Research Report

Dissociative Tendencies and Memory Performance on Directed-Forgetting Tasks

Grant J. Devilly, Joseph Ciorciari, Amy Piesse, Sarah Sherwell, Sonia Zammit, Fallon Cook, and Christie Turton

Brain Sciences Institute, Swinburne University of Technology, Hawthorn, Victoria, Australia

ABSTRACT—*The current article presents two studies that aimed to replicate DePrince and Freyd's (2001, 2004) studies demonstrating that high and low dissociators differentially recall neutral and trauma words under conditions of varying cognitive load. We did not find this effect. This lack of replication was apparent for both free recall and word recognition memory and in both studies. In effect, we found little evidence to support betrayal trauma theory, yet observed increased memory fallibility, as demonstrated by lower general recall and (in one study) commission errors, in high dissociators.*

It has been claimed that individuals who report childhood sexual assault (CSA) are at increased risk of adopting a dissociative coping style (Spiegel, 1997), have increased difficulty remembering trauma (DePrince & Freyd, 1999), and have increased risk of developing posttraumatic stress disorder (PTSD). Implicit to this line of argument is the assumption that cognitive mechanisms of memory and attention are implicated in the tendency to dissociate (Freyd, Martorello, Alvarado, Hayes, & Christman, 1998; Freyd et al., 2005).

Accordingly, McNally, Metzger, Lasko, Clancy, and Pitman (1998) used a directed-forgetting task to study possible memory differences among adult survivors of CSA with and without subsequent PTSD and control subjects without a history of abuse. Although the PTSD group scored significantly higher than the other two groups on a measure of dissociative tendencies, this group did not differ on memory for trauma-related words following remember or forget instructions. However, compared with the other two groups, this group did display a deficit in memory for positive and neutral words following remember instructions. McNally et al. suggested that this latter effect was due to a general attentional bias for trauma-related material in people with PTSD.

However, Freyd (1994) had reconceptualized the cognitive underpinnings of memory frailty as being related to degree of dissociation, rather than PTSD. As part of her betrayal trauma theory, Freyd suggested that sexual abuse by a caregiver places a cognitive burden on the resources of the victim: On the one hand, the victim resents the trauma of abuse, yet on the other hand, the victim has to rely on the abuser for care. Freyd theorized that the resulting conflict is resolved by the victim learning to dissociate from the memory of the abuse.

Subsequently, DePrince and Freyd (2001) argued that a moderate degree of cognitive load would facilitate a memory effect whereby high and low dissociators exhibit differential memory for trauma words relative to neutral words. Using a directed-forgetting task, they examined the performance of high and low dissociators in a sample of students. The Dissociative Experiences Scale (DES) was used to classify subjects as low (score of 10 or below) or high (score of 20 or higher) dissociators. The subjects viewed trauma, neutral, and positive words under three different attention conditions: selective attention (low difficulty), divided attention with a motor response (key press; moderate difficulty), and divided attention requiring a simultaneous verbal response (high level of difficulty). The DES groups did not differ in their memory for words that were followed by forget instructions or in their performance on a recognition task. Additionally, no significant group differences were found for free recall of words presented in the selective-attention condition or the difficult divided-attention condition. However, in the moderately difficult divided-attention condition, high-DES subjects recalled more neutral and fewer trauma

Address correspondence to Grant J. Devilly, Brain Sciences Institute, Swinburne University, PO Box 218, Hawthorn, Victoria 3122, Australia, e-mail: gdevilly@swin.edu.au.

words following remember instructions than low-DES subjects did, and there was a parallel trend for recognition performance. DePrince and Freyd (2004) replicated this result in a study with words presented just one time each (they were presented three times in the 2001 study). This methodology increased the hypothesized effect. In both of DePrince and Freyd's studies, only the difference between neutral and trauma words was analyzed.

Overall, though, these results are at odds with those of McNally et al. (1998), particularly considering that the PTSD sample in the study by McNally et al. displayed significantly higher DES scores than the other two groups. McNally, Ristuccia, and Perlman (2005) recently attempted to replicate DePrince and Freyd's (2004) study with people denying a history of CSA, people reporting continuous memories of CSA, and people reporting recovered memories of CSA. Contrary to DePrince and Freyd (2004), McNally et al. found that all three groups were able to recall trauma cues better than neutral words and that there was no effect of cognitive load.

