The Illusion of Illusory Memory
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Summary
In this commentary on the paper, Psychotherapy and Memories of Childhood Sexual Abuse: A Cognitive Perspective, by Lindsay and Read, three points are addressed. First, although the bulk of Lindsay and Read’s paper is devoted to elaborating an explanation for the phenomenon that ‘memory recovery therapies’ may ‘inadvertently lead some adult clients to create illusory memories of childhood sexual abuse’, this phenomenon itself has never been demonstrated. There is a logical flaw in inferring the existence of a phenomenon from the fact that there might be an explanation for it. Second, Signal Detection Theory (SDT) is proposed as a useful heuristic for conceptualizing the debate regarding true memory versus illusory memory for sexual abuse. SDT is applied to elucidate the phenomenon of memory for sexual abuse, and then several directions for future research on this topic using the SDT framework are proposed. Finally, the cognitive research literature on the prevalence of suggestively planted memories is discussed. It is proposed that ‘memory recovery therapy’ is not widespread in the field of psychotherapy and that the evidence for therapist-implanted illusory memories for incestuous sexual abuse is very weak.

This paper provides a commentary to the paper Psychotherapy and Memories of Childhood Sexual Abuse: A Cognitive Perspective, by Lindsay and Read. The commentary focuses on three issues:

1. A convincing demonstration of the phenomenon discussed by Lindsay and Read has never been demonstrated.
2. Signal Detection Theory (SDT) is discussed as a useful heuristic for conceptualizing the debate regarding true versus illusory memories.
3. The prevalence of suggestively planted memories is discussed from the point of view of the cognitive research on suggestibility.

DEMONSTRATION OF THE PHENOMENON

The reality of the problem
A phenomenon must be demonstrated before consideration of an explanation for it is justified. The central thesis of Lindsay and Read’s paper is that ‘memory recovery

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therapies’ may ‘inadvertently lead some adult clients to create illusory memories of childhood sexual abuse’. The bulk of the paper is devoted to elaborating an explanation for this phenomenon and then suggesting ways to overcome the problem. Although an elaborate explanation for this phenomenon was proposed, the phenomenon itself was never demonstrated! The existence of the phenomenon was thus inferred from the fact that there might be an explanation for it. Just because illusory memories can occur does not mean that they do, and just because some ‘recovered memories’ are unlikely, does not mean that most recovered memories are therefore false.

In the field of aeronautical engineering there is a formal explanation for why it is impossible for bumblebees to fly, given the relatively large size of their bodies and small size of their wings (Wingfield and Stine, 1992). Despite this explanation, bumblebees do fly, and flying does not even appear to be difficult for them. The point is, it is a logical fallacy to infer the existence of a phenomenon from the possibility of explaining it. This error can be politically dangerous as well; consider the explanations that might be generated for why African-Americans should not be educated, why women should not vote, and why men should not have joint custody of their children.

What would be a credible demonstration of the phenomenon that some (any) adults have been misled by ‘memory recovery therapies’ to believe, erroneously, that they had been abused? One demonstration would be documentation of cases of adults who claim to have been abused by a perpetrator for whom it can be certified that this is impossible (i.e. the perpetrator was out of state, stationed abroad or incarcerated at the time of the alleged abuse). If the illusory memory phenomenon is at all common, it ought to be possible to find documented cases of ‘remembered’ abuse that could not have occurred. If a significant number of such cases could be verified, and if the accused victims had been exposed to ‘memory recovery therapy’ prior to ‘memory’ recovery, then the phenomenon of the illusory memory for sexual abuse, as discussed by Lindsay and Read, would be supported. Although I am aware that at least several dozen people have ‘retracted’ their claims of incest memories after having confronted their accused perpetrator (Gavigan, 1992), other compelling interpretations of why someone might deny the existence of incest in their history render these cases as weak evidence.

While Lindsay and Read argue that ‘the creation of illusory memories of childhood sexual abuse is not merely an abstract but rather a tragic reality’, what evidence do they offer for the reality of this problem? Lindsay and Read offer two indications of ‘the reality of the problem’. The first is the existence of the False Memory Syndrome (FMS) Foundation, and the second is the formation of working groups on the investigation of memories of childhood abuse by the American Psychological Association (APA) and the British Psychological Association (BPA). It should be clarified that the FMS Foundation is an advocacy group of several thousand people who have been accused of sexual abuse by their adult children. The founders of this group coined the phrase ‘false memory syndrome’ as part of their efforts to undermine the credibility of their children. But since when do we rely entirely upon the accused perpetrator’s testimony to assess the truth? The mere existence of the FMS Foundation is hardly a credible indication of ‘the reality of the problem’.

