suggests that this emotion is sufficiently important, significant and distressful (Gilbert, 1998, 2003; Kaufman, 1989, Lewis, 2000) to comprise the powerful characteristics of an autobiographical traumatic memory, central to one’s life story and personal identity (Berntsen & Rubin, 2002; Brewin, Reynolds, & Tata, 1999; Ehlers & Clark, 2000; Gilbert & Procter, 2006; Rubin, 2005; Rubin & Siegler, 2004). In a recent study, Matos and Pinto-Gouveia (2009) found that early shame experiences do indeed reveal traumatic memory characteristics, that not only affect shame in adulthood but also seem to moderate the impact of shame on depression.

Furthermore, since shame experiences comprise a primary threat to the (social) self (Gilbert, 1998, 2002), shame memories can be seen as threat memories, that tend to have more powerful emotional pull than non-threat memories. In line with this, Dickerson and Kemeny (2004) showed that threats to self, especially uncontrollable social-evaluative threats, are one of the most powerful activators of cortisol. As well, Baumeister and colleagues (2001), in a broad empirical and clinical

review, explain that threat events are more powerful than positive ones in a wide range of psychological phenomena.

### ***Centrality of Event Theory***

Memories of emotional events are an important part of our life story and identity and some emotional events may continue to cause distress throughout our lives (Bluck & Habermas, 2000; McAdams, 2001; Pillemer, 1998; Singer & Salovey, 1993). Actually, these highly accessible and vivid personal memories structure and give meaning to our life narratives and help to anchor and stabilize our conceptions of ourselves (Baerger & McAdams, 1999; Pillemer, 1998, 2003; Robinson & Taylor, 1998; Shum, 1998). Berntsen, Willert and Rubin (2003) argue that the consequences of these processes may be negative, if memories of negative or traumatic experiences become reference points for the organization of autobiographical knowledge with a continuous impact on the interpretation of less salient/non-traumatic experiences in a person's life and expectations for the future.

Following this idea, Berntsen and Rubin (2006, 2007) presented the centrality of event theory, proposing that a memory of a trauma or a negative emotional event can become central to one's life story and identity, and this may be related to increased levels of posttraumatic stress reactions, depression and anxiety. The authors advocate that there are three overlapping and mutually dependent functions in which a memory of a highly accessible emotional memory may be problematic, by becoming highly interconnected with other types of autobiographical information in the cognitive networks of a person. This includes an understanding of the memory as a reference point for everyday inferences and for generating expectations, as a turning point in the life story and as a central component of identity (Berntsen & Rubin, 2006, 2007).

First, if a traumatic memory becomes a central personal reference point that may influence the attribution of meaning to non-traumatic events and the generation of future expectations. So the individual may perceive as threats and react strongly to non-traumatic events and perceive an

unrealistically high risk for future traumas (Berntsen & Rubin, 2007). Second, perceiving the traumatic memory as a salient turning point in the life story may lead to oversimplification of the life narrative as well as to disagreements between the life story and cultural norms (Berntsen & Rubin, 2004; Thomsen & Berntsen, 2008). Third, having a highly negative emotional memory as central to personal identity may mean that the negative event is seen as emblematic for the person's self and/or a symbol for persistent themes in the person's life story. This may lead to global, internal and stable attributions regarding negative events in general (i.e. "people will always reject me, because I'm flawed and unlovable"), which would be associated with increased negative affect (Berntsen & Rubin, 2006, 2007).

According to this theory, the re-experiencing symptoms typical of posttraumatic stress reactions are conceived as a result of the over-integration of the trauma memory, due to its extraordinary accessibility caused by a multitude of connections between this memory and other material in memory (Berntsen & Rubin, 2007). Thomsen and Berntsen (2008) point out that repeatedly re-experiencing the trauma may also contribute to over-integrating the memory into identity, because the repetitive re-experiencing makes the individual appraise the trauma memory as central to identity and connects the trauma memory to a range of other material. Some of the aspects of Berntsen and Rubin theory overlap Tomkins's script theory (Tomkins, 1987a,b; Kaufman, 1989) and are related to the retrieval competition theory (Brewin, 2006).