However, there has never been a study exactly replicating DePrince and Freyd's (2001, 2004) method. In the current research, we aimed to test DePrince and Freyd's procedures and conclusions with an Australian college sample. Two studies were conducted. In the first, subjects were presented with each block of words three times before recall was tested (as in DePrince & Freyd, 2001); in the second study, subjects were presented with the words only once before being tested (as in DePrince & Freyd, 2004).

METHOD

Subjects

In the first study, 50 subjects (mean age = 20.68 years, SD = 3.22) volunteered to take part in a memory task in response to advertisements placed around various Victorian (Australia) universities. From this group, 42 students (29 female) were selected to participate in further testing on the basis of their scores on the DES (Bernstein & Putnam, 1986) and availability. Those scoring between 0 and 10 constituted the low-DES group (n = 23; mean age = 21.43 years, SD = 3.49; mean DES score = 5.59, SD = 2.86; 6 female). Initially, those scoring 15 and above formed the high-DES group (n = 19; mean age = 20.00 years, SD = 1.63; mean DES score = 22.71, SD = 5.81). However, in order to adhere to DePrince and Freyd's (2001, 2004) recommendations, only those students scoring 20 and above were included in subsequent analyses (n = 14; mean age = 19.64 years, SD = 1.45; mean DES score = 24.72, SD = 5.39; 9 female).

For the second study, the same procedure was followed. Of 142 students who were screened with the DES (58 male and 84 female), 37 met the criterion of scoring 10 or below (n = 20; mean age = 21.65 years, SD = 3.00; mean DES score = 6.07, SD = 1.67; 10 female) or scoring 20 or above (n = 17; mean age = 20.12, SD = 2.42; mean DES score = 31.58, SD = 9.16; 9 female).

An a priori power analysis of DePrince and Freyd's 2001 study (in which each block was presented three times) suggests a moderate to large effect size (Cohen's d = 0.6; A.P. DePrince, personal communication, April 7, 2006) for the interaction of word type (neutral vs. trauma) and DES group (high vs. low). However, the 2004 study (in which each block was presented only once) suggests a very large effect size (Cohen's d = 1.16). This means that we could be 95% confident of replicating DePrince and Freyd's results (power = .8) if we had 35 subjects in each group for Study 1 and only 10 in each group for Study 2 (Devilly, 2005). Each study had a total sample size of 37.

Materials and Procedure

The word stimuli (positive, neutral, and trauma words) were those of McNally et al. (1998; and were also used by DePrince and Freyd, 2001, 2004). In Study 1, we replicated the method of DePrince and Freyd (2001), presenting each block of words three times before recall, and in Study 2, each block was presented only once.[1] In both studies, subjects' memory for trauma, neutral, and positive words presented during the directed-forgetting task (following remember or forget instructions under the three attention conditions) was assessed using recall and recognition measures, following the method of DePrince and Freyd (2004).

RESULTS

We followed DePrince and Freyd's (2001, 2004) method of analysis, using DES group as the between-subjects variable. Summary statistics are presented in Table 1. Multivariate analyses of variance in both Study 1 and Study 2 revealed that subjects correctly recalled and recognized more remember than forget words, as was anticipated ($p < .001$). This occurred irrespective of DES classification ($ps < .05$).

Analyses Investigating the DES Hypotheses

To test the prediction that high- and low-DES subjects would differ only in their memory for trauma and neutral words that they were instructed to remember under the divided-attention condition with motor response (DePrince & Freyd, 2001, 2004), we conducted a 2 (DES group: low vs. high) × 2 (word type: neutral vs. trauma) repeated measures analysis of variance (ANOVA) for each of the three attention conditions. Positive words were not included in the analyses in order to provide an initial direct analytic replication.

We did not find a significant interaction between DES group and word type for any of the three attention conditions during either the free-recall or the recognition task. The results for free recall were as follows: Study 1—$F(1, 35) = 0.0$, n.s., for

[1]Subjects in Study 2 also wore an electroencephalogram cap and reference electrodes; recordings were taken for 10 s at the end of the task.

TABLE 1

Mean Number of Words Correctly Recalled and Recognized by Subjects With Low (≤ 10) and High (≥ 20) Scores on the Dissociative Experiences Scale (DES) in Studies 1 and 2

	Recall						Recognition					
	Trauma words		Neutral words		Positive words		Trauma words		Neutral words		Positive words	
Study and group	F	R	F	R	F	R	F	R	F	R	F	R
Selective attention												
Study 1												
Low DES	0.96	1.52	0.39	2.30	0.35	0.83	2.26	2.65	1.00	3.57	1.70	2.74
	(0.88)	(0.79)	(0.58)	(1.22)	(0.49)	(0.83)	(0.86)	(0.89)	(0.67)	(0.99)	(0.88)	(1.21)
High DES	0.50	1.00	0.21	1.79	0.43	0.43	2.00	2.43	0.71	3.50	1.64	2.71
	(0.65)	(0.79)	(0.43)	(1.25)	(0.65)	(0.65)	(1.04)	(0.85)	(0.91)	(0.94)	(1.01)	(1.38)
Study 2												
Low DES	0.45	1.05	0.15	1.60	0.05	0.55	1.75	2.25	0.40	3.00	0.85	1.85
	(0.61)	(0.95)	(0.37)	(1.14)	(0.22)	(0.76)	(0.72)	(0.85)	(0.68)	(1.08)	(0.88)	(0.75)
High DES	0.65	1.05	0.29	1.47	0.06	0.88	2.00	2.29	0.35	3.00	1.18	1.88
	(0.93)	(0.66)	(0.77)	(0.94)	(0.24)	(0.99)	(1.00)	(0.77)	(0.61)	(0.94)	(1.24)	(0.78)
Divided attention with motor response												
Study 1												
Low DES	0.39	1.48	0.96	0.61	0.43	1.17	1.87	2.39	2.74	1.48	1.22	3.17
	(0.58)	(0.85)	(0.83)	(0.99)	(0.66)	(1.03)	(1.22)	(0.84)	(1.32)	(0.73)	(0.85)	(0.94)
High DES	0.43	0.93	0.71	0.79	0.79	0.50	2.00	2.29	2.57	1.50	1.50	2.29
	(0.65)	(0.73)	(0.83)	(0.70)	(0.98)	(0.65)	(1.18)	(1.14)	(1.02)	(0.65)	(0.86)	(1.44)
Study 2												
Low DES	0.55	1.50	0.55	0.55	0.15	1.05	1.30	2.30	1.95	1.10	0.80	1.95
	(0.61)	(0.89)	(0.76)	(0.69)	(0.37)	(0.83)	(0.87)	(0.87)	(1.15)	(0.79)	(0.77)	(1.19)
High DES	0.06	0.82	0.35	0.29	0.24	0.94	1.18	1.65	2.18	0.82	0.82	1.71
	(0.24)	(0.64)	(0.49)	(0.47)	(0.44)	(0.97)	(1.02)	(0.70)	(1.33)	(0.81)	(0.64)	(1.21)
Divided attention with verbal response												
Study 1												
Low DES	0.17	1.70	0.43	0.26	0.17	0.47	0.78	3.17	2.09	1.09	1.26	1.26
	(0.39)	(1.11)	(0.66)	(0.45)	(0.39)	(0.79)	(0.67)	(1.11)	(1.70)	(0.85)	(0.69)	(1.18)
High DES	0.07	1.57	0.50	0.07	0.29	0.29	0.79	3.14	2.50	0.86	1.21	2.00
	(0.27)	(1.16)	(0.76)	(0.27)	(0.47)	(0.47)	(0.70)	(1.56)	(1.22)	(0.77)	(0.89)	(1.41)
Study 2												
Low DES	0.10	0.80	0.15	0.15	0.20	0.20	0.50	2.40	0.90	0.15	1.00	0.75
	(0.31)	(0.77)	(0.37)	(0.37)	(0.41)	(0.41)	(0.61)	(1.05)	(1.07)	(0.37)	(0.65)	(0.64)
High DES	0.12	0.82	0.12	0.00	0.12	0.06	0.47	2.24	1.18	0.29	0.77	0.88
	(0.33)	(0.64)	(0.33)	(0.00)	(0.33)	(0.24)	(0.62)	(1.03)	(1.38)	(0.47)	(0.75)	(1.05)