Lindsay and Read cite the formation of the APA and BPA working groups as evidence that there really is a large-scale problem involving therapy-induced illusory memories and beliefs. However, the fact that these professional organizations have
empaneled groups to study the issue does not, in itself, provide evidence that the concerns about therapy-induced illusory memories are grounded in reality. The APA working group appears to include members with a diversity of opinions on the debate, and to date, this group has had only one meeting, at which they simply agreed on two core premises: '(1) it is possible to create a false belief, and (2) it is possible to revive a "lost" memory—and that there is nothing in the scientific or therapeutic literature which justifies the confidence expressed on both sides of the current debate in some forensic transcripts.' Indeed, it may be that the eventual policy statement produced by the group will not support Lindsay and Read's arguments. Thus formation of the working groups by APA and BPA is evidence that there is wide-spread concern among professional psychologists regarding the debate, but it is not, per se, evidence of the reality of therapy-induced illusory memories.

The percentage of psychiatrists, clinical psychologists, and counsellors who use what Lindsay and Read term 'memory recovery therapy' with their clients has not been determined. In my casual survey of ten clinical psychologists while preparing this commentary, not one even knew the meaning of 'memory recovery therapy'. And although some paraprofessional therapists, as well as some professional therapists from APA approved doctoral programmes, may focus their treatment on the generation of incest memories as elaborated by Lindsay and Read, there is no evidence that this treatment is encouraged, taught, or even discussed in graduate-level training programs. These techniques may be used by some people, and can perhaps induce illusory memories in some individuals, especially when administered intensely over a prolonged period of time. However, there is no evidence that the use of 'memory recovery therapy' is widespread among psychotherapists. Further, Lindsay and Read posit that:

We have no doubt that the authors of these books and the therapists who follow them have nothing but admirable motives. They believe that recovering repressed memories of abuse is an important part of healing a wide range of maladies, and so they work hard to help their readers and clients remember such events.

However, one could just as easily take the opposite extreme point of view reflected in the following hypothetical decree:

All would agree that it is possible for some therapists to genuinely doubt the recovery of incest memories. But there is no doubt in our minds that many therapists may defend their own involvement in incest perpetration, or fortify their own denial as just-world theorists or as victims, by excessive zeal in discrediting delayed memories.

As Herman (1992) documents so well, for decades most clinical psychologists have taken this latter view, rather than the former, which is articulated by Lindsay and Read.

I also generally take offense with the strategy of these authors of spotlighting some extreme, popular-press books on a topic, e.g. The Courage to Heal (Bass and Davis, 1988) and then criticizing the whole field for the views in these books. A comparable application of this strategy a little closer to home would be, for example, to criticize the field of cognitive psychology for the views expressed in such books as Drawing on the Right Side of the Brain (Edwards, 1988). Edwards' book posits that too much of the formal education process exercises the left side of the brain
(where it is proposed that all linear cognition occurs) at the expense of the right side of the brain (where all non-linear cognition occurs). This book, already in its second edition and very popular in the field of education, suggests educational exercises for cognitive stimulation of the right side of the brain.

How common are therapist-induced illusory memories for sexual abuse? Putting aside for the moment the fact that this phenomenon has yet to be demonstrated, it is important to assess the magnitude of such a problem if it does exist. If this is a very common problem, Lindsay and Read's paper should be required reading for all practising therapists, as well as all therapists in training. But if this is a rare problem, why reprimand the whole field of psychotherapy for a rare infraction? Although Lindsay and Read do concede that 'real sexual abuse of children is a larger problem than therapy-induced illusory memories of abuse', it is clearly their view that therapy-induced illusory memories of sexual abuse are pervasive and disastrous. Lindsay and Read's answer to the question of how frequently do adult children accuse their parents of incest based on illusory memories of sexual abuse is 'No one knows', but then they immediately belie their neutrality by claiming that 'the numbers may be large and growing'.

