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Individual Differences in Suggestibility: Examining the Influence of Dissociation, Absorption, and a History of Childhood Abuse

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SUMMARY

This study examined how individual differences in dissociation, absorption and a history of abuse are related to memory and suggestibility for the details of a personally experienced, known event. One hundred and thirty college students took part in a staged event and completed the Dissociative Experiences Scale (DES), the Tellegen Absorption Scale (TAS), and questions about each participant's history of childhood abuse. One week after the staged event and initial testing, the students were questioned about the event. Dissociation and absorption were significantly related to errors on misleading questions but unrelated to errors on specific (non-misleading) questions. Reports of a history of child abuse were also related to dissociation and absorption but were generally unrelated to event memory or resistance to misleading information. © 1998 John Wiley & Sons, Ltd.

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Though the vulnerability of memories to distortion through suggestion has been studied for some time, recent controversies about the accuracy of delayed memories of childhood abuse have raised new questions in this area of research. First, are memories for personally experienced, highly salient events such as traumatic abuse as vulnerable to distortion as memories for the kinds of observed, personally inconsequential events typically studied in controlled laboratory studies? Second, are there individual differences in vulnerability to suggestion that may be relevant to reports of delayed recall of traumatic events? Finally, are individuals with a greater tendency to dissociate more suggestible than non-dissociative persons? The first question has been addressed empirically to some degree. The present study was designed to address the latter two questions in a preliminary manner.

It has been convincingly demonstrated that the eyewitness memory reports of many individuals can be easily distorted by asking questions in a deliberately misleading manner, in both adults (Loftus, 1979, Loftus and Pickrell, 1995), and children (see Ceci and Bruck, 1993, for a review). The degree to which a person shows resistance to such misinformation is generally considered to be an index of their suggestibility. Though methods used to assess suggestibility differ somewhat from study to study (see Schooler and Loftus, 1993 for a review), suggestibility is generally assessed by an individual's accuracy on questions that include some element of misinformation.

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concept of dissociation to explain hypnotic phenomena such as hypnotic analgesia (Hilgard, 1986) or post-hypnotic amnesia (Frankel, 1994). Psychologists have also used the term dissociation to refer to phenomena of parallel streams of consciousness and divided attention, such as when individuals engage in two cognitive tasks simultaneously (Hilgard, 1986). It is clear, then, that across various fields of psychology and psychiatry, the term dissociation has been used to refer to various different psychological phenomena and to experiences of different intensities.

Though dissociation might be manifested cognitively, affectively, behaviourally, or physiologically, most of the dissociation research of the past decade has operationalized the variable with the Dissociative Experiences Scale (DES; Bernstein and Putnam, 1986). The DES measures mild to severe experiences of amnesia, depersonalization, derealization, absorption, and imaginative involvement. These experiences can all be conceptualized as forms of cognitive avoidance because they all serve to distance an individual from their immediate or past experiences (Carlson, 1997). It should be kept in mind, then, that while the term dissociation is used to refer to a wide variety of experiences, it is defined in this and most other studies as manifestations of cognitive avoidance. Furthermore, recent studies have shown that a subset of eight DES items reflect a pathological form of dissociation that is taxonic (or typological) in nature rather than continuous (Waller *et al.*, 1996; Waller and Ross, 1997). High scores on this subset of items are found almost exclusively among those with trauma-related or dissociative disorders.

When examining dissociation in non-clinical samples, such as college students, absorption represents one of the more interesting types of dissociation. The reason for the increased interest in absorption when looking at this population is that unlike depersonalization, derealization or amnesia, absorption is considered to be a more mild form of dissociation and therefore may be more normally distributed in samples of college students. Absorption, is also interesting because it has been found to be highly related to measures of visual imagery (Lynn and Rhue, 1988). This is important because measures of visual imagery have been found to be related to increased suggestibility (Tousignant, 1984), source monitoring errors (Dobson and Markham, 1993), and the acceptance of false childhood memories (Hyman and Billings, 1998). In addition, the most commonly used measure absorption, the Tellegen Absorption Scale (TAS) has been found to be related to scoring on the DES (Hyman and Billings, 1998). Absorption is also a basic component of fantasy proneness which has been linked to reports of child abuse in non-clinical populations of college students (see Lynn and Rhue, 1988, for a review).

The major goal of this study was to examine how individual differences in dissociation, absorption, and a history of abuse are related to memory and suggestibility. Specifically we sought to determine whether dissociation and/or absorption were related to poorer memory and/or increased suggestibility for the details of a personally-experienced known event. We also examined relations between a history of childhood abuse and increased dissociation and absorption in adulthood, and investigated direct links between reports of child abuse and either deficits in event memory or increased suggestibility.

Several hypotheses were advanced:

(1) Level of dissociation would be positively related to suggestibility.
(2) Level of dissociation would be negatively related to event memory.

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It is generally believed that there are conditions under which memory is likely to be inaccurate or modifiable as well as other conditions under which it may be highly accurate and stable (Pezdek, Finger, and Hodge, 1997; Pezdek and Roe, 1994; Stein *et al.*, 1997). Salience and centrality appear to be especially important factors in determining an individual's resistance to misleading information about the details of an experience (Pezdek *et al.*, 1997). In particular, memories of highly salient, personally experienced events are believed to be more memorable, and therefore more likely to be accurate and stable, than memories for events with low salience that lack personal relevance (Banaji and Hardin, 1994; Bradburn *et al.*, 1987; Loftus, 1979). Also, memory for the central details of a given experience tends to be more accurate and resistant to the suggestive effects of misleading information than memory for the peripheral details of an event, which are thought to be less memorable, and therefore more easily distorted by the introduction of misinformation (Goodman and Reed, 1986; Loftus, 1979).

In research examining the effects of child sexual abuse and other traumatic experiences, some studies have found that memory for the central details of traumatic events may be well preserved over very long periods of time (see Robbins, 1988, and Christianson, 1992 for reviews). These studies have also found that memories of traumatic events can even be more accurate than recall for other types of experiences (Christianson, 1992; Christianson and Loftus, 1987). This finding apparently holds true even with participants who are psychologically disordered (Brewin *et al.*, 1993). Conversely, there are reports of serious disruptions in memory, or even amnesia for the central details of highly stressful and presumably traumatic life events (Williams, 1994; van der Kolk *et al.*, 1996), and of general autobiographical memory deficits in persons who report a history of severe childhood abuse (Edwards and Fivush, 1998).

The frequency of dissociative experiences may be an important variable for understanding the relationship between suggestibility and memory for highly salient, personally experienced events. Dissociative experiences are a common response to trauma (see Spiegel and Cardena, 1991, and van der Kolk and Fisler, 1995 for reviews) and have been found to be related to memory problems in traumatized adults (van der Kolk and Fisler, 1995) and abused children (Putnam, 1997). Putnam (1997) has observed that dissociative individuals are less confident in their recollections, and that this lack of confidence may make them more vulnerable to the effects of misinformation.

Dissociation is a confusing term because it has been used to describe such a wide range of experiences and symptoms. Definitions of dissociation have varied greatly. Some representative definitions include: 'The lack of the normal integration of thoughts, feelings, and experiences into the stream of consciousness and memory' (Bernstein and Putnam, 1986, p. 727); 'a compartmentalization of experience' (van der Kolk *et al.*, 1996, p. 306); and the 'disruption in the usually integrated functions of consciousness, memory, identity, or perception of the environment' (American Psychiatric Association, 1994, p. 477). Dissociative experiences are observed as prominent symptoms of trauma-related disorders such as acute stress disorder, posttraumatic stress disorder, and dissociative disorders (Allen, 1995; American Psychiatric Association, 1994). But experiences that are considered dissociative occur in other, non-clinical contexts as well. For example, participants in normative samples commonly report dissociative experiences such as mild depersonalization and absorption (Putnam *et al.*, 1991). Hypnosis researchers and practitioners have used the

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you resulted in physical injury (bruises, scarring, broken bones, etc.)?'. Participants were offered three alternatives: never, one time, two or more times. The second question read 'Before the age of 12, did you ever participate in sexual behaviours (with or without coercion) with persons at least 5 years older than yourself?' Participants were again offered the same three alternatives (Never, one time, two or more times).

Post Event Memory Questionnaire

The Post Event Memory Questionnaire is a 24-item questionnaire developed for this study to assess participants' memory and resistance to misleading information for a staged event. The questionnaire was composed of eight misleading and nine factual questions about events that occurred during the experimenter's staged visit to the classroom. Four of the 24 items were not directly related to the event, while three items were not included in the analyses due to variations in the procedure across groups. The questions used in the study are presented in Table 1. The misleading questions all involved a suggestion that something occurred that actually did not. The participants were offered two alternatives to most of these questions: 'I remember this occurring', 'I do not remember this occurring.' Incorrect responses on the misleading questions constituted errors of commission and were used as the primary measure of suggestibility in this study (operationalized here as resistance to misleading information). The specific questions all tested the participants' memory for accurate factual details (not suggestions). Incorrect responses on these questions constituted errors of omission (a statement that they did not remember an accurate factual detail) and were the primary measure of event memory in this study.

To determine the centrality of items, ratings were made *post hoc* by 40 undergraduate students enrolled in a course on Learning and Memory. These students all took part in the experimental procedures and then rated the centrality of each item on the Post Event Memory Questionnaire using a 1–7 Likert scale. As a group the raters were told:

> Here are the questions asked to the participants in the study. This questionnaire was administered to all participants one week after they went through the same procedures you just experienced. Some questions on this form are related to more central details of the experience, whereas others are related to more minor, peripheral details of the experience. I would like you all to rate the centrality of the details asked about in each question. A score of 1 on the scale indicates that the question addressed 'a very minor detail that was very easy to forget', and a score of 7 indicates that the question addressed 'a very central detail that was very easy to remember'. We will use your ratings to determine which questions in the study asked about central details of the experience and which refer to more peripheral details of the experience. Please rate each question on this scale no matter if you remember the event occurring or not.

The data were tabulated and the questions were divided into the two groups (central and peripheral) based on a median split of the cumulative ratings. Eight of the 17 items (four misleading and four specific) received mean centrality ratings of 4.5 or greater and were classified as central. The remaining nine items (three misleading and six specific) received average centrality ratings of 3.8 or less and were classified as peripheral. Based on the rating criteria employed, we considered central questions to

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(3) Absorption would be positively related to suggestibility and negatively related to event memory.
(4) Reports of a history of child abuse would be positively related to dissociation and absorption.
(5) Reports of a history of child abuse would not be related to memory deficits or increased suggestibility.

METHODS

Participants

Participants were 130 volunteers (41 males, 89 females) from introductory psychology courses at two local community colleges in the Chicago area. Participants ranged in age from 18 to 60 ($M = 26.5$, $SD = 9.8$). Six of the 130 participants did not answer all the specific questions on the Post Event Memory Questionnaire, while four participants did not complete all the questions on the TAS.

Instruments

Dissociative Experiences Scale (DES)
This scale was used to quantify participants' dissociative experiences. This 28-item self-report measure inquires about experiences of amnesia, depersonalization, derealization, absorption, and imaginative involvement. Participants are asked to circle a number to show what percentage of the time each experience happens to them. DES scores are the average of the 28 item scores and can range from 0–100. DES-T scores are the average of DES items 3, 5, 7, 8, 12, 13, 22, and 27 and can range from 0 to 100 (Waller et al., 1996). In psychometric studies of a wide range of populations (including both traumatized and non-clinical samples), the DES has been shown to be highly reliable with internal reliability coefficients ranging from 0.83 to 0.95 and test–retest reliability coefficients ranging from 0.79 to 0.96 (Bernstein and Putnam, 1986; Carlson and Putnam, 1993; Waller, 1995). The validity of the DES has been supported by studies showing good convergent and discriminant validity and high levels of sensitivity and specificity when identifying participants with dissociative identity disorder (Carlson and Putnam, 1993; Waller, 1995). In addition, mean scores on the DES have been highly consistent across studies for populations of interest (general population, PTSD, dissociative disorders) (Carlson and Putnam, 1993).

The Tellegen Absorption Scale (TAS).
The TAS is designed to assess the tendency to become deeply involved (absorbed) in everyday activities. This measure was designed to test the individuals' ability to set ordinary reality aside temporarily while engaging in fantasy (Tellegen and Atkinson, 1974). Total scores on the scale are the sum of the items identified as true on the scale. The TAS has been found to have adequate reliability and construct validity (Tellegen and Atkinson, 1974).

Reports of a history of child abuse
Each participant was given a questionnaire asking about abuse-related experiences in their childhood. The first question read 'Before the age of 12 parental punishment of

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experimenter, followed by a tape-recorded hypnotic induction where the participants are asked to engage in a series of behaviours (e.g. closing their eyes, moving their arms, imagining events occurring). Following the tape-recorded portion of the HGSHS:A, the participants were asked to fill out a brief self-report questionnaire designed to gauge each participant's hypnotic susceptibility by assessing which suggested behaviours they performed during the procedure.

One week after the staged event, the experimenters returned to the participants' classrooms to administer a set of questionnaires that included: the DES, the TAS, several questions about the participants' history of abuse, and the Post Event Memory Questionnaire designed for this study. The questionnaires were stapled together in counterbalanced order. Following the completion of these questionnaires, all participants were thoroughly debriefed.

RESULTS

Table 2 shows the distribution of participants' errors on the misleading questions. Table 1 shows the content of the Post Event Memory Questionnaire items and the percentage of participants who made errors on each question. The mean for the DES scores was 19.0 ($SD = 14.6$), the DES-T mean was 10.5 ($SD = 12.7$), and the TAS mean was 20.16 ($SD = 7.96$). Since the direction of the relationships examined in this study were all predicted *a priori*, the probabilities are reported as one-tailed.

Table 2. Number of errors on misleading questions

		DES	
	n	*M*	*SD*
0	56	16.16	11.62
1	44	20.41	15.85
2	24	20.92	17.49
3	3	21.42	14.44
4	1	33.07	–
5	0		–
6	1	43.79	

Pearson correlations were conducted to examine relations among overall suggestibility to misleading information, suggestibility for central details, suggestibility for peripheral details, event-memory, dissociation, pathological dissociation, and absorption (see Table 3). Although no participants in this sample scored above 2 *SD*s on the DES, visual inspection of the data revealed one participant with very high scores on both the misleading questions and the DES. This participant had the highest score in the sample for errors on misleading questions (6), and a DES score that exceeded the 90*th* percentile (44). The data were reanalysed without this outlier. Pearson correlations continued to show a significant relationship between errors of commission on misleading questions and DES scores in the predicted direction $r(128) = 0.16$, $p = 0.04$, and between errors on misleading questions and DES-T scores $r(128) = 0.16$, $p = 0.03$. In these analyses omitting the most extreme outlier, the correlation between central misleading questions and DES scores also remained

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Table 1. Post Event Memory Questionnaire

	Question type	Percentage of participants who made errors on each question
1. During the introduction the experimenter spilled a box of pencils.	S-C	27.3
2. A door slammed just before we began the procedure.	ML-P	20.6
3. The experimenter told you to 'Relax and enjoy the experiment'.	S-P	12.7
4. As we began the procedure a girl in the hallway screamed, 'Hey you guys wait up for me'.	ML-P	3.6
5. When you all came in to the room and sat down, the experimenter tripped and fell.	ML-C	3.0
6. During the recorded hypnotic induction the voice on the tape told you that 'Thinking about a movement and making a movement are closely related'.	S-P	22.4
7. During the recorded hypnotic induction, the voice on the tape told you to 'Sit up straight'.	S-P	6.1
8. At the beginning of the recorded hypnotic induction, the first thing the voice on the tape told you to do was 'Take a deep breath'.	ML-P	31.5
9. When the experimenter told you to pass your consent forms forward, they erased a message on the board.	S-P	59.4
10. What was the message on the board?	S-P	57.7
11. How many experimenters came to your class?	S-C	17.6
12. Was the music they were playing on the tape deck when you came in the room (A = loud, B = soft, C = I don't remember)?	ML-C	9.7
13. The experimenter asked anyone wearing glasses to take them off before the hypnosis.	S-C	15.2
14. The experimenter asked anyone chewing gum to spit it out before the hypnosis.	S-C	13.3
15. The experimenter asked anyone wearing contacts to take them out before the hypnosis.	ML-C	1.8
16. The experimenter said hypnosis can be just like becoming involved in a movie.	S-P	35.2
17. The experimenter said hypnosis can be like letting all control go and giving it to another person.	ML-C	12.1

The alternatives to all questions (except 10, 11 and 12) were: A: I remember this occurring and B: I don't remember this occurring. ML = Misleading, S = Specific, C = Central, P = Peripheral.

be those related to more memorable aspects of the experience, while peripheral questions were related to more minor, less memorable details of the event.

Procedure

The experimenters visited the participants' classrooms on two occasions. During the first visit, the experimenters staged a series of well-orchestrated events that the participants would be questioned about one week later. These events included: writing and erasing messages on the board, spilling a box of pencils, making various statements, and administering the Harvard Group Scale of Hypnotic Susceptibility (HGSHS:A). The HGSHS:A includes a brief introduction to hypnosis by the

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significant in the predicted direction $r(128) = 0.16$, $p = 0.04$, as did the correlations between central misleading questions and scoring on the DES-T $r(128) = 0.22$, $p = 0.01$.

Child abuse, dissociation and absorption

The next set of analyses examined relations between participants' reports of a history of physical or sexual abuse and scoring on the DES, DES-T, or TAS. Preliminary analyses revealed no differences between those participants who reported single versus multiple physical or sexual abuse experiences. Therefore, the three levels of abuse history for physical and sexual abuse (never, one time, two or more times) were collapsed to form two groups (abused versus non-abused). Proportion scores were calculated for errors on misleading and specific questions. Proportion of errors on central and peripheral misleading and specific questions were also examined. *T*-tests were conducted to examine differences in scores on the DES, DES-T, and TAS (dependent variables) across levels (yes and no) physical and/or sexual abuse experience, sexual abuse experience, or physical abuse experience (independent variables). These analyses revealed that reports of a history of physical and/or sexual abuse were related to scoring on the DES, $t(130) = -2.11$, $p = 0.02$, DES-T $t(130) = p = 0.04$, and TAS $t(127) = -2.83$, $p = 0.002$ (see Table 4). Physical abuse was also related to scoring on the DES, $t(130) = -1.88$, $p = 0.03$, DES-T $t(130) = -1.89$, $p = 0.03$, and TAS $t(127) = -2.40$, $p = 0.01$ (see Table 4). Sexual abuse experience was related to scoring on the TAS $t(127) = -2.23$, $p = 0.01$, but not the DES, $t(130) = -0.71$, or DES-T, $t(130) = -1.20$ (see Table 5).

Table 4. *t*-tests across physical abuse experience for dissociation, absorption, and proportion of errors on misleading and specific questions

	No abuse $n = 94$ M (SD)	Physical abuse $n = 36$ M (SD)	t
DES	17.4 (13.4)	22.7 (16.6)	−1.88*
DES-T	9.2 (11.8)	13.9 (14.7)	−1.71*
TAS	19.1 (7.7)	22.8 (8.2)	−2.40**
Errors on misleading questions	0.13 (0.15)	0.10 (0.11)	1.03
Errors on central misleading questions	0.07 (0.15)	0.06 (0.11)	0.37
Errors on peripheral misleading questions	0.21 (0.24)	0.15 (0.20)	0.89
Errors on specific questions	0.77 (0.15)	0.75 (0.19)	0.79
Errors on central specific questions	0.88 (0.16)	0.80 (0.24)	1.87
Errors on peripheral specific questions	0.70 (0.21)	0.71 (0.23)	−0.23

Notes: Since the direction of the relationships examined in this study were all predicted *a priori*, the probabilities are reported as one-tailed.
$^{*}p < 0.05$, $^{**}p < 0.01$.

Child abuse, memory and suggestibility

The next set of analyses examined relations between participants' history of abuse, event memory and suggestibility. Again, preliminary analyses revealed no differences between those participants who reported single versus multiple physical or sexual abuse experiences and the three levels of abuse history were collapsed to form two

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Table 3. Pearson correlations among the individual difference measures

	DES	DES-T	TAS	Errors on misleading questions	Central misleading questions	Peripheral misleading questions	Errors on specific questions	Central specific questions	Peripheral specific questions
DES									
DES-T	0.88**								
TAS	0.45**	0.34**							
Errors on misleading questions	0.21*	0.16*	0.16*						
Central misleading questions	0.21*	0.21*	0.03	0.71**					
Peripheral misleading questions	0.14	0.06	0.18*	0.84**	0.22**				
Errors on specific questions	0.03	0.04	0.08	0.04	−0.03	0.08			
Central specific questions	−0.06	−0.01	−0.14	−0.03	−0.12	0.07	0.65**		
Peripheral specific questions	−0.00	−0.06	0.16	0.06	0.01	0.08	0.89**	0.24**	

Notes: $*p < 0.05$; $**p < 0.01$.
Since the direction of the relationships examined in this study were all predicted *a priori*, the probabilities are reported as one-tailed.

memorable, peripheral details. Errors of this latter type were far more common and evenly distributed in this study, with error rates on some peripheral misleading questions approaching chance levels (see Table 1). These questions were generally related to aspects of the event that were quite likely given the situation, as well as incidental to the experience (e.g. 'A door slammed before we began the experiment' or 'As we began the procedure, a girl in the hallway yelled, "Hey you guys wait up for me"'). Also, as expected, DES-T scores were positively related to errors on the central misleading questions. However, no relations were found between DES-T scores and peripheral misleading questions, or misleading questions as a group.

It is important to note that although the relationship between dissociation and suggestibility found in this study was statistically significant, it may not necessarily be clinically significant. Changes in DES and DES-T scores appear to account for approximately 3–5% of the variance in errors of commission on misleading questions.

Contrary to our predictions, DES scoring was not related to performance on the specific, non-suggestive questions designed to assess event memory. These findings suggest that self-reports of dissociative symptoms on the DES are related to suggestibility independent of memory ability. This finding is inconsistent with other studies that have shown that suggestibility is related to poorer event memory in adults (Eisen, 1996; Gudjonsson, 1987), and children (Eisen *et al.*, in review).

This pattern of findings raises the question: What is it about dissociation that would affect a person's suggestibility independent of their event memory? Gudjonsson and Clark's (1986) theory of interrogative suggestibility explains that some individuals are less confident in their memories and are therefore more suggestible. This theory would predict that the participants' uncertainty would be most readily apparent when asking misleading questions designed to elicit confusion and uncertainty. As mentioned previously, Putnam (1997) has proposed that dissociative individuals are particularly less confident in their memories, and that this lack of confidence may make them especially more vulnerable to suggestion. Taken together, these propositions explain why dissociation would be related to errors on misleading questions designed to elicit confusion and uncertainty, while being unrelated to performance on specific questions that are more straightforward and lack deception.

Suggestibility and event memory

The lack of a relationship between suggestibility and event memory found in this study may be related to limitations in the way memory and suggestibility were assessed. To assess event memory, we only examined errors of omission on specific questions. These errors involved the participants' failure to acknowledge that an actual event did in fact occur. A more comprehensive assessment of event memory should include the assessment of each participant's free recall, response to open-ended questions, and errors of commission on specific questions. Also, the range of questions used to assess event memory may have been too limited to draw major conclusions from. Suggestibility was assessed in a very different way. We were interested in participants' resistance to misleading information and only looked at errors of commission on misleading questions. These errors involved acknowledging the occurrence of a non-event (saying that something happened that really did not occur). A more comprehensive assessment of suggestibility should also include errors of omission (as done with the specific questions). In addition, we did not provide an assessment of memory ability that was

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Table 5. *t*-tests across sexual abuse experience for dissociation, absorption, and proportion of errors on misleading and specific questions

	No abuse $n = 116$ M (SD)	Sexual abuse $n = 14$ M (SD)	t
DES	18.56 (14.69)	21.5 (13.5)	−0.71
DES-T	9.9 (12.16)	15.4 (16.64)	−1.53
TAS	19.6 (7.9)	24.6 (7.0)	−2.23*
Errors on misleading question	0.12 (0.14)	0.16 (0.11)	−1.14
Errors on central misleading questions	0.06 (0.14)	0.13 (0.13)	−1.55
Errors on peripheral misleading questions	0.19 (0.24)	0.21 (0.17)	−0.41
Errors on specific questions	0.76 (0.16)	0.82 (0.14)	−1.29
Errors on central specific questions	0.86 (0.19)	0.85 (0.13)	0.18
Errors on peripheral specific questions	0.69 (0.22)	0.77 (0.22)	−1.32

Notes: Since the direction of the relationships examined in this study were all predicted apriori, the probabilities are reported as one-tailed.
*$p < 0.05$.

groups (abused versus non-abused). As in the previous analyses, proportion scores were calculated for errors on misleading and specific questions and proportion of errors on central and peripheral misleading and specific questions were also examined. A series of independent *t*-tests were conducted to examine differences in suggestibility and event-memory (dependent variables) across levels of physical and/or sexual abuse experience, sexual abuse experience, or physical abuse experience (independent variables). All analyses were non-significant for physical and/or sexual abuse, physical abuse (Table 4), and sexual abuse (Table 5).

DISCUSSION

The major goal of this study was to examine how individual differences in dissociation, absorption, and a history of abuse are related to event memory and suggestibility. We found that although dissociation was positively related to suggestibility and a history of abuse, abuse history was not related to suggestibility. The findings are discussed in detail next.

Dissociation, memory and suggestibility

As predicted, dissociation was positively related to suggestibility. Specifically, scoring on the DES was related to errors on misleading questions as a group, and errors on the central misleading questions. This is consistent with findings reported by other investigators who have found a relationship between dissociation and suggestibility in both adults (Hyman and Billings, 1998; Paddock *et al.*, 1998; Winograd *et al.*, 1998), and children (Eisen *et al.*, 1997), using a variety of different paradigms.

Interestingly, although dissociation was generally related to suggestibility in this study, scoring on the DES was not related to errors on the peripheral misleading questions. This is not surprising since errors on misleading questions related to the more central and therefore more memorable details of the event should be a much better indicator of suggestibility than errors on misleading questions related to less

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