Note. Standard deviations are given in parentheses. F = words subjects were instructed to forget; R = words subjects were instructed to remember.

selective attention; $F(1, 35) = 3.07$, n.s., for divided attention with motor response; and $F(1, 35) = 0.03$, n.s., for divided attention with verbal response; Study 2—$F(1, 35) = 0.14$, n.s., for selective attention; $F(1, 35) = 2.09$, n.s., for divided attention with motor response; and $F(1, 35) = 0.46$, n.s., for divided attention with verbal response. The results for recognition were as follows: Study 1—$F(1, 35) = 0.23$, n.s., for selective attention; $F(1, 5) = 0.13$, n.s., for divided attention with motor response; and $F(1, 35) = 0.21$, n.s., for divided attention with verbal response; Study 2—$F(1, 35) = 0.01$, n.s., for selective attention; $F(1, 5) = 1.21$, n.s., for divided attention with motor response; and $F(1, 5) = 0.94$, n.s., for divided attention with verbal response.

Besides finding differences between the high- and low-DES groups when free recall and recognition for trauma words were measured relative to memory for neutral words under low or moderate cognitive load, DePrince and Freyd (2001, 2004) also found that high dissociators remembered fewer trauma words than neutral words, in absolute terms, under moderate cognitive load, whereas low dissociators showed an exactly opposite free-recall profile. We present results from DePrince and Freyd's studies and our two studies in graphic form in Figure 1. As the figure shows, although there was an interaction effect in DePrince and Freyd's studies, our studies did not show this interaction.

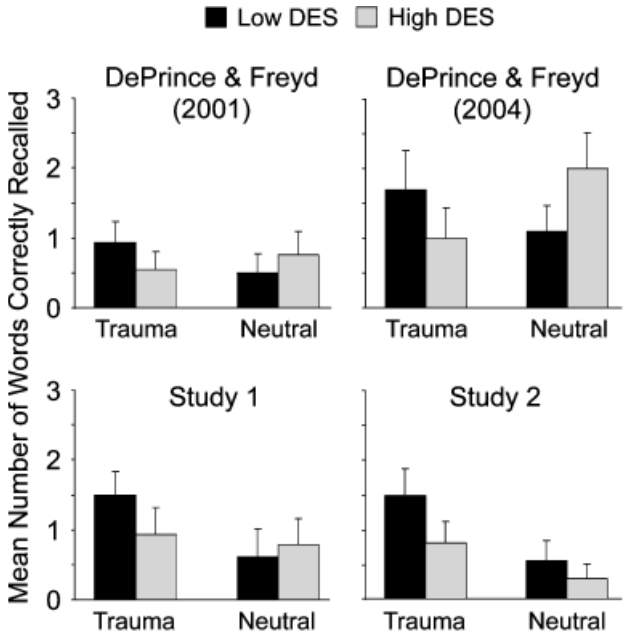

Fig. 1. Mean number of correctly recalled words in the moderately difficult divided-attention condition as a function of word type (trauma vs. neutral) and score on the Dissociative Experiences Scale (DES; low vs. high). Results are shown for DePrince and Freyd's (2001, 2004) two studies, as well as for the two studies reported here. Error bars indicate the upper bounds of the 95% confidence intervals above the means.

A good test of replication is meta-analysis, which we conducted using ClinTools Software (Devilly, 2005). Table 2 presents the effect sizes of the various unitary conditions in both of DePrince and Freyd's (2001, 2004) studies and our Studies 1 and 2. As shown, weighted mean Hedges's $\hat{g}$ effect sizes were very small, and the 95% confidence intervals were very large. In fact, in some cases—and even within DePrince and Freyd's own studies—effect sizes from different studies were in different directions (+ vs. −). Given such results, and the growing difficulty of publishing null effects, we evaluated the results using *Fail Safe N* (Rosenthal, 1979). This is a method of incorporating publication bias into a meta-analysis to provide a greater degree of confidence in any hypothesized effect. For only one effect did all four studies obtain a similar result and together produce a *Fail Safe N* above Rosenthal's (1984) criterion for "reasonable" confidence: the effect for the low-DES group under the divided-attention condition with moderate cognitive load (see Table 3). Results were consistent with those of McNally et al. (2005) in that low DES scorers in our studies, as well as DePrince and Freyd's, remembered more trauma words than neutral words. For every other effect, the direction of the effect size was not the same across all four studies.

Supplementary Analyses

To assess the results of McNally et al. (2005), who found more trauma words remembered than neutral words (irrespective of attention condition), we analyzed the total number of words remembered using a repeated measures ANOVA with DES group as the independent variable and performance across all word types (trauma, neutral, or positive) as the dependent variable. Our results were consistent with those of McNally et al.: More trauma words than neutral or positive words were recalled, irrespective of DES group, both in Study 1, $F(2, 70) = 27.24$, $p < .001$, and in Study 2, $F(2, 70) = 14.92$, $p < .001$. There were no significant DES-group-by-word-type interactions. In addition, we found a significant effect for DES group in Study 1, $F(1, 35) = 5.30$, $p < .03$, with the high-DES group remembering fewer words overall than the low-DES group. This difference did not reach significance in Study 2, $F(1, 35) = 1.95$, n.s.

A one-way ANOVA revealed a significant difference between DES groups in the number of false positives on the recognition task in Study 1, $F(1, 35) = 4.77$, $p < .03$. Subjects in the high-DES group ($M = 9.71$, $SD = 6.66$) reported more false positives than those in the low-DES group ($M = 5.48$, $SD = 5.09$). However, this effect—which had large confidence intervals (Hedges's $\hat{g} = 0.72$, 95% confidence interval = 0.04−1.41)—was not apparent in Study 2 ($F < 1$). In Study 2, irrespective of DES classification, false recalls were higher for trauma words ($M = 2.51$, $SD = 2.84$) than for positive words ($M = 2.38$, $SD = 1.86$) and neutral words ($M = 1.32$, $SD = 1.29$), $F(2, 70) = 5.43$, $p < .007$. Comparable data were not collected in Study 1, so the effect of word type on false recall could not be analyzed for that study.

DISCUSSION

The present results do not support the hypothesis that under divided-attention conditions of moderate difficulty, high-DES subjects show worse memory for trauma remember words than for neutral remember words. Further, no significant interaction effects between word type (trauma vs. neutral) and DES group (high vs. low) were found in recall or recognition during any of the attention conditions. Likewise, no significant differences were found between DES groups in memory performance following remember versus forget instructions. It should be noted that for free recall in Study 1 and Study 2, the F values for the interaction of DES group and word type (trauma vs. neutral) in the moderate-cognitive-load condition were 3.07 and 2.09. Although these values were not significant and are much lower than those previously reported (DePrince & Freyd, 2001, 2004), they are at least in the same direction as those previously reported. However, as is also clear from Figure 1 and the meta-analysis, these F values do not reflect the hypothesized effect—that is, that high dissociators remember fewer trauma than neutral words under moderate cognitive load and that low dissociators do not show this pattern.

However, we also did not find that recognition of remember words showed a trend for an interaction between DES group and word type. Countering DePrince and Freyd's (2004) hypothesis,

TABLE 2
Meta-Analysis of the Four Studies

Group and condition	Hedges's $\hat{g}$	Confidence interval −95%	Confidence interval +95%	Weighting (%)
Low DES, selective attention				
DePrince & Freyd (2001)	−0.21	−0.73	0.32	29.47
DePrince & Freyd (2004)	0.79	0.20	1.38	25.26
Study 1	−0.75	−1.34	−0.15	24.21
Study 2	−0.51	−1.14	0.12	21.05
Fixed-effects meta-analysis	−0.15	−1.29	0.99	
High DES, selective attention				
DePrince & Freyd (2001)	−0.04	−0.56	0.48	35.00
DePrince & Freyd (2004)	1.11	0.46	1.76	26.25
Study 1	−0.73	−1.50	0.03	17.50
Study 2	−0.51	−1.19	0.18	21.25
Fixed-effects meta-analysis	0.04	−1.31	1.39	
Low DES, divided attention				
DePrince & Freyd (2001)	0.54	0.01	1.08	29.47
DePrince & Freyd (2004)	0.50	−0.07	1.08	25.26
Study 1	0.93	0.32	1.54	24.21
Study 2	1.17	0.50	1.84	21.05
Fixed-effects meta-analysis	0.76	0.23	1.29	
High DES, divided attention				
DePrince & Freyd (2001)	−0.25	−0.77	0.28	35.00
DePrince & Freyd (2004)	−0.89	−1.52	−0.25	26.25
Study 1	0.19	−0.55	0.93	17.50
Study 2	0.92	0.22	1.63	21.25
Fixed-effects meta-analysis	−0.09	−1.35	1.16	

Note. Groups were defined by scores on the Dissociative Experiences Scale (DES): high DES = score $\geq$ 20; low DES = score $\leq$ 10. The meta-analysis tested mean recall of trauma words minus mean recall of neutral words for to-be-remembered words.

the results of the current study suggest that subjects' tendency to dissociate does not obviously affect their memory for trauma and neutral words under moderate cognitive load. However, high dissociators tended to recall fewer words than low dissociators in all conditions and overall. As McNally et al. (2005) found, irrespective of subjects' dissociative tendency, recall favored trauma words over neutral words.

TABLE 3
Fail Safe N ***Statistics for the Four Effects Contributing to the Interaction of Dissociation Category and Attention Condition (Selective Attention vs. Divided Attention With Moderate Cognitive Load)***

Group and condition	*Fail Safe N*
Low DES, selective attention	2.15
High DES, selective attention	4.00
Low DES, divided attention	39.08*
High DES, divided attention	3.87

Note. Subject groups were defined by scores on the Dissociative Experiences Scale (DES). In every case, the value of *Fail Safe N* indicating "reasonable" (Rosenthal, 1984) confidence in the effect was 30. The values listed are derived unweighted *Fail Safe N*s based on a 95% confidence interval.
*Confident in result with α = .05.

In Study 1, people who scored higher on the DES tended to "recognize" more words that had not been presented to them than those who scored lower on the DES. In Study 2, however, this result was not replicated. We suggest that three presentations of each word (as in Study 1) may have increased the likelihood of false recognition to the point where this effect became statistically significant. In Study 2, we also found more false recall of trauma words (irrespective of DES classification) than positive and neutral words.

Together, these results suggest that false recall is particularly likely for trauma-related material in general, and that increased dissociative tendency is associated with reduced accurate recall and possibly also general memory error. This finding of memory error concurs with other findings linking dissociation and commission errors (e.g., Candel, Merkelbach, & Kuijpers, 2003; Clancy, Schacter, McNally, & Pitman, 2000); impaired cognitive efficiency due to lack of attentional control and absentmindedness may contribute to this tendency for commission errors in dissociative individuals (Giesbrecht & Merckelbach, 2006; Merkelbach, Muris, Rassin, & Horselenberg, 2000). Heightened dual-tasking abilities and distractibility on focused tasks among high dissociators, such as found by DePrince and Freyd (1999), have also been found to not be a likely explanation

for any differences in memory performance (Wessel, Wetzels, Jelicic, & Merckelbach, 2005).

Taken together, our results are not consistent with the view that dissociation is a protective mechanism whereby emotive memories following trauma become inaccessible through "repression" and that later recall of those memories is accurate. This research also fails to suggest any specific mechanisms of repression or even that people do repress memories. The weight of evidence suggests that the concept of dissociation requires clarification and that there is a strong possibility that differential research results are related to experimental noise rather than underlying cognitive mechanisms. Overall, this research suggests that individuals with high dissociative tendencies do not display an avoidant encoding style specific to trauma words under conditions of moderate cognitive load. There is also some evidence that high dissociators may display an increased rate of commission errors.

Acknowledgments—We would like to thank Richard McNally for clarifying his scoring criteria and Anne DePrince for forwarding to us the word lists from McNally, Metzger, Lasko, Clancy, and Pitman (1998).

REFERENCES

Bernstein, E.B., & Putnam, F.W. (1986). Development, reliability and validity of a dissociation scale. *Journal of Nervous and Mental Disease*, *174*, 727–735.

Candel, I., Merkelbach, H., & Kuijpers, M. (2003). Dissociative experiences are related to commissions in emotional memory. *Behaviour Research and Therapy*, *41*, 719–725.

Clancy, S.A., Schacter, D., McNally, R.J., & Pitman, R.K. (2000). False recognition in women reporting recovered memories of sexual abuse. *Psychological Science*, *11*, 26–31.

DePrince, A.P., & Freyd, J.J. (1999). Dissociative tendencies, attention, and memory. *Psychological Science*, *10*, 449–452.

DePrince, A.P., & Freyd, J.J. (2001). Memory and dissociative tendencies: The roles of attentional context and word meaning in a directed forgetting task. *Journal of Trauma & Dissociation*, *2*, 67–82.

DePrince, A.P., & Freyd, J.J. (2004). Forgetting trauma stimuli. *Psychological Science*, *15*, 488–492.

Devilly, G.J. (2005). ClinTools Software for Windows (Version 3.5) [Computer program]. Melbourne, Australia: Psytek Ltd.

Freyd, J.J. (1994). Betrayal-trauma: Traumatic amnesia as an adaptive response to childhood abuse. *Ethics & Behavior*, *4*, 307–329.

Freyd, J.J., Martorello, S.R., Alvarado, J.S., Hayes, A.E., & Christman, J.C. (1998). Cognitive environments and dissociative tendencies: Performance on the Standard Stroop Task for high versus low dissociators. *Applied Cognitive Psychology*, *12*, S91–S103.

Freyd, J.J., Putnam, F.W., Lyon, T.D., Becker-Blease, K.A., Cheit, R.E., Siegel, N.B., & Pezdek, K. (2005). The science of child sexual abuse. *Science*, *308*, 501.

Giesbrecht, T., & Merckelbach, H. (2006). *Dissociative experiences in undergraduate students reflect lack of cognitive efficiency*. Manuscript submitted for publication.

McNally, R.J., Metzger, L.J., Lasko, N.B., Clancy, S.A., & Pitman, R.K. (1998). Directed forgetting of trauma cues in adult survivors of childhood sexual abuse with and without posttraumatic stress disorder. *Journal of Abnormal Psychology*, *107*, 596–601.

McNally, R.J., Ristuccia, C.S., & Perlman, C.A. (2005). Forgetting of trauma cues in adults reporting continuous or recovered memories of childhood sexual abuse. *Psychological Science*, *16*, 336–340.

Merckelbach, H., Muris, P., Rassin, E., & Horselenberg, R. (2000). Dissociative experiences and interrogative suggestibility in college students. *Personality and Individual Differences*, *29*, 1133–1140.

Rosenthal, R. (1979). The file drawer problem and tolerance for null results. *Psychological Bulletin*, *86*, 638–641.

Rosenthal, R. (1984). *Applied social research methods series: Vol. 6. Meta-analytic procedures for social research*. Newbury Park, CA: Sage.

Spiegel, D. (1997). *Repressed memories*. Washington, DC: American Psychiatric Press.

Wessel, I., Wetzels, S., Jelicic, M., & Merckelbach, H. (2005). Dissociation and memory suppression: A comparison of high and low dissociative individuals' performance on the Think-No Think task. *Personality and Individual Differences*, *39*, 1461–1470.

(RECEIVED 6/29/05; REVISION ACCEPTED 5/11/06;
FINAL MATERIALS RECEIVED 5/25/06)