Base rates and diagnosis revisited

Lindsay and Read provide an approach for computing the probability of a false diagnosis of child abuse by combining base-rate data with assumptions about diagnostic accuracy. This corrects one common flaw in critical thinking: that people often ignore base-rate data in assessing diagnostic accuracy. But, in demonstrating this, Lindsay and Read have introduced another flaw. Consider first the example in Table 1 of the Lindsay and Read paper concerning the false-positive rates anticipated in HIV diagnosis. The calculations are based on two assumptions that: (1) the diagnostic accuracy of the HIV test is 95 per cent and (2) the base rate of HIV-positive in the population is 2 per cent. From these two assumptions it can be calculated that 72 per cent of all positive diagnoses will be false. This means that if one were to sample randomly from the population at large, that is 'people off the street', and gave each an HIV test, 72 per cent of the resulting positive diagnoses would be false. But this is not how it happens. The people who walk into a clinic and request HIV testing are not a random sample of the population at large, but rather, are more likely than the population at large to be members of a high-risk group or to participate in high-risk behaviours. Thus the base rate of HIV-positive for the sample of people who are actually HIV tested is surely significantly greater than 2 per cent. Let's say that the base rate of HIV-positive for the sample of people who take an HIV test is 10 per cent. With this change in the basic assumptions, the probability of a false-positive diagnosis is reduced from the 72 per cent calculated by Lindsay and Read, to 32 per cent. The point of this example is to demonstrate that as the base rate increases, the possibility of a false positive diagnosis decreases substantially.

The same logic applies to the calculations performed by Lindsay and Read in Table 2, concerning the false-positive rates for the diagnosis of repressed memories. The assumptions for this example are that: (1) the accuracy of therapists in diagnosing
repressed memory is 90 per cent and (2) the base rate of repressed memories of childhood sexual abuse in the population is 16.5 per cent. The figure of 16.5 per cent was reached by generously overestimating, in their view, that 33 per cent of the population is sexually abused and 50 per cent of these have no memory of the abuse. Given these assumptions, it would be expected that 31 per cent of all positive diagnoses would be false. Again, these calculations reflect the expected outcome from the population at large, that is, if ‘people off the street’ were sampled randomly and diagnoses of sexual abuse were made for each. But again this is not how it happens. The only people who are clinically diagnosed regarding sexual abuse are those who select to see a therapist. I think it is safe to assume that the base rate of sexual abuse among people who see a therapist is very much higher than the base rate of sexual abuse among people in the population at large. If the base rate of repressed memory of childhood sexual abuse in the population is 16.5 per cent as Lindsay and Read suggest, suppose that the base rate of repressed memory of childhood sexual abuse among those who select to see a therapist is twice this figure—33 per cent. Then the probability of a false-positive diagnosis of sexual abuse is reduced from the 31 per cent figure calculated by Lindsay and Read to 18 per cent. I am certainly not suggesting that the figures that I have calculated above are ‘the truth’. I am, however, suggesting that the lower estimate of false-positive diagnosis of repressed memory for sexual abuse is closer to ‘the truth’ than the figure suggested by Lindsay and Read.

The more typical role of therapy in confronting sexual abuse victimization

Lindsay and Read entirely overlook two important points in this debate. First, it is important to consider that a significant number of people in their adulthood recovered previously lost memories of childhood incest prior to or without any exposure to therapy or self-help books. Second, many of the people who did not confront their parents with incest accusations until after they were involved in therapy had never forgotten the incidents of incest from their past. Many people in this situation speak with a therapist for support in confronting their parents when they perceive that their own children or nieces and nephews may be at risk for being abused. Although there is no data regarding the frequency of incest violations across two generations of a family, it is easy to imagine that an adult who was sexually violated as a child by their parent, might fear their parent’s violation of the grandchildren as the grandchildren approach the age at which their parent had been sexually abused. These cases do not involve repressed memory at all, but because of the occurrence of therapy prior to the confrontation with the incest perpetrator, the therapist is often inappropriately blamed for creating the problem. Many members of the FMS Foundation, for example, have joined the battle cry against repressed memory and blame the therapist without clarifying that their children never forgot—they were simply complacently silent for years, often until they perceived that their own children were at risk. The clinical psychologists I spoke with in preparing this commentary indicated that cases such as these are very common and, in their experience, far outnumber the incidence of repressed memory recovered during therapy. This appears to be the more typical role of therapy in confronting sexual abuse victimization.
Lindsay and Read’s approach divides memory into two discrete categories: the recovered memory is ‘all true’ or ‘all false’. I suggest that a better framework for conceptualizing the true memory versus illusory memory debate is an adaptation of Signal Detection Theory (SDT) (Banks, 1970). For heuristic value alone, SDT has several advantages over the dichotomous memory approach. According to SDT, we can specify a probability distribution for the strength of true memories, the signal we want to detect, and a separate probability distribution for the strength of illusory memories, the noise we want to ignore. The signal distribution would be composed of memories for sexually abusive acts that actually occurred. The strength of the memory for the signal would vary as a function of all of the variables known to affect signal strength in general—frequency of occurrence, consistency with expectation, amount of rehearsal, interference, time delay, etc. The noise distribution might be composed of memories for thoughts and dreams about sexually abusive events, memories for events that may have been experienced as similar to sexual abuse but were not, and memories for sexual abuse that were suggested.