Berntsen and Rubin (2006) developed the centrality of event scale (CES) to measure the extent to which a stressful experience becomes central to life story and identity. Support for this theory was found using CES with student and general community samples (Bernsten & Rubin, 2007, 2008) and with individuals exposed to traumatic events (Thomsen & Berntsen, 2008). The findings suggest that traumatic memories seem to have an enhanced integration in self-schemas, emerging as cognitive reference points for the organization of other memories and for generating expectations for the future. Moreover, these studies have shown that the extent to which a negative emotional

memory is central to one's identity and life story is positively related to depression, anxiety and the severity of post-traumatic stress reactions.

Even though theoretical and empirical considerations may suggest that early shame experiences are recorded in the autobiographical memory system as powerful and distressful emotional memories, central to a person's life story and identity and with a profound impact on shame in adulthood and on psychopathology, these connections have not been investigated.

### **Aims**

This study sets out to explore the nature of shame as an autobiographical memory, central to our life narrative and personal identity. Specifically, we proposed to study the centrality of early shame experiences (from childhood and adolescence) and examine the relation between the centrality of shame memories and shame (external and internal) in adulthood. We should expect that memories of shame experiences appear as salient reference points in our life story and identity, and that those individuals whose shame memories are central in autobiographical memory reveal more current shame both externally and internally focused.

In addition, we sought to explore the linkages between the centrality of shame memories, external and internal shame and psychopathology, specifically depression, anxiety and stress. We hypothesize that those individuals whose shame memories emerge as central for the organization of autobiographical knowledge, show more symptoms of depression, anxiety and stress, even when controlling for measures of external and internal shame.

Finally, we intended to investigate the association between the centrality of shame memories and traumatic stress reactions. We should expect that individuals whose shame memories reveal centrality characteristics display more characteristics of traumatic stress reactions concerning those particular emotional memories.

## **METHOD**

### **Participants**

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%) participated in this study. 59.9% were females (N=486), mean age 28.82 (*SD*=11.08) and 40.1% 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**

A battery of self-report questionnaires designed to measure external shame, internal shame, traumatic memory characteristics and psychopathology was provided to the participants. 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. In the general population, we used a convenience sample collected within the staff of institutions, namely schools and private corporations. Authorization from these institutions' boards was obtained and 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, for which we used the Andrews, Qian and Valentine (2002) scale that, despite not being designed to measure internal shame, 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  $\alpha$  of .92. In this study, the Cronbach’s  $\alpha$  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). 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  $\alpha=.92$ ) with good test–retest reliability over 11 weeks ( $r=.83$ ). In this study, we found the ESS total to have a Cronbach's  $\alpha$  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) is a self-report measure composed of 42 items and designed to assess three dimensions of psychopathological symptoms: depression, anxiety and stress. The items indicate negative emotional symptoms and the respondents are asked to rate each item on a 4-point scale (0-3). On 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 study, the three subscales also shown high internal consistency (Depression subscale Cronbach's  $\alpha=.94$ ; anxiety subscale Cronbach's  $\alpha=.90$ ; Stress subscale Cronbach's  $\alpha=.93$ ).

### *Centrality of shame memories*

*Centrality of Event Scale* (CES; Berntsen & Rubin, 2006; Translated and adapted to Portuguese by Matos & Pinto-Gouveia, 2008) measures the extent to which a memory for a stressful event forms a reference point for personal identity and to attribution of meaning to other experiences in a person's life. This self-report questionnaire consists of 20 items, rated on 5-point scales (1=*Totally disagree*; 5=*Totally agree*), that assess the three interdependent characteristics of highly negative emotional memories: reference points for everyday inferences (“*This event has colored the way I think and feel about other experiences.*”), turning points in life stories (“*I feel that this event has*

*become a central part of my life story.”)* and components of personal identity (*“I feel that this event has become part of my identity.”*). In its original study, CES reported a high internal consistency (Cronbach  $\alpha = .94$ ). In this study, we also found CES to have an excellent internal consistency (Cronbach  $\alpha = .96$ ).

#### *Priming for a shame memory*

In this study, we modified the instructions of the CES 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 a significant and stressful shame experience they recalled from their childhood or adolescence. After a brief introduction about the concept of shame it was instructed: *“Now, try to recall a significant/stressful situation or experience in which you think you felt shame, during your childhood and/or adolescence. Please think back upon that significant shame event in your life and answer the following questions in an honest and sincere way, by circling a number from 1 to 5.”*

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. Also, Perri and Keefe (2008) in a study on persistent pain have successfully used this scale with a change in the topic.

#### *Traumatic stress reactions*

*Impact of Event Scale – Revised (IES-R; Weiss & Marmar, 1997; translated and adapted to Portuguese by Matos & Pinto-Gouveia, 2008)*. 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 measures three aspects of traumatic stress reactions (corresponding to three theoretical subscales): 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 Post Traumatic Stress Disorder (PTSD). Still, in our research, we were only interested on the IES-R total. In this study, participants were instructed to answer the questionnaire based on the impact throughout their lives that a significant shame experience from their childhood or adolescence had (the same memory primed for CES scale). In the original study, the Cronbach  $\alpha$ '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  $\alpha$ =.96; Intrusion subscale Cronbach's  $\alpha$ =.94; Avoidance subscale Cronbach's  $\alpha$ =.88; Hyperarousal subscale Cronbach's  $\alpha$ =.91).

## **RESULTS**

### **Study: Shame, centrality of shame memories 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; Berntsen & Rubin, 2006, 2007; Goss, Gilbert, & Allan, 1994; Weiss & Marmar, 1997). No gender, age or population (student and non-student) differences were found concerning the variables under consideration.

(Table 1 around here)

#### *Shame and centrality of shame memories*

To explore the relationship between variables, Pearson product-moment correlations were conducted (Table 2). Concerning the linkage between shame and the centrality of shame memories, results show that the centrality of shame memories is moderately and positively associated to both

external shame ( $r=.34; p<.01$ ) and internal shame ( $r=.32; p<.01$ ). That is, individuals whose shame memories from childhood and adolescence appear as a reference point to one's life story and identity tend to show more external shame and internal shame in adulthood.

#### *Shame, centrality of shame memories and psychopathology*

The Pearson product-moment correlation coefficients (Table 2) showed that the centrality of shame memories is moderately and positively correlated with depression ( $r=.31; p<.01$ ) and anxiety ( $r=.32; p<.01$ ) and significantly correlated with stress ( $r=.23; p<.01$ ). As found in previous studies (Cheung, et al. 2004; Andrews, et al., 2002; Gilbert, 2000; Gilbert & Gerlsma, 1999; Gilbert, Allan & Goss, 1996), external shame and internal shame were also found to be significantly correlated with depression, anxiety and stress.

(Table 2 around here)

We further explored these data in a multiple regression analysis in order to understand the linear relation between external shame, internal shame and the centrality of shame memories and the three criterion variables (Cohen, Cohen, West, & Aiken, 2003; Tabachnick & Fidell, 2007). We conducted three separate multiple regressions, with depression, anxiety and stress as the criterion variables (Table 3 and 4). For each, external shame, internal shame and centrality of shame memory were entered simultaneously as predictors.

#### *Depression*

Regression analysis results revealed that the predictor variables produce a significant model ( $R^2 = .25; F_{(3, 807)} = 89.48; p < .001$ ), accounting for 25% of the variance in depression. Additionally, these results showed that external shame, internal shame and centrality of shame memory have a significant and independent contribution on the prediction of depression. Thus, considering the beta values and semi-partial correlations, external shame emerged as the best global predictor ( $\beta=.28; p$

<.001), followed by internal shame ( $\beta=.21$ ;  $p <.001$ ) and centrality of shame memory ( $\beta=.14$ ;  $p <.001$ ) (Tables 3 and 4).

### *Anxiety*

External shame, internal shame and centrality of shame memory generate a significant model ( $R^2 =.21$ ;  $F_{(3, 807)} = 71.58$ ;  $p <.001$ ), accounting for 21% of anxiety variance. It can be seen that internal shame and external shame are responsible for the highest beta values but that the centrality of shame memories also makes a significantly independent contribution ( $\beta=.18$ ;  $p <.001$ ), higher than on depression prediction (Tables 3 and 4).

### *Stress*

The shame and centrality memory variables produce a significant model ( $R^2 =.19$ ;  $F_{(3, 807)} = 61.58$ ;  $p <.001$ ), accounting for 19% of the variance in stress. Moreover, internal shame appears as the best global predictor ( $\beta=.29$ ;  $p <.001$ ), followed by external shame ( $\beta=.15$ ;  $p <.001$ ) allowing for the beta values and semi-partial correlations. In addition, the centrality of shame memory makes less expressive but still significantly independent contribution, although the effect size is rather small ( $\beta=.09$ ;  $p <.010$ ) (Tables 3 and 4).

(Table 3 & 4 around here)

### *Centrality of shame memories and traumatic stress reactions*

Lastly, with the purpose of exploring the relation between the centrality of shame memories and traumatic stress reactions, we used the IES-R to measure the extent in which an individual displayed traumatic stress symptoms in response to the shame memory from childhood and adolescence primed for CES. Results from the Pearson product-moment correlation coefficients showed that the centrality of shame memories is highly and positively correlated with traumatic stress reactions ( $r=.63$ ;  $p <.01$ ) and in particular with the intrusion ( $r=.63$ ;  $p <.01$ ), hyperarousal

( $r=.59$ ;  $p<.01$ ) and avoidance ( $r=.54$ ;  $p<.01$ ) subscales. Hence individuals whose shame memories reveal centrality characteristics tend to show more traumatic stress reactions, namely intrusion, hyperarousal and avoidance, concerning those particular emotional memories.

## **DISCUSSION**

There is empirical and clinical data implying that early shame experiences might be recorded in the autobiographical memory system as emotional distressful memories, functioning as central reference points to our identity and life story, with an effect on the vulnerability to psychopathology (Gilbert, 2003; Pillemer, 1998; Schore, 1998). The present study was aimed at investigating the centrality of shame memories and its connection to a variety of psychopathological symptoms.

Our first prediction was that memories of shame experiences could emerge as central in our life narratives and self-identity. In the current study, the evoked shame experiences from childhood and adolescence appear as central emotional memories, perceived as reference points for everyday inferences and for generating future expectations, as turning points in the life story and as central components of identity. These findings corroborate our hypothesis and empirically support what Berntsen and Rubin (2006, 2007) proposed on their centrality of event theory: that memories of highly negative emotional events can become central to one's identity, life story, and to everyday inferences and future expectations. These data on the centrality of shame memories also append to other authors' reflections that highly accessible personal memories help to anchor and stabilize our conceptions of ourselves and provide turning points in the life story, structuring our life narratives. (Bluck & Habemas, 2000; McAdams, 2001; Pillemer 2003).

In addition, our results show that the centrality of shame memories is positively and significantly associated to both external shame and internal shame. That is to say, individuals whose shame memories from childhood and adolescence are salient reference points for the organization of autobiographical knowledge tend to reveal more external shame and internal shame in adulthood.

So, it seems that individuals whose shame memories function as turning points in the life story, as crucial components of their personal identity and as reference points to everyday inferences, tend to believe they exist in the minds of others as undesirable, inferior or defective and to feel and judge themselves as inferior, bad or inadequate.

This is in line with prior studies that have associated shame in adulthood to memories of negative early experiences of shaming, rejection, abandonment or emotional negligence and control (Andrews, 2002; Claesson & Sohlberg, 2002; Gilbert, Allan & Goss, 1996; Stuewig & McCloskey, 2005). Furthermore, our data sustains the theoretical suggestion that early shame experiences are recorded as emotionally textured memories in the autobiographical memory and can then become the foundations for negative self-relevant beliefs (in which one evaluates the self the same way others have: as flawed, inferior, rejectable) and increase shame-proneness (Gilbert, 2003; Lewis, 1992; Mikulincer & Shaver, 2005). According to Berntsen and Rubin (2006, 2007), having a highly negative emotional (or traumatic) event as central to personal identity probably means that this event is seen as representative for the person's self and a symbol for constant themes in the person's life story. This might lead to internal global and stable attributions, with the trauma being seen as causally related to characteristics of the self that pertain across situations. Our results provide support for this view and led us to believe that when early shame experiences function as anchoring events for our sense of self-identity, as turning points in our life narratives and as cognitive reference points for the organization of other memories and for generating future expectations, they shape not only our negative perceptions of the way we exist in the minds of others (external shame) but also our own negative personal judgments of our characteristics, feelings or fantasies (internal shame).

In what concerns the relationship between the centrality of shame memories and psychopathology, we found expressive and positive correlations between the centrality of the recalled shame experiences to one's identity and life story and depression, anxiety and stress. These results are consistent with our hypothesis and allow us to conclude that individuals whose shame

memories emerge as central for the organization of autobiographical knowledge reveal more symptoms of depression, anxiety and stress. These data are in accordance with previous studies that proposed adverse rearing experiences, such as shaming ones, can affect the maturation and functioning of psychobiological mechanisms (Schoe, 1998, 2001) and influence vulnerability to psychopathology (Bifulco, & Moran, 1998; Gilbert, & Gerlsma, 1999; Gilbert, Cheung, Grandfield, Campey, & Irons, 2003; Rutter et. al, 1997; Stuewig, & McCloskey, 2005). Additionally, our results are in line with Berntsen and Rubin (2006, 2007), that reported the centrality of a negative emotional event to be moderately and positively associated with measures of depression and anxiety. Our findings also substantiate former studies that indicate autobiographical memories of traumatic or highly negative emotional events influence cognitive and emotional processing and are related to psychopathological symptoms, such as depression and anxiety (Brewin, et al., 1999; Greenberg, Rice, Cooper, Cabeza, Rubin & LaBar, 2005; Patel, Brewin, Wheatley, Wells, Fisher, & Myers, 2007; Reynolds & Brewin, 1999; Rubin, Schrauf, & Greenberg, 2003)

Besides, in our study, moderate and significant correlations were found between external shame and internal shame and depression, anxiety and stress. These data supports our prediction and is consistent with several prior studies that have highlighted the relation between shame and psychopathological symptoms, such as depression (Andrews & Hunter, 1997; Cheung, et al., 2004; Thompson & Berenbaum, 2006) and anxiety (Irons & Gilbert, 2005; Tangney, Wagner & Gramzow, 1992).

Furthermore, we sought to explore the relation between shame, the centrality of shame memories and psychopathology. The multiple regressions analyses indicate that external shame, internal shame and the centrality of shame memories accounted for a significant proportion of the variance in depression, anxiety and stress. Our data show that all three were significant and independent predictors. Nevertheless, in depression, external shame emerged as best predictor, while in anxiety and stress internal shame was responsible for the highest beta and semi-partial correlation values. In addition, it is notable that the centrality of shame memories showed a unique

and independent contribution to depression, anxiety and stress, even when controlling for external and internal shame. These results emphasize that, when controlling for current external and internal shame, it is the extent to which a shame memory is central to one's identity, life story and for everyday inferences that is linked to symptoms of depression, anxiety and stress.

The findings presented here add to previous knowledge concerning the relation between shame and psychopathology (Andrews, et al., 2002; Tangney, et al., 1995) by suggesting that, in individuals with external and internal shame, the fact that a shame experience becomes a personal reference point for the attribution of meaning to other events, a salient turning point in the life story and a central component of a person's identity and self-understanding, may increase the vulnerability to experience depressive, anxiety and stress symptoms. This idea can be viewed in light of the centrality of event theory, according to which when a highly negative emotional memory forms a cognitive reference point in a person's self-schemata it becomes highly accessible and interconnected in the cognitive networks to other autobiographical information, leading to several problems, such as traumatic stress reactions, anxiety and depression (Berntsen & Rubin, 2006, 2007).

Finally, pertaining to the association between the centrality of shame memories and traumatic stress reactions, we found that the centrality of shame memories was highly and positively correlated with traumatic stress reactions, particularly with symptoms of intrusion, hyperarousal and avoidance, concerning those specific emotional memories. Thus, it seems that individuals whose shame memories appear as key components of personal identity, as turning points that help structure their life story and as reference points for everyday inferences, tend to show more traumatic stress reactions to those memories.

These findings corroborate our predictions and uphold Berntsen and Rubin's view (2006, 2007) on the importance the centrality of a highly emotionally negative event in the overall cognitive organization to the development and maintenance of PTSD symptoms. In fact, rather than being poorly integrated, as suggested by many PTSD theorists (Horowitz, 1986; for a review, see

Dalgleish, 2004), these authors have shown that the emotionally negative (or traumatic) memory tends to form a cognitive reference point for the organization of autobiographical knowledge and for perception of the self and the world, appearing to be well integrated in a person's cognitive networks instead (Berntsen & Rubin, 2006, 2007; Thomsen & Berntsen, 2008). In addition, our results are in accordance to Berntsen and Rubin's (2007) remarks that traumatic stress symptoms may arise in response to stressful negative events involving a wide range of emotions (e.g. shame) as long as that particular emotionally negative memory has become sufficiently central for one's self-understanding and view of the world, even if it doesn't fulfill the formal diagnostic criteria for a trauma according to the DSM-IV (American Psychiatric Association, 1994). So, it seems that some characteristics of the stressful event, such as the emotional arousal (e.g. in our study, the emotional intensity of the shame experience), are likely to influence the subsequent centrality of the memory and that the relation between the CES and traumatic stress symptoms is neither determined by the severity or type of the traumatic/stressful event, nor it is limited to severe traumas.

In conclusion, taken together these findings may suggest that the extent to which a shame memory becomes a key component to personal identity, a salient turning point in the life story and a reference point for meaning attribution to other events, may influence not only shame in adulthood but also may have an important and independent impact on psychopathology, increasing the vulnerability to symptoms of depression, anxiety and stress and to traumatic stress reactions to that particular shame experience.

### ***Clinical implications***

The current research may contribute to a better elucidation of shame origins and to an enhanced understanding of this emotional experience that seems to form a central reference point to one's self-identity and understanding of the world and plays a crucial role in psychopathology vulnerability and maintenance.

Therapeutically, our results emphasize the importance of evaluating and dealing with shame and shame memories, as proposed by Gilbert (2006, 2007, 2009; Gilbert, & Irons, 2005) on his Compassion Focused Therapy. In addition, our findings suggest the relevance of therapeutically reconstruct the autobiographical meaning associated to shame experiences so that its centrality to understanding one's past, expected future and current self is adaptively reevaluated (Robinson, 1996; Robinson & Taylor, 1998).

### ***Limitations & Future research***

The findings presented here should be considered taking into account some methodological limitations. One is the correlational design of our study, since no causal conclusions can be drawn from our findings, only theoretically sustained interpretations. In the future, prospective studies should be carried out to enhance the understanding on the causal relation between the variables.

Besides, our findings cannot be generalized to clinical populations given that we used a general community sample. At the moment, we are replicating this study using a clinical sample and future studies should replicate this investigation using diverse general population samples to enable more firm conclusions to be drawn.

In addition, the fact that participants were requested to evoke experiences from their childhood or adolescence in two self-report questionnaires might have brought along the limitations of this type of measures and the prospect of selective memories in their retrospective reports (for a review, Brewin, Andrews, & Gotlib, 1993). Future research might profit from the use of other non self-report instruments (such as, structured interviews) that also allow a more insightful, accurate and comprehensive exploration of shame experience memories. In an attempt to overcome these limitations, we are currently replicating this study using a semi-structured *Shame Experiences Interview* (Matos & Pinto-Gouveia, 2006, *Unpublished manuscript*), more appropriate for assessing specific childhood experiences, and developed by us to profoundly evaluate the phenomenology of shame experiences.

At last, there are some reservations regarding the use of the Experience of Shame Scale (Andrews et al, 2002) to assess internal shame, since it comprises a few items that might be related to external shame (e.g. “*Have you worried about what other people think of the sort of person you are?*”). In the future, studies should seek to replicate the present findings using other instruments to measure internal shame, such as the Internalized Shame Scale (Cook, 1996) or the Social Comparison Scale (SCS) (Allan & Gilbert, 1995).

Nonetheless, the current study adds to a recently growing body of research into the role of shame in the aetiology and course of psychopathology and presents novel perspectives on the nature of shame, empirically supporting the proposal that shame memories can become central to personal identity and life story, influencing shame in adulthood and vulnerability to psychopathology.

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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)		<i>t</i>	<i>p</i>
	Mean	SD	Mean	SD	Mean	SD		
<i>Psychopathology</i>								
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
<i>Shame</i>								
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
<i>Centrality of shame memories</i>								
Centrality of Event Scale (CES)	44.52	18.20	45.75	18.00	43.70	18.31	1.575	.116
<i>Traumatic stress reactions</i>								
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 (two-tailed Pearson's  $r$ ) between External Shame, Internal Shame, Centrality of shame memory and Psychopathology (n=811)

Variables	OAS	ESS	DASS Depression	DASS Anxiety	DASS Stress
OAS			.44*	.38*	.33*
ESS	.52*		.40*	.37*	.40*
CES	.34*	.32*	.31*	.32*	.23*

\*  $p < .010$

OAS, External shame; ESS, Internal shame; CES, Centrality of shame memory

Table 3: Model summary of the three regression analyses using external shame (OAS) internal shame (ESS) and centrality of shame memory (CES) (independent variables) to predict DASS depression, anxiety and stress (criterion variables) (Standard method)

Criterion variables	<i>R</i>	<i>R</i> <sup>2</sup>	<i>F</i>	<i>p</i>
DASS depression	.50	.25	89.48	.000
DASS anxiety	.46	.21	71.58	.000
DASS stress	.43	.19	61.58	.000

Table 4: Beta values and semi-partial correlations for external shame (OAS) internal shame (ESS) and centrality of shame memory (CES) on the criterion variables (DASS depression, DASS anxiety and DASS stress)

	Criterion variables					
	DASS depression		DASS anxiety		DASS stress	
	Beta	Sr	Beta	sr	Beta	sr
OAS	.28**	.23	.21**	.17	.15**	.13
ESS	.21**	.17	.21**	.17	.29**	.24
CES	.14**	.13	.18**	.17	.09*	.08

\*  $p < .010$ ; \*\*  $p < .001$

Beta = Standardized regression coefficient; sr = semi-partial correlation

OAS, External shame; ESS, Internal shame; CES, Centrality of shame memory