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Reduced Autobiographical Memory Specificity and Posttraumatic Stress: Exploring the Contributions of Impaired Executive Control and Affect Regulation

Tim Dalgleish, Jennifer Rolfe, Ann-Marie Golden, Barnaby D. Dunn, and Philip J. Barnard
Medical Research Council Cognition and Brain Sciences Unit

Reduced specificity of autobiographical memories retrieved to word cues on the Autobiographical Memory Test (AMT) is associated with increased posttraumatic stress in traumatized samples. Theoretical debates concerning the dominant influences on this effect have focused on affect regulation, whereby specific personal information is avoided more by those experiencing greater distress, versus compromised executive control, whereby increased distress is associated with an inability to set aside inappropriately general responses on the AMT. The present study compared these 2 views in a correlational design using a reversed version of the AMT (the AMT–R) for which trauma-exposed participants ($N = 36$) had to generate general memories from the past and avoid specific memories. An emphasis on the role of affect regulation would predict that distress would be associated with reduced specificity (as in the standard AMT), whereas emphasis on the role of executive control would predict that this relationship would be reversed. The data supported the affect regulation account, with greater posttraumatic stress being associated with reduced memory specificity.

Keywords: posttraumatic stress, PTSD, Autobiographical Memory Test, trauma, executive control

Individuals with emotional disorder often experience some difficulty in generating specific memories of events to lists of word cues (the Autobiographical Memory Test [AMT]; Williams & Broadbent, 1986). So, for example, the cue *party* might elicit the generic response "I never enjoy parties" instead of a specific memory such as " I went to a terrible party last Friday." Such reduced autobiographical memory specificity has been demonstrated many times with a variety of different forms of psychopathology, including depression (e.g., Moore, Watts, & Williams, 1988), complicated grief (Golden, Dalgleish, & Mackintosh, in press), and eating disorder (e.g., Dalgleish et al., 2003).

Reduced memory specificity is also associated with a history of psychological trauma accompanied by symptoms of posttraumatic stress. For example, depressed women reporting a history of abuse find it more difficult to retrieve specific memories than depressed women reporting no history of abuse (Kuyken & Brewin, 1995). Similarly, in mixed diagnosis and community samples, reported history of trauma (including nonabuse trauma) accompanied by posttraumatic stress is associated with reduced memory specificity (e.g., de Decker, Hermans, Raes, & Eelen, 2003; Henderson, Hargreaves, Gregory, & Williams, 2002). Furthermore, there appears to be a reliable relationship in trauma-exposed samples between increased severity of posttraumatic stress (as measured, for example, by the Impact of Event Scale [IES]; Horowitz, Wilner, & Alvarez, 1979) and reduced memory specificity (e.g., Kuyken & Brewin, 1995). Finally, Harvey, Bryant, and Dang (1998) showed that degree of reduced specificity predicted poorer symptom outcome in a longitudinal study of motor vehicle accident victims. Understanding the etiology of the reduced specificity effect in traumatized samples is therefore potentially important in understanding the evolution of posttraumatic stress.

It has been proposed that reduced specificity represents a cognitive strategy to block or disrupt access to the details of distressing autobiographical events such as traumas. This affect regulation hypothesis (Philippot, Schaefer, & Herbette, 2003; Raes, Hermans, Williams, & Eelen, 2006; Williams et al., 2007; Williams, Stiles, & Shapiro, 1999) provides a plausible account of why individuals with a history of trauma exposure would show reduced memory specificity compared to those without such a history and for why, within trauma-exposed populations, those for whom the trauma is associated with greater current distress would show more marked reductions in specificity.[1] Fn1

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[1] Accounts of this negative correlation between memory specificity and posttraumatic stress are generally grounded in theories of autobiographical recollection (e.g., Conway & Pleydell-Pearce, 2000) that propose two routes to memory retrieval. The first comprises direct access to memories, whereas the second involves an iterative, generative search that traverses down a hierarchy from categoric personal information at the top to specific memories at the bottom. In this type of framework, intrusive trauma memories are seen to result from the process of direct retrieval, whereas reduced specificity on the AMT is seen to arise out of disruptions in the process of generative retrieval. This dual-retrieval view, whereby intrusions are directly accessed, consequently provides an account for why reduced memory specificity (as assessed by the AMT), despite being proposed as an affect regulatory response to distressing posttraumatic intrusions, actually fails to reduce intrusions and the distress they elicit.