In Figure 1 are two representations of SDT applied to memory for sexual abuse. The top panel of Figure 1 shows the probability distributions for the signal and noise characterizing individuals who were actually sexually abused; that is, there is a representation for signal as well as for noise. The bottom panel of Figure 1 shows the probability distribution characterizing individuals who were not sexually abused; that is, there is noise but no real signal.

To decide whether a particular memory is signal or noise, an individual makes an internal assessment as to whether the strength of their memory for that event is greater than or less than some criterion. If the strength of the memory is above criterion, the memory would be reported as ‘real’; if the strength of the memory is not above criterion, the memory would be reported as ‘not real’. Accordingly, repression can be characterized in the top panel of Figure 1 in one of two ways. First, repression can be considered the result of a criterion that has been placed too high; that is, there is a signal but the criterion has been set too high to detect it. Alternatively, repression could result from an inhibition of signal strength (Neill, Valdes, and Terry, in press); that is, the memory strength of the entire signal distribution has been lowered by inhibition making it less likely to be above criterion and also less discriminable from the noise distribution.

An important point captured in the SDT framework is the fact that the signal and noise distributions would be expected to overlap rather than being discrete distributions. That is, along the full range of the memory strength axis in the top panel of Figure 1, there is some non-zero probability of occurrence for both the signal and the noise distributions. The especially troublesome situations would occur in the middle range where there may be a significant overlap between the signal and noise distributions—there is a lot of noise and the signal strength is weak.

How might the SDT framework be applied to the process of psychotherapy? First, I want to clarify that I am clearly not in a position to suggest what specific approaches or techniques therapists should use to maximize ‘good therapy’ and minimize ‘bad therapy’. Rather, I offer the SDT framework as a useful one for conceptualizing this domain, and I call upon therapists to employ this approach in formalizing their methods for clinical treatment. Using this framework, however, one might conceptua-
lize the role of therapy within this arena as helping individuals to separate the signal from the noise so that a signal can be detected if it is present. Accordingly, ‘good therapy’ could be conceptualized as providing a setting that facilitates an increase in the memory strength for the signal (i.e. shifting the signal distribution to the right in the top panel of Figure 1). On the other hand, ‘bad therapy’ could be conceptualized as serving to increase the memory strength for the noise (i.e. shifting the noise distribution to the right in Figure 1). And, as Lindsay and Read suggest, memory recovery therapy, as one form of ‘bad therapy’, can be especially dangerous for highly suggestive clients who have not been sexually abused, that is, with individuals for whom there is no signal but much noise. Referring to the bottom panel of Figure 1, if the strength of the noise is increased, this would result in noise being reported as signal without the presence of any true signal, that is, illusory memory.

Alternatively, ‘good therapy’ could be conceptualized in terms of assisting clients in optimizing the signal to noise ratio in the placement of their criterion. This would
most probably involve lowering a client’s criterion; it is more likely that a client
would present a problem and not be able to associate it with a particular autobiogra-
phical memory than that the therapist would try to talk them out of a memory
they presented. In general, whether lowering one’s criterion is more likely to increase
or decrease the signal to noise ratio depends on how far apart the signal and noise
distributions are. If they are far apart, that is, real and illusory memories are actually
discriminably different in memory, then lowering the criterion would result in the
retrieval of relatively more real than illusory memories. On the other hand, if the
signal and noise distributions are close together, then lowering the criterion could
result in the retrieval of relatively more illusory than real memories. This conceptual-
ization of the function of therapy makes it clear that the task of even a well intended
therapist who does not use ‘memory recovery therapy’ is a very sophisticated one;
they have to assess for each individual client how discriminable their real versus
illusory memories are and the position of their criterion relative to these two memory
distributions.

