



Autobiographical memory for shame or guilt provoking events: Association with psychological symptoms

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ABSTRACT

The diagnostic criteria for posttraumatic stress disorder (PTSD) specify that a qualifying traumatic stressor must incite extreme peritraumatic fear, horror, or helplessness. However, research suggests that events inciting guilt or shame may be associated with PTSD. We devised a web-based survey in which non-clinical participants identified an event associated with shame or guilt and completed questionnaire measures of shame, guilt, PTSD, and depression. In addition, we assessed characteristics of memory for the event, including visual perspective and the centrality of the memory to the participant's autobiographical narrative (CES). Shame predicted depression and PTSD symptoms. There was no association between guilt and psychological symptoms after controlling statistically for the effects of shame. CES predicted the severity of depression and PTSD symptoms. In addition, CES mediated the moderating effect of visual perspective on the relationship between emotional intensity and PTSD symptoms. Our results suggest shame is capable of eliciting the intrusive and distressing memories characteristic of PTSD. Furthermore, our results suggest aversive emotional events are associated with psychological distress when memory for those events becomes central to one's identity and autobiographical narrative.

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The DSM-IV-TR (American Psychiatric Association, 2000) specifies that PTSD-qualifying events must provoke intense fear, horror, or helplessness. Consequently, current diagnostic criteria for PTSD disqualify any event, however threatening, if the victim did not experience these reactions as the trauma was occurring. Defining trauma not only by its objective features, but also by the victim's peritraumatic emotional reaction, remains controversial because it confounds the response with the stimulus (McNally, 2009). Apart from this conceptual issue, there remains the empirical issue of foreclosing consideration of peritraumatic reactions other than those of extreme fear, horror, or helplessness. Indeed, research suggests that aversive emotions such as anger, guilt, shame, or disgust may elicit symptoms of PTSD just as fear, horror, or helplessness do (Andrews, Brewin, Rose, & Kirk, 2000; Brewin, Andrews, & Rose, 2000; McNally, 2002; Roemer, Orsillo, Borkovec, & Litz, 1998). In the DSM-IV Posttraumatic Stress Disorder Field Trial, a factor containing guilt, embarrassment, and violated trust accounted for more variance than any other factor when the investigators compared participants with and without lifetime PTSD (Kilpatrick et al., 1998; as cited in Rubin, Berntsen, & Bohni, 2008). These findings seemingly undercut a privileged role of

conditioned fear in the pathogenesis of PTSD (McNally, 2003, pp. 84–87; Rubin, Berntsen, et al., 2008; Weathers & Keane, 2007).

Guilt and shame are moral emotions distinguished by negatively valenced self-evaluation (Tangney, Stuewig, & Mashek, 2007). The focus of the emotion distinguishes guilt from shame. Shame concerns one's entire self, whereas guilt concerns only a specific action (Lewis, 1971; Tangney & Dearing, 2002, pp. 10–25; Tracy & Robins, 2004). Events likely to provoke intense shame or guilt are associated with high rates of PTSD. Participation in atrocities or highly abusive violence is predictive of subsequent PTSD (King, King, Gudanowski, & Vreven, 1995), increases risk of PTSD above and beyond the risk conferred by combat exposure alone (Beckham, Feldman, & Kirby, 1998; Breslau & Davis, 1987), and is especially associated with reexperiencing symptoms (Yehuda, Southwick, & Giller, 1992). PTSD also occurs in some civilian perpetrators of homicide (Harry & Resnick, 1986; Papanastassiou, Waldron, Boyle, & Chesterman, 2004).

Direct assessment of shame and guilt in relation to psychopathology has proceeded primarily along two lines of research; the first using scenario-based measures and the second using adjective checklist measures. Scenario-based measures assess proneness to shame or guilt by eliciting the emotional response to a series of imagined scenarios. Conversely, adjective checklist measures assess state shame or guilt independent of precipitating events (see Tangney & Dearing, 2002, pp. 26–51 for a review).

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Researchers using both scenario-based and adjective checklist measures have confirmed positive associations between shame and a variety of clinical syndromes, including depression and PTSD (Tangney, Wagner, & Gramzow, 1992). The literature on guilt, however, is less consistent. Using scenario-based measures, researchers have found no relationship between guilt-proneness and psychopathology after statistically controlling for shame-proneness (Tangney, Burggraf, & Wagner, 1995). They concluded that guilt, an often adaptive emotion, predicts psychopathology only when fused with shame (Tangney et al., 2007). In contrast, researchers using adjective checklist measures have consistently observed a positive association between guilt and various disorders independent of shame (Harder, 1990; Harder, Cutler, & Rockart, 1992; Harder, Tangney, & Fischer, 1995; Harder & Zalma, 1990). Explanations for these divergent results have typically focused on methodological differences. Tangney (1996) suggests that adjective checklist measures of guilt tap the global appraisals of self that are more characteristic of shame. Others have suggested that it may not be a proclivity towards guilt, as measured by scenario-based measures, but poor regulation of this emotion that contributes to psychopathology (Bybee & Zigler, 1996).

In this study, we examined the relation of psychological distress to state shame and guilt upon recalling an autobiographical memory strongly associated with either emotion. We predicted that shame would be associated with symptoms of depression, whereas guilt would not, after we controlled statistically for the effects of shame. Our prediction was based on the likelihood that shame, but not guilt, reflects the negative global evaluations of self that characterize depression. Contrariwise, because both PTSD and guilt are tied to a specific event, we predicted that shame and guilt would both uniquely predict PTSD symptoms.

To examine further the relation of shame and guilt to psychological symptoms, we assessed characteristics of autobiographical memory for events provoking shame or guilt. Memory for trauma is central to posttraumatic stress disorder (Ehlers & Clark, 2000; Rubin, Berntsen, et al., 2008; Young, 1995). Although some scholars have suggested that memory for trauma obeys different principles than does memory for other events (Spiegel, 1997), others have convincingly argued that mechanisms basic to ordinary memory can account for the properties of traumatic memories (Rubin, Berntsen, et al., 2008). From this perspective, the accessibility of memory for highly emotional events is enhanced through modulation of hippocampal activity by nuclei of the amygdalar complex (Cahill, Babinsky, Markowitsch, & McGaugh, 1995; McGaugh, 2003) as well as the distinctiveness, recency, and impact of the event (Berntsen, 2009, pp. 162–172). Accordingly, memory for emotional events are more accessible, better rehearsed, and more vivid than are memories for neutral events (Thomsen & Berntsen, 2009).

Accessible and vivid memories provide the structure for our autobiographical narratives, sense of identity, and the reference points from which we make attributions and inferences in everyday life (Berntsen & Rubin, 2007). Following a traumatic or highly stressful event, the accessibility and vividness of memory for the event may render it central to one's identity and autobiographical narrative. Researchers have found that the more central a traumatic event is to one's life, the more one suffers from symptoms of PTSD and depression (Berntsen & Rubin, 2006, 2007). Therefore, we predicted that participants rating guilt and shame memories higher on Berntsen and Rubin's Centrality of Events Scale (CES; 2006) would have higher scores on measures of PTSD and depression.

In addition, we examined the visual perspective from which the memory was recalled. One can recall an autobiographical memory from either the first person (field) perspective or third person (observer) perspective (Nigro & Neisser, 1983). Recalling a disturbing memory from the field perspective is more often accompanied

by heightened emotion and by a sense of reliving the event relative to recalling it from an observer perspective (McIsaac & Eich, 2004). Some scholars believe that adoption of an observer perspective constitutes a form of cognitive avoidance, enabling one to attenuate distressing emotion during recollection (Kenny & Bryant, 2007; Williams & Moulds, 2007).

Findings from Libby, Eibach, and colleagues, however, suggest a more complicated relationship between visual perspective and psychological distress. These researchers have emphasized the role of self-concept in visual perspective during recall (Eibach, Libby, & Gilovich, 2003; Libby & Eibach, 2002; Libby, Eibach, & Gilovich, 2005). They found that an observer perspective is associated with a sense of the memory as incongruent with the current self, whereas the converse held for memories recalled from a field perspective. Given the empirical work on the CES discussed above, these findings suggest that a field perspective may be associated with greater severity of psychopathology due to a stronger sense of self-congruence associated with the memory.

Based on this possibility, we hypothesized that visual perspective would moderate the relationship between psychological symptoms and the emotional intensity experienced upon recalling the shame or guilt event. Although visual perspective should have little effect on memories of low emotional intensity, distress should be heightened for those who recall high emotional intensity memories of shame or guilt from a field perspective. Intense emotional memories recalled from an observer perspective should be less consistent with participants' current self and thereby less distressing. Moreover, the centrality of the memory to one's identity, as measured by the CES, should mediate this interaction.

Method

Participants

To investigate these issues, we devised a web-based survey and recruited participants from the Boston area and from among students at Harvard University. The sole inclusion criteria were a minimum age of 18 and a memory of an experience associated with shame or guilt. Participants learned of the study via an advertisement on PsychNet, Craig's List, or through the Department of Psychology's subject pool website. The advertisement informed participants that they would be asked to recall an event associated with shame or guilt and to answer questions regarding their memory and emotions associated with the event. We did not compensate participants other than providing course credit for students. In addition, to ensure anonymity, we collected no identifiable information from respondents.

Of the 179 individuals who consented to participate, 140 (78%) completed the survey; 119 were students. Most were female ($n = 85$, 61%), Caucasian ($n = 94$, 67%), and between the ages of 18–24 ($n = 127$, 91%).

Procedure and measures

After completing informed consent and a brief demographics questionnaire, participants recalled the event in their life most strongly associated with high levels of shame or guilt. The terms shame and guilt were not defined for participants at any point during the study. Accordingly, participants relied on their own understanding of these terms in order to generate the appropriate memory. Participants then provided a description of the event, noted the time since it occurred, and rated the emotions they felt at the time of the event. After identifying the event, participants completed six questionnaires assessing memory characteristics, emotions, and psychological symptoms.

Memory characteristics

Memory for events eliciting guilt or shame were examined using a modified version of the autobiographical memories questionnaire (Rubin, Boals, & Berntsen, 2008). The AMQ assesses a variety of memory characteristics, including sense of reliving, confidence, fragmentation, personal coherence, and visual perspective. Participants were asked to rate how true a statement relating to each characteristic was on a 7-point scale ranging from 1 (“Not at all”) to 7 (“As much as any memory”). For example, personal coherence was assessed by rating the statement “My memory for the event has personal coherence: it fits easily into a story I would tell about that part of my life”. For visual perspective, participants selected responses corresponding to field perspective, observer perspective, or not sure. An additional item from the memory experiences questionnaire assessing emotional intensity was added, asking participants to rate the extent to which they agreed with the following statement on a 7-point scale “My emotions are very intense concerning this event” (Sutin & Robins, 2007).

Participants also completed the centrality of events scale (Berntsen & Rubin, 2006). This questionnaire assesses three related characteristics that load on to a single underlying factor: the extent to which the event acts as a reference point for inferences and attributions in everyday life, the extent to which the event is viewed as a landmark in one’s life story and, finally, the centrality of the event in one’s personal identity. For this study, due to an oversight in the survey design, we inadvertently omitted the final four items of the 20-item CES, resulting in a 16-item version of the CES.

Shame and guilt

The state shame and guilt inventory (SSGI; Tangney & Dearing, 2002, pp. 239–240), a 15-item questionnaire, assessed the current level of shame, guilt, and pride experienced by the individual. Participants completed this measure immediately after reporting the characteristics of their memory for the event. Following the SSGI, participants completed the trauma-related guilt inventory (TRGI), a 32-item questionnaire tapping aspects of guilt associated with a specific event (Kubany et al., 1996).

Symptoms of PTSD and depression

To assess PTSD symptom severity, we had participants complete the Posttraumatic Stress Disorder Checklist – Specific Version (PCL; Weathers, Litz, Herman, Huska, & Keane, 1993). PTSD symptoms were assessed for the specific shame or guilt event identified by the participant. The Center for Epidemiological Studies-Depression Scale (CES-D) assessed depression symptom severity (Radloff, 1977). Importantly, these measures are not equivalent to clinical diagnosis. Accordingly, findings presented in this paper reflect symptoms of depression and PTSD rather than a clinical diagnosis of either disorder.

After completing these questionnaires, participants identified and described a positive emotional event from the same period in their life as the shame or guilt memory. Participants then completed the AMQ to assess the characteristics of this memory. The survey took approximately half an hour to complete. Participants could exit to a debriefing screen at any point during the survey if they did not want to continue.

Results

Shame and guilt

Participants reported a wide range of shame and guilt provoking events. The most frequent types involved a betrayal of trust (e.g. infidelity or lying to a loved one; 21.4% of responses) or harm inflicted on another individual (e.g. publicly ridiculing a classmate

Table 1
Zero-order correlations.

	Shame	Guilt	Centrality	Depression	PTSD
Shame ^a	–	.71**	.24**	.33**	.40**
Guilt ^a		–	.20*	.26**	.26**
Centrality of events ^a			–	.27**	.58**
Depression ^b				–	.51**
PTSD ^a					–

Note. PTSD = posttraumatic stress disorder.

* $p < .05$, ** $p < .01$.

^a $n = 140$.

^b $n = 139$.

Table 2
Hierarchical linear regression estimating PTSD symptoms from shame, guilt, and their interaction.

	B	SE	β
Step 1			
Shame	1.13***	.29	.43
Guilt	-.12	.27	-.05
Step 2			
Shame	.93**	.31	.36
Guilt	-.02	.27	-.01
Shame \times Guilt	.084 [§]	.043	.16

Note. PTSD = posttraumatic stress disorder.

Step 1: $F(2, 137) = 12.86, p < .001, R^2 = .158$.

Step 2: $F(3, 136) = 10.03, p < .001, R^2 = .181$.

[§] $p = .052$, ** $p < .01$ *** $p < .001$.

or instigating a physical altercation; 16.4% of responses). In addition, participants reported events characterized by significant or public failure (10.7%), public embarrassment (8.6%), theft (7.1%), regret related to the death of a loved one (5.7%), academic dishonesty (5.0%), or a violation of the participant’s moral standards (5.0%).

Participants scores on measures of psychological distress ranged from 15 to 83 ($M = 28.0, SD = 12.4$) on the PCL and from 4 to 37 ($M = 13.3, SD = 4.4$) on the CES-D. As seen in Table 1, both shame and guilt had significant zero-order correlations with symptoms of depression and PTSD. To examine these associations further, we performed hierarchical regressions with PCL and CES-D.¹ First, each was regressed on state shame and guilt (centered around their mean). Second, the interaction term between shame and guilt was added to the model. The results of these analyses appear in Tables 2 and 3 for PTSD and depression, respectively. We calculated simple slopes for the relationship between guilt and symptoms of PTSD and depression (Fig. 1 and Fig. 2, respectively) at three levels of shame: one standard deviation below the mean, at the mean, and one standard deviation above the mean. Shame significantly predicted both depression and PTSD. Guilt was not significantly related to symptoms of PTSD or depression once we statistically controlled for the effects of shame. In fact, guilt tended to be negatively associated with PTSD symptoms at low levels of shame ($\beta = -.18, p = .16$), and positively associated with PTSD symptoms at high levels of shame ($\beta = .17, p = .29$).

Memory characteristics

Linear regression revealed that scores on the CES significantly predicted both PTSD symptoms ($\beta = .58, p < .001, R^2 = .33$) and

¹ One participant was considered an outlier on the CES-D ($z = 7.8$) and was removed from all analyses involving the CES-D. No other data from this participant fell outside the distribution of scores for any measure. Removing this participant from analyses, however, did not meaningfully alter the results.

Table 3
Hierarchical linear regression estimating depression symptoms from shame, guilt, and their interaction.

	B	SE	β
Step 1			
Shame	.27**	.1	.30
Guilt	.03	.09	.04
Step 2			
Shame	.25*	.11	.29
Guilt	.04	.09	.05
Shame \times Guilt	.01	.02	.04

Step 1: $F(2,136) = 8.57, p < .001, R^2 = .11$.

Step 2: $F(3,135) = 5.74, p = .001, R^2 = .11$.

* $p < .05$ ** $p < .01$.

depression symptoms ($\beta = .27, p = .001, R^2 = .08$). Therefore, an increase in the centrality of a guilt or shame event in one's autobiographical narrative is associated with greater distress.

Among the 140 participants, 20 could not identify the visual perspective from which they recalled the shame or guilt memory and one failed to answer this question. For the remaining 119 participants, 80% recalled their shame or guilt memory from a field perspective. Relative to participants reporting an observer perspective, those reporting a field perspective characterized their guilt and shame memories as having a stronger sense of reliving the event, $t(117) = 2.06, p = .03, r = .22$, and reported better memory for the setting, $t(118) = 2.23, p = .02, r = .22$, and spatial layout, $t(118) = 2.11, p = .02, r = .21$, in which the event occurred (Table 4). Participants reporting an observer perspective rated shame and guilt memories as having significantly lower personal coherence, $t(117) = 2.4, p = .018, r = .27$. However, participants reporting field memories versus observer memories did not differ in terms of either PTSD, $t(118) = -.37, p = .71$, or depression symptoms, $t(118) = .06, p = .95$.

To examine the possible moderating role of visual perspective in the relationship between emotional intensity and symptoms of psychopathology, we regressed PTSD symptoms on emotional intensity and visual perspective (centered around their means) and a two-way interaction term for intensity and perspective. As can be seen in Table 5 (Regression 1), the interaction term showed a near-significant trend ($\beta = .17, p = .058$). We then calculated the simple slopes for both observer and field perspectives (see Fig. 3). There was no significant association between emotional intensity and

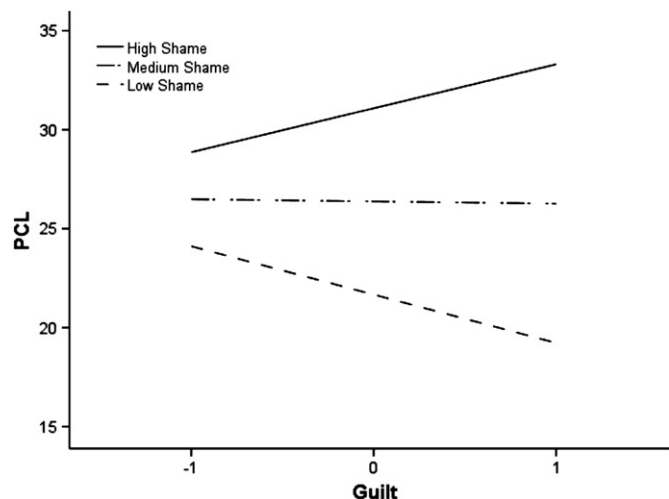


Fig. 1. Two-way interaction between shame and guilt predicting PTSD symptoms (PCL).

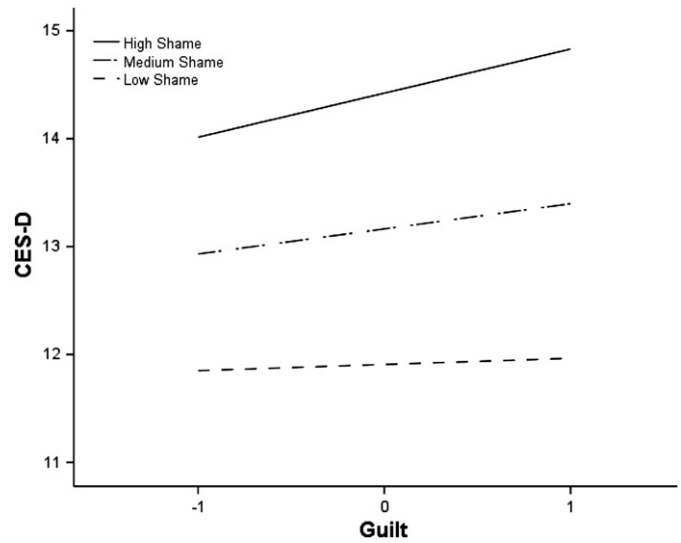


Fig. 2. Two-way interaction between shame and guilt predicting depression symptoms (CES-D).

PTSD symptoms for the observer perspective, ($\beta = -.09, p = .66$) whereas there was for the field perspective, ($\beta = .35, p < .001$). These findings imply that guilt or shame memories having high emotional intensity are associated with distress only when recalled from the field perspective. Observer versus field perspective is irrelevant for low intensity memories associated with shame and guilt.

We performed a mediated moderation analysis (Baron & Kenny, 1986) to determine if the moderating effect of visual perspective in the association between emotional intensity and possible-PTSD severity is mediated by the CES. The three regression analyses conducted for this mediated moderation analysis can be seen in Table 2. The interaction between visual perspective and emotional intensity fell just short of significantly predicting PCL ($\beta = .17, p = .058$; Regression 1), and significantly predicted CES, ($\beta = .20, p = .03$; Regression 2). After adding CES to the model predicting PCL (Regression 3), the interaction term ceased to be significant ($\beta = .07, p = .39$), whereas CES continued to predict PTSD symptoms, ($\beta = .51, p < .001$). This mediation was significant (Sobel Test

Table 4
Memory characteristics as a function of field versus observer perspective.

Memory Characteristic	Field perspective ^a		Observer perspective ^b		t	r
	Mean	SD	Mean	SD		
Emotional intensity	4.90	1.53	4.40	1.83	1.49	.15
Intrusiveness	4.34	1.80	3.64	1.85	1.72 [±]	.19
Emotional reliving	4.18	1.56	3.44	1.76	2.06*	.22
Sense: hear	4.28	1.56	3.68	1.46	1.73 [±]	.19
Sense: see	5.12	1.19	4.80	1.19	1.19	.14
Spatial	5.04	1.18	4.44	1.56	2.11*	.21
Setting	5.59	.94	5.08	1.29	2.23*	.22
Time travel	4.51	1.82	3.76	1.96	1.80 [±]	.19
Physical reaction	4.24	1.85	4.04	1.99	.49	.05
Fragmentation	3.38	1.70	4.00	1.76	-1.60	-.18
Detail	2.80	1.44	3.41	1.53	-1.85 [±]	-.20
Personal coherence	4.03	1.89	3.04	1.57	2.41*	.27
Valence	2.10	1.21	2.24	.97	-.51	-.09
Confidence	6.00	1.21	5.60	1.47	1.40	.15

Note. Due to missing data, sample size and degrees of freedom vary by analysis; $dfs = 115-118$.

[±] $p < .1$, * $p < .05$.

^a $n = 24-25$.

^b $n = 92-95$.

Table 5
Linear regression models assessing the mediated moderation of CES and visual perspective in the association between emotional intensity and PTSD symptoms.

Variable	B	SE	β
Regression 1: DV = PCL			
Emotional intensity	6.87**	2.44	.25
Visual perspective	.66	2.89	.02
Intensity \times perspective	11.98 [§]	6.26	.17
Regression 2: DV = CES			
Emotional intensity	7.67*	3.11	.22
Visual perspective	4.76	3.69	.12
Intensity \times perspective	17.87*	7.98	.20
Regression 3: DV = PCL			
Emotional intensity	3.80	2.16	.14
Visual perspective	-1.26	2.51	-.04
Intensity \times perspective	4.80	5.52	.07
CES	.40***	.06	.51

Note. CES = Centrality of Events; PCL = posttraumatic stress disorder symptoms. Regression 1: $F(3,115) = 4.21, p = .007, R^2 = .10$; Regression 2: $F(3,115) = 4.54, p = .01, R^2 = .106$; Regression 3: $F(4,114) = 14.37, p < .001, R^2 = .335$; [§] $p = .058, *p < .05, **p < .01, ***p < .001$.

Statistic = 2.11, $p = .03$). Therefore, the centrality of a shame or guilt memory mediates visual perspective's moderation of the relationship between emotional intensity and PTSD symptoms. In other words, the increase in PTSD symptoms associated with high emotional intensity memories viewed from a field perspective is attributable to heightened centrality of the memory to one's identity and autobiographical narrative.

Discussion

Consistent with theory, previous research (Tangney et al., 1992), and our hypothesis, shame predicted both depression and PTSD symptom severity. After controlling statistically for shame, guilt did not predict depression or PTSD. For PTSD, this finding is contrary to our hypothesis. There was, however, a significant interaction between shame and guilt in predicting PTSD symptoms. At low levels of shame, there was a negative association between guilt and PTSD, whereas at high levels of shame there was a positive association. Although neither simple slope was significant, these trends are consistent with the conceptualization of guilt as an adaptive emotion when not fused with shame. Overall, the findings on



Fig. 3. Two-way interaction between visual perspective and emotional intensity predicting PTSD symptoms (PCL).

shame and guilt and their association with PTSD and depression are consistent with the work of Tangney and her colleagues. Shame, it seems, is more pathogenic than guilt.

As hypothesized, and consistent with previous findings examining the centrality of traumatic or highly stressful events (Berntsen & Rubin, 2006, 2007), an increase in the centrality of a shame or guilt memory was associated with greater severity of both depression and PTSD symptoms. Although these data are cross-sectional, preventing any conclusions regarding the direction of this association, theorists have proposed that increased centrality of shame or guilt memories is likely to lead to more vivid and more frequently intrusive memories (Berntsen & Rubin, 2006). In addition, memories central to an individual's life story and personal identity become the basis for inferences about the individual and the world around them. The accessibility of these memories may also lead individuals to overestimate the likelihood that they will experience similar events in the future (Kahneman & Tversky, 1972).

Clinical research on visual perspective in memory for aversive emotional events, particularly those characterized by fear, has typically viewed the adoption of an observer perspective as a means of cognitive avoidance. In support of this view, our findings suggest a significantly lower sense of reliving the event. However, there was no difference between perspectives in depression or PTSD symptoms. These results are consistent with previous research (Kenny & Bryant, 2007; McIsaac & Eich, 2004). Further, in this study there was no difference in the emotional intensity or valence of the memories recalled.

Instead, our results indicate that visual perspective is more indicative of the congruence between the participant's identity and the autobiographical memory for the shame or guilt provoking event. From an observer perspective, there was no significant relationship between emotional intensity upon recalling the event and PTSD symptoms. From a field perspective, however, there was a significant association, with greater emotional intensity associated with greater severity of PTSD. This moderating role of visual perspective was mediated by the CES. Furthermore, participants recalling shame or guilt memories from an observer perspective rated the memory as having significantly less personal coherence. These findings indicate that recalling intense negative emotional memories from an observer perspective is associated with lower severity of psychopathology, perhaps because the memory is incongruent with one's current self. Some scholars characterize the adoption of an observer perspective as a mechanism of cognitive avoidance (Lemogne et al., 2009), allowing one to emotionally distance themselves from the memory (Wilson & Ross, 2003). Alternatively, recalling an aversive emotional event from an observer perspective could be considered an adaptive process of viewing the event as aberrant and unrelated to one's identity or life story.

These findings have implications for the treatment of PTSD. Emotional processing of a trauma (Foa & Kozak, 1986) through imaginal exposure from a field perspective (Foa & Meadows, 1997) is a principal component of therapy for PTSD. Recalling memories from an observer perspective may inhibit this processing by reducing the sense of emotionally reliving the event (Berntsen, Willert, & Rubin, 2003; Kenny & Bryant, 2007), thus reducing the efficacy of the treatment. However, instructing participants to recall memories from a field perspective may have the unintended consequence of facilitating a sense that the memory is congruent with the self, thereby increasing the centrality of the event and leading to poorer outcome. Consistent with this possibility, Fergusson (1993; as cited in Wilson & Ross, 2003) found that writing about a traumatic event from an observer perspective was associated with better outcomes than writing about the event from

a field perspective. Further research is needed to determine the direction of the association between visual perspective, self-congruence, and psychological distress to clarify the impact of visual perspective in imaginal exposure in therapy for PTSD.

Our study has several limitations. The primary limitation is the cross-sectional design. This design precludes conclusions regarding causality. For example, our data cannot clarify whether a reduction in CES leads to an observer perspective or whether the adoption of an observer perspective reduces CES, though findings reported by Libby and Eichbach suggest both may be true (Libby & Eichbach, 2002). Similarly, these data cannot elucidate whether an increase in CES is causal in the development of psychological distress or merely reflects the ongoing impact of the event.

An additional limitation is that the large number of participants recruited from the student population may have restricted the range of aversive emotional events and psychological symptoms. This restriction limits our ability to detect associations that may exist only with extreme emotional intensity or severe psychological distress. This limitation is particularly relevant for examining the relation of guilt to psychopathology. Although our findings support the conceptualization of guilt as a primarily adaptive emotion, the events reported by participants in this study (e.g., infidelity or cheating in school) typically allowed for reparation and consequences of the events were largely transitory. The excessive rumination and self-blame typically depicted as characterizing maladaptive guilt reactions (Tangney & Dearing, 2002) may only be observed if the consequences of an event are more permanent or a means of amends is unavailable. Moreover, two of the findings in this paper were narrowly above the traditional significance level. Accordingly, one must interpret these findings cautiously. We would suggest, however, that the confluence of the findings, and their consistency with past research on emotion and memory, bolster confidence in our conclusions.

The findings and limitations reported in this paper point to several avenues for future research. Researchers should assess shame and guilt in populations where one's actions have enduring consequences and present limited opportunity for reparation. Examining guilt in such populations would allow greater insight into whether, and under what circumstances, guilt is ever associated with psychopathology independent of shame. In addition, future studies should utilize a longitudinal study design in order to determine whether visual perspective and CES play a causal role in the development and maintenance of PTSD and depression or if they are merely symptomatic of the disorders. For PTSD in particular, clarifying the role of these memory characteristics will have important implications for our understanding of both the etiology and treatment of the disorder. Finally, the association between CES and cognitive biases should be empirically examined.

Our results identify shame as an emotion capable of eliciting the intrusive and distressing memories characteristic of PTSD and provide further support for removing the peritraumatic emotion criterion from the diagnostic criteria for PTSD. These findings suggest that the self-referential emotion of shame can be as psychologically toxic as terror. In addition, the findings reviewed in this paper converge on a common theme: aversive emotional events are associated with psychological distress when memory for those events is central to one's identity and autobiographical narrative. When memories associated with high levels of negative emotion are recalled as incongruent with the self (e.g., from an observer perspective), peripheral to one's life story (e.g., low CES), or unrelated to global appraisals of the self (e.g., high levels of guilt but low levels of shame), these memories are associated with lower levels of distress. Accordingly, the incorporation of intense negative emotional memories into one's identity and life story may be an important factor in the development and maintenance of

psychological distress following potentially traumatic or highly stressful events.

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