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Recently, however, it has been suggested that reduced memory specificity may in part be an example of poor cognitive task performance as a function of relatively diminished executive control in emotionally disturbed samples (Dalgleish et al., 2007; Williams et al., 2007) as well as, or instead of, being a result of putative affect regulation processes. In elucidating this executive control hypothesis, it has been proposed (Dalgleish et al., 2007; Williams et al., 2007) that successfully generating memories to cue words makes two distinct executive demands. First, executive control is required to maintain the search through the autobiographical memory database for a specific memory in the face of candidate memories that have come to mind during the search that are not appropriately specific (i.e., they are overgeneral) and that must therefore be set aside. In this analysis, diminished executive control would increase the likelihood that these inappropriate candidate memories will not be set aside and will mistakenly be offered as task responses in lieu of the desired specific memories.

Second, executive resources are required to traverse down a hypothetical hierarchy of autobiographical memories (e.g., Conway & Pleydell-Pearce, 2000) from categoric autobiographical summaries near the top to the type of event-specific knowledge required as responses on the AMT at the bottom. Here again, relatively poorer executive control would be associated with reduced memory specificity, as this traverse would be less likely to be successfully completed such that general memories higher up the hierarchy are generated as task responses.

Hitherto, the main problem in investigating the relative merits of these affect regulation and executive control hypotheses has been the fact that both predict that greater emotional distress (e.g., depression, posttraumatic symptomatology) should be associated with reduced memory specificity on the AMT as it is normally constrained. However, a potential way around this confound is to constrain the AMT differently such that an executive control analysis of performance on the task would generate broadly different predictions to an affect regulation account. One such approach involves asking participants to generate categoric autobiographical memories to cue words and to avoid responding with specific memories, in a "reversed" version of the task. In this kind of reversed AMT (the AMT–R), the cue words should automatically prime a proportion of specific candidate memory response tendencies, and it would now be these that would need to be set aside so that the participant could continue to search the autobiographical database for suitably general memories. Furthermore, the executive demand associated with the need to traverse down the hierarchy of autobiographical memories to suitably specific episodes would be removed, as it is now the categoric information near the top of the hierarchy that is required by the task.[2] Fn2

Following this logic, an executive control analysis of the AMT–R would predict that emotional distress would now be associated with greater memory specificity, because greater distress should be associated with poorer executive control and thus a greater difficulty in setting aside inappropriate specific candidate memory responses on the task.

It is important to note that an affect regulation account of memory specificity would predict that reversing the AMT instructions would not reverse the direction of any association between emotional distress and specificity. This is because, regardless of the instructions of the task, higher levels of distress should always be associated with a greater need for affect regulation and thus with lower levels of memory specificity.

Dalgleish et al. (2007, Study 8) examined these proposed contrasting predictions by asking participants with varying degrees of depressed mood to complete the AMT–R within a correlational design. Participants were instructed to generate memories that conflated across more than one specific occasion. So, to the cue word *party*, such a categorical response might be "I always enjoy going to parties!". Specific memories (e.g., "I really enjoyed John's birthday party last spring") now constituted task errors. Reversing the task instructions did indeed reverse the usual correlation between higher levels of depressed mood and reduced specificity (e.g., Dalgleish et al., 2007, Study 5), such that more severely depressed participants were now being more specific than less severely depressed participants. Furthermore, higher scores on a measure of executive control (the Operation Span task [OSPAN]; Turner & Engle, 1989) correlated with fewer specific memories on the AMT–R, reinforcing the argument that this pattern of effects is linked to individual differences in executive control. On the basis of these data, among others, Dalgleish et al. (2007) concluded that reduced memory specificity in individuals selected on the basis of their significant depressed mood is driven relatively more powerfully by diminished executive control than by affect regulation.

However, it is possible that individual differences in executive control may exert a less powerful influence on memory specificity in the case of traumatized samples that are not significantly depressed, and that putative affect regulation processes would have relatively more influence. The reasoning behind this suggestion is twofold. First, posttraumatic distress, unlike depression, is not reliably associated with marked generic deficits in executive control (e.g., Twamley, Hami, & Stein, 2004), and consequently distress-related executive control deficits may have less influence on AMT performance. Second, posttraumatic distress is by definition closely linked to memories of one or more personal experiences. Consequently, avoidance of specific distressing memories

[2] To investigate empirically these assumptions about the executive demands of the AMT–R, we administered the task (as described in the current *Measures* section) to a sample of unselected participants ($N = 32$) and subsequently played back to them recordings of their memories along with the individual cue words. For each cue–memory combination, we asked participants to reconstruct the sequence of retrieval iterations that led to their final response. There were four sequences of interest: direct retrieval of a suitable categoric memory, direct retrieval of an unsuitable specific memory, access of a categoric memory followed by a specific memory response, and access of a specific memory followed by a categoric memory response. Based on our assumption that the AMT–R releases participants from the executive demand of traversing down the memory hierarchy from categoric to specific, we predicted that participants would endorse this sequence infrequently. Consistent with our view that failing to reject directly accessed specific memories reflects a lack of executive control, we predicted a negative correlation between a measure of executive control (the Operation Span task [OSPAN]; Turner & Engle, 1989) and the number of endorsements of directly accessed specific memories.

In support of our predictions, the data revealed that there were few endorsements of the categoric-to-specific sequence ($M = 1.41$, $SD = 1.24$, out of a possible 24), and that mean endorsements of the directly accessed specific memories were significantly negatively correlated with scores on the OSPAN, $r(30) = -.51$, $p < .01$, whereas OSPAN correlations with other sequences were nonsignificant, $ps > .26$.

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in the service of affect regulation may be more likely in distressed, traumatized samples than in depressed groups.

The purpose of the present study was to examine this proposal by assessing the performance on the AMT–R of a trauma-exposed sample reporting current posttraumatic stress. The bidirectional hypothesis was that there would be a significant correlation between levels of memory specificity on the AMT–R and symptoms of posttraumatic stress (on the IES and the Posttraumatic Diagnostic Scale [PDS]; Foa, Cashman, Jaycox, & Perry, 1997). According to an affect regulation view of memory specificity, this hypothesized correlation should be negative, in line with the existing literature (Williams et al., 2007), such that greater posttraumatic distress should be associated with reduced memory specificity. In contrast, the executive control view would predict a positive correlation, such that greater distress (and hence potentially compromised executive control) should correlate with poorer task performance as indexed by greater specificity.

Method

Participants

We recruited a community sample of 36 participants (M age = 36.19 years, SD = 15.8; 25 women) from the volunteer panel of the Medical Research Council Cognition and Brain Sciences Unit (Cambridge, England) who had previously reported a history of trauma. Participants met Criterion A of the criteria for posttraumatic stress disorder (PTSD) as set out in the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed.; *DSM–IV*; American Psychiatric Association, 1994) and described some current symptoms of posttraumatic stress within the previous week (a score greater than 0 on the IES). Criterion A was assessed using the relevant questions from the Structured Clinical Interview for the *DSM–IV* (SCID; First, Spitzer, Gibbon, & Williams, 1997). Exclusion criteria were having a self-reported history of psychosis, substance abuse, or organic brain difficulties; and being a nonnative English speaker. A varied range of traumas was reported, almost all single event; for example, being involved in a ferry sinking, child sexual abuse, motor vehicle accidents, violent assault with a weapon, sexual assault, finding a parent who had committed suicide, and witnessing a stabbing.

Measures

PDS (Foa et al., 1997). The PDS is a self-report questionnaire based on the *DSM–IV* criteria for PTSD. It provides a provisional diagnosis of PTSD and a continuous measure of symptom severity that was used in the present study. The severity measure has good internal consistency (Cronbach's α = .92) and test–retest reliability (r = .74). The PDS has excellent validity, correlating highly with other measures of associated facets of PTSD.

IES (Horowitz et al., 1979). The IES is a 15-item self-report questionnaire measuring frequency of symptoms of posttraumatic intrusion and avoidance (on separate subscales) in the previous week. Internal consistency is high (Cronbach's αs = .78 for intrusion and .82 for avoidance), test–retest reliability is good (rs = .89 for intrusion and .79 for avoidance), and the IES possesses strong validity as a measure of posttraumatic distress. In this study, the IES was completed in relation to the Criterion A trauma identified using the SCID (see the *Participants* section).

AMT–R (Dalgleish et al., 2007). The AMT–R was as described by Dalgleish et al. (2007, Study 8). A total of 24 emotion words were used to cue the memories: 12 pleasant (e.g., *friendly*) and 12 unpleasant (e.g., *ashamed*). Participants had to generate categorical memories (i.e., memories that were summaries of more than one specific event) and avoid responding with specific memories. Participants were given 1 min to respond to each cue word.

Recall instructions were printed on a card. Cue words were presented on 12.5 × 7.5-cm cards in black capital letters 3.5 cm high in a separate random order for each participant. Two practice cues were given (*relieved* and *tired*). Generated memories were tape-recorded and coded according to published criteria (Williams & Dritschel, 1992). Specific memories were defined as events that had happened in a particular instance or had lasted for a day or less. Nonspecific memories included *extended memories* (events that had lasted for longer periods of time) and the *categoric memories* that constituted the target responses. If the participants failed to recall a memory within the time limit, or talked about things that were not memories, their responses were classed as "no memories." If the type of memory was unclear, participants were prompted for more details.

In the present study, analyses focused on total numbers of specific memories in line with Dalgleish et al. (2007).[3] Memories were coded by Ann-Marie Golden, who remained blind to levels of posttraumatic stress. Interrater agreement with Jennifer Rolfe on 305 memories indicated good reliability (κ = .78). Fn3

At the end of the AMT–R, participants were asked to repeat back the instructions to ensure that they had remembered the request to try to be categoric.

In order to verify that the cue words used in the AMT–R would evince the established negative correlation between IES scores and memory specificity on the standard AMT (in which participants are asked to generate specific memories), we carried out a small-scale validation study with participants endorsing Criterion A for PTSD on the SCID (n = 19) who were also administered the IES. The data revealed the established negative correlations between IES scores (M = 25.95, SD = 18.40) and memory specificity (M = 16.21, SD = 5.76), $r(17) = -.49$, $p < .05$. These data indicate that the cue words used in the AMT–R are sensitive enough to reveal relationships between memory specificity and posttraumatic stress.

Cattell's Culture Fair Test of "g"—Scale 2, Form A (CFT; Cattell & Cattell, 1960). The CFT is a measure of fluid intelligence that contains 50 items organized into four different nonverbal tasks. It is designed to minimize the influence of verbal comprehension, education level, and culture on the evaluation procedure. The CFT is an accepted measure of executive control (Engle, Tuholski, Laughlin, & Conway, 1999) that correlates with memory specificity on the standard AMT (Dalgleish et al., 2007, Study 4). It was included

[3] There were a number of reasons for using total numbers of specific memories. The first was that it is the modal index used in the previous literature with trauma survivors using this task (Williams et al., 2007) and thus permits comparisons with these earlier studies. Second, it was the index used by Dalgleish et al. (2007) in a previously published study of the AMT–R, and adopting it here permits formal statistical comparison with the results from this earlier study. Finally, as the affect regulation hypothesis concerns functional avoidance of specific memories, there is a theoretical rationale for examining the numbers of such memories successfully retrieved.

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in the present study so that associations between memory specificity and executive control could be examined.

Procedure

Participants were screened-in over the telephone using the SCID PTSD Criterion A questions (Rohde, Lewinsohn, & Seeley, 1997) and were then seen individually in a soundproof testing room. Participants were told that the experiment would involve remembering events and filling out some questionnaires. The AMT–R was administered first to avoid the possibility of the other tests influencing the memories recalled. Participants then completed the CFT, PDS, IES, and finally the Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961) to permit assessment of whether any relationships between posttraumatic stress and memory specificity were a function of depression. All screening and testing was carried out by the same experimenter (Jennifer Rolfe).

Results

The mean scores on the various mood and stress measures are presented in Table 1. According to the PDS, 11 of the 36 participants merited a provisional diagnosis of PTSD and, according to the IES, 19 out of 36 were within the clinical range (Total score $>$ 8). On the PDS, 32 out of 36 participants reported experiencing problems for more than 3 months, with 30 out of 36 describing a trauma that had happened more than 3 years previously. As one would expect, the PDS–Severity, IES subscales, and BDI scores were all significantly intercorrelated, rs(34) $>$ .40, ps $<$ .02. T1

There was a significant point–biserial correlation between gender and numbers of specific memories, $r(35) = .44$, $p < .01$, and so gender was included as a covariate in the analyses. Numbers of specific memories on the AMT–R were not ideally normally distributed, and so analyses were also carried out with natural log-transformed scores for which the distribution was suitably normal. The patterns of correlations for the untransformed and transformed data were identical, and so analyses on untransformed data are presented here. All participants were able to correctly recall the AMT–R instructions at the end of the task.

To investigate our hypothesis that there would be a significant correlation between posttraumatic stress and memory specificity we performed partial correlations between numbers of specific memories, the Intrusion and Avoidance subscales of the IES, and the PDS–Severity measure, with gender partialled out. All three correlations were significant, prs(34) = –.41, –.47, and –.33, ps $< .05$, respectively, in support of our hypothesis and indicated that greater posttraumatic stress was associated with fewer specific memories on the AMT–R. These results were therefore in line with an affect regulation account of memory specificity and were not consistent with our conceptualization of the executive control hypothesis.

Although BDI scores were not significantly correlated with numbers of specific memories, $pr(33) = –.16$, $p = .35$, in order to exclude the possibility that the associations between posttraumatic stress and specificity reported previously were not simply a function of secondary associations with depressed mood, we repeated the key analyses with both gender and BDI scores partialled out. The correlations remained negative and mostly significant: IES–Intrusion, $pr(33) = –.35$, $p < .05$; IES–Avoidance, $pr(33) = –.41$, $p < .02$; PDS–Severity, $pr(33) = –.30$, $p = .077$.

Finally, we performed a correlation between CFT scores and memory specificity to search further within this sample for any support for an executive control hypothesis (i.e., that higher CFT scores would be significantly associated with lower memory specificity). CFT scores were significantly correlated with age; consequently, both age and gender were partialled out. Results revealed no support for a significant negative association between CFT scores and numbers of specific memories, $pr(32) = –.04$, $p = .82$.

As noted at the beginning of the article, in a sample selected on the basis of depressed mood ($N = 32$) rather than trauma exposure, Dalgleish et al. (2007) found a significant positive correlation between BDI scores and numbers of specific memories, $r(30) = .35$, $p < .05$, and interpreted these data in terms of an executive control account of memory specificity and depression symptoms. As reported previously, the present results showed a relationship between posttraumatic stress and memory specificity in the opposite direction to this previously reported result for depression symptoms. As the two studies used an almost identical methodology,[4] used the same version of the AMT–R, and were conducted in the same laboratory by the same research team, and as the data were scored and rated by the same researchers, our view was that there was sufficient homogeneity across the studies to permit comparison of the two sets of findings statistically. Fn4

These comparisons revealed that the significant positive correlation between BDI scores and numbers of specific memories reported previously (Dalgleish et al., 2007) was significantly different to the current significant negative correlations between numbers of specific memories and posttraumatic stress (ps $<$

Table 1
Self-Reported Mood, Reversed Autobiographical Memory Test, and Culture Fair Test Scores

Variable	*M*	*SD*
Culture Fair Test of "g"	33.94	5.03
Beck Depression Inventory	11.72	9.39
IES-Intrusion	8.47	9.24
IES-Avoidance	7.81	8.80
PDS-Symptoms	6.39	4.40
PDS-Severity	9.44	8.44
Specific memories	2.28	2.16
Categorical memories	17.28	3.65
Extended memories	2.86	2.28
No memories	1.58	1.56

Note. IES = Impact of Event Scale; PDS = Posttraumatic Diagnostic Scale.

[4] The differences between the two studies, apart from their focus on different populations, were that the measure of executive control in the Dalgleish et al. (2007) study was the OSPAN rather than the CFT, and that the Dalgleish et al. (2007) study unfortunately did not include measures of posttraumatic stress or an assessment of trauma exposure as these were not the focus of the research. Fortuitously, we possessed CFT scores for 19 of the 32 participants from the Dalgleish et al. (2007) study. Analyses with these data revealed that CFT scores exhibited the same relationship with numbers of specific memories, $r(17) = –.40$, $p < .05$, one-tailed, as the published analysis involving the OSPAN, $r(30) = .49$, $p < .05$, with similar effect size estimates. This indicates that the use of different executive measures across the two studies is unlikely to have been the reason for any differences in the patterns of results.

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.006) and to the current nonsignificant correlation between numbers of specific memories and BDI scores ($p < .05$).

These data provided support for the view that the relationship between symptoms (depressive or posttraumatic stress) and memory specificity on the AMT–R was significantly different across the two samples.

Discussion

The present study examined the performance of a trauma-exposed sample with a range of current symptoms of posttraumatic stress on a reversed version of the AMT (the AMT–R). The data revealed a negative correlation between symptoms of posttraumatic stress and numbers of specific memories retrieved on the task, thus supporting the view that affect regulation was the predominant influence on memory specificity in this traumatized sample, as opposed to variations in executive control. Consistent with this, there was also no significant correlation between scores on the CFT (an index of executive function) and numbers of specific memories.

The present data contrast significantly with a previous finding indicating a positive correlation between levels of depressed mood and numbers of specific memories in line with an executive control account (Dalgleish et al., 2007, Study 8). These data are the first that we are aware of to suggest that the predominant influence on levels of specificity on the cue word task may be different in different participant samples. In particular, the data indicate that in traumatized participants levels of memory specificity might be more associated with affect regulation than with executive control, whereas in participants whose dominant presentation involves depressed mood (Dalgleish et al., 2007), reduced executive control capacity may play a greater role.

As noted at the beginning of the article, there are several possible reasons for this differential pattern. First, significant depressed mood is reliably associated with impairments in executive control (e.g., Hartlage, Alloy, Vazquez, & Dykman, 1993), whereas this is not the case for posttraumatic stress (e.g., Twamley et al., 2004). Consequently, executive control deficits may play a lesser role with respect to memory specificity in a traumatized sample with low levels of depression symptoms. Second, in trauma-exposed samples there are, by definition, one or more discrete trauma experiences that are a focus of distress and that may motivate attempts at affect regulation by various means, including reduced memory specificity; this may not be so clearly the case in samples selected on the basis of depressed mood.

A notable aspect of the present data is the nonsignificant correlation between depressed mood and specific memories. This is not altogether surprising, as the sample was not particularly depressed, with only 7 participants scoring in the moderately depressed range or higher (BDI $>$ 16; Shaw, Vallis, & McCabe, 1985). Furthermore, in previous similar studies (for which participants were selected on the basis of a clinical feature other than depressed mood) the correlation between memory specificity and levels of depression has been unreliable (see Williams et al., in 2007, for a discussion). One reason for this might be that any associations between depressed mood and memory specificity may be masked or overridden by associations between specificity and these other clinical features.

The present study has a number of potential limitations that merit discussion. The first is that we did not include a non-trauma-exposed control group. It would have been interesting to examine whether such controls were in fact more specific than the present trauma-exposed sample. However, given the prevalence of Criterion A trauma in the community (e.g., 77% in Breslau & Kessler, 2001), we were unable to source such a control group from the community that was comparable on other dimensions (e.g., age) with our traumatized sample. This could be addressed in future work that deliberately targets, for example, younger and/or student samples in which levels of trauma nonexposure in representative individuals may be higher.

A related issue concerns the decision not to recruit a new depressed sample for the current research but instead to compare the present data to the previously published findings of Dalgleish et al. (2007). This decision was driven by the high degree of methodological overlap between the two studies (in terms of procedure, measures, experimenters, raters, and testing laboratory), which, in our view, provided a good case for statistical comparison across the two samples. However, the facts that (a) the two samples were not formally recruited as separate groups in a single study, (b) trauma was not formally assessed in the Dalgleish et al. (2007) study, and (c) comorbid depression was not formally assessed in the present study must be regarded as limitations.

Finally, we chose not to ask the same participants to complete both the AMT–R and the standard version of the AMT, which would have allowed a within-subjects comparison across the two task variants. Such a study design would have required parallel sets of cue words counterbalanced across the two tasks, which would have introduced noise into the data set. Furthermore, there was a considerable danger of cross-contamination from one task to the other because of the need to reverse the retrieval parameters entirely. Our view was that these methodological concerns outweighed the potential benefits of such design. Instead, we validated the AMT–R cue words on a standard version of the task (see the *Measures* section), showing that there were able to elicit the established negative correlation between posttraumatic stress and memory specificity.

In summary, the current study examined, for the first time to our knowledge, memory specificity in a distressed trauma-exposed sample using a task (the AMT–R) that is capable of comparing competing theoretical accounts of such specificity. The results showed a negative correlation between measures of posttraumatic stress and numbers of specific memories retrieved on the AMT–R, thus providing support for an affect regulation view of memory specificity in trauma-exposed populations.

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AQ1: APA: If available, please update Golden et al. (in press).