The use of SDT for framing the real versus illusory memory debate is not a perfectly
correct application of SDT. As one case in point, although SDT reflects the expected
results for aggregated data across multiple trials with multiple subjects, it is suggested
here that the framework can be used to consider individual memories of individual
subjects. Nonetheless, SDT provides a useful heuristic for framing the relevant issues
in this debate. For heuristic purposes SDT is effective because it captures the notion
that even for individuals who have been sexually abused, their memory for the abuse
will always include some signal and some noise. The noise is always present if only
by virtue of the fact that memory is not a replication of ‘objective reality’, and
thus there is always some probability of illusory memory. However, and this is a
view not salient in Lindsay and Read’s assessment, given a fixed placement of the
criterion, real memories are more likely to be above criterion than illusory memories
and, conversely, if a signal is present it will be more likely to be judged above
criterion than if a signal is not present. In other words, memories for sexual abuse
that are reported as real are more likely to be based on real memories of sexual
abuse than illusory memories, and true memories are more likely to be reported
as real than are illusory memories.

Another advantage of using the SDT as a heuristic to conceptualize the true
memory versus illusory memory debate regarding sexual abuse is that it suggests
a rich framework for motivating and organizing future research on this topic. For
example, this framework could be used to explicate therapy techniques or memory
recovery techniques more generally, that makes the signal and noise distributions
more discriminable (i.e. increase $d'$) versus less discriminable (i.e. decrease $d'$). One
could also study the extent to which suggestibility globally, or ‘memory recovery
therapy’ in particular, functions to increase the memory strength for the noise distri-
bution or lower the criterion. As another example, this framework could be applied
to the study of the content of repressed memories as they are recovered. If repression
results from a criterion placed too high, then, as the criterion is lowered, initially
recovered memories should have a higher signal to noise ratio than later recovered
memories.

With the SDT model in mind, it is useful to consider what factors might affect
the probability of illusory memory for sexual abuse, in particular, what factors might
influence the strength of the noise distribution and where one places the criterion
for deciding which memories are real. A major factor discussed by Lindsay and Read relevant to evaluating the prevalence of illusory memories for sexual abuse is the prevalence of suggestively planted memories.

PREVALENCE OF SUGGESTIVELY PLANTED MEMORIES

This section of the paper considers a more direct treatment of the research in cognitive psychology, including some recent work by this author.

Within the field of cognitive psychology there is a wealth of research on the suggestibility of memory, a representative sample of which is reviewed by Lindsay and Read. In a typical study on suggestibility (Loftus, 1975; Loftus, Miller, and Burns, 1978; Pezdek, 1977) participants first view a sequence of slides, a videotape, or a film of an event. After viewing this event, they read a narrative or are asked some questions that intentionally mislead them about the identity of a small set of target items viewed in the original event (the misled condition), or they do not receive the misleading information (the control condition). The principal result is that participants are more accurate recognizing the original target item in the control condition than in the misled condition; that is, they are misled by the postevent information presented in the narrative or questions. In the early research in this area, recognition memory differences of 20 to 30 per cent between the misled and control items were not unusual. However, subsequent research findings have forced a qualification of this conclusion: although the eyewitness suggestibility effect is real, the magnitude of the effect is highly variable. In a recent review of the research on eyewitness suggestibility, Lindsay (1993), one of the authors of the target piece in this issue, himself argued:

At present, we can conclude that under some conditions MPI (misleading postevent information) can impair people’s ability to remember what they witness and can lead them to believe that they witnessed things they did not, but that neither of these effects is as large or robust as earlier research suggested (italics added).

Further, there is an important difference between the research on the suggestibility of memory and the situation of suggestively planting memories for events that did not occur. The large majority of the studies on the suggestibility of memory involve a procedure in which: (1) something is observed (e.g. a stop sign); (2) a different thing is later suggested (e.g. a yield sign), and then (3) the test probes what the participants remember having seen. However, suggestively planting memories involves the situation in which: (1) an event never occurred; (2) it is later suggested that the event did occur; and then (3) memory is tested for whether the event occurred or not. There are significant differences between the structure of these two situations that would restrict the generalization of the results regarding suggestibility obtained from the first situation (i.e. something happened and it is suggested that a different thing happened) to the second situation (i.e. nothing happened and it is suggested that something did happen).

In a recent study (Pezdek and Roe, in press), we examined the probability of suggestibility under three conditions:

1. Event A occurred, event B was suggested.
2. Event A did not occur, event A was suggested.
3. Event A occurred, it is suggested that event A did not occur.

These were compared with two control conditions:

4. Event A occurred, nothing was suggested.
5. Event A did not occur, nothing was suggested.

The two events, A and B, were specific types of physical touches by the experimenter—a touch on the hand versus the shoulder (Experiment 1) or a touch on the nose versus the cheek (Experiment 2). The participants in each experiment were 80 10-year-old children. The only condition in which memory for the original condition of touch was reduced to chance by the misleading information was in condition 1, in which participants were touched in one way and it was suggested that they had actually been touched in a different way. Suggesting that a touch occurred when it did not and suggesting that a touch did not occur when it did had no reliable effect on memory for what actually happened. Therefore, it appears erroneous to generalize conclusions from the classic suggestibility paradigm to the situation in which a memory is planted for an event that never occurred.

What evidence supports the conclusion that a memory can be planted for an event that never occurred? The most frequently cited study in this regard is the ‘lost in the mall’ study referred to by Loftus (1993). In this study five acquaintances of the researchers were led to believe that they had been lost in a shopping mall when they were five years old. Although it is curious that this as yet unpublished study is so frequently cited, I do not doubt the results per se. However, there are several reasons why these results would not be expected to generalize to the situation of having a therapist plant an illusory memory for incest. First, in the Loftus study the memory was planted by a sibling who, in reality, could have been there and for whom there is some basis for concluding that they might remember what happened even if the participant did not. The assumption that a therapist who was not present in the client’s past would be similarly likely to plant childhood memories is not convincing. Second, and most important, being lost while shopping is not such a remarkable memory implant. Children are often warned about the dangers of getting lost, have fears about getting lost, are commonly read classic tales about children who get lost (e.g. Hansel and Gretel, Snow White and the Seven Dwarfs, Pinocchio, Goldilocks and the three bears), and in fact, do get lost, if only for a few frightening minutes. Therefore, it would be expected that most children have a pre-existing script for getting lost that would be accessed by the suggestion of a particular instance of getting lost in the Loftus demonstration. It is hardly likely that most children would have a pre-existing script for incestuous sexual contact.

One might argue, however, that with all of the media attention to sexual abuse of late, many adults and children know what sexual abuse is. However, knowing what an event is is not equivalent to having a well developed script for the event. Consider the following examples: I know what eating in a restaurant is, and I have a well developed script for eating in a restaurant; I can articulate a long ordered list of episodes that are expected to occur in a restaurant, and specify numerous hierarchically organized components of each episode. On the other hand, I know what combat fatigue is, but I do not have a well developed script for it; I know what gang rape is, but I do not have a well developed script for it. With all the press about incest and sexual abuse, most adults and many children surely do know
what incest is, but it is unlikely that many people who have not been sexually abused by their parents have a well developed script for incest.

Several studies have investigated the probability that events that did not occur can be suggestively planted in children’s memories. However, there are significant contradictions among the conclusions reached in these studies and no apparent interpretation for the inconsistencies. For example, although Bruck, Ceci, Francouer, and Barr (1993) and Ceci, Crotteau, Smith, and Loftus (in press) have reported robust effects of misleading questions on planting memories for events that did not occur, Baker-Ward, Gordon, Ornstein, Larus, and Clubb (1993), Rudy and Goodman (1991), Saywitz, Goodman, Nicholas, and Moan (1991) reported very weak evidence for planting memories for events that did not occur. With such notable inconsistencies in the conclusions reached among these apparently similar studies, it would be premature to draw any conclusions regarding the probability of suggestively planting memories for events that did not occur from this literature.

In addition, there are two major constraints on the suggestibility of memory that would be expected to limit the generalizability of this phenomenon to planting illusory memories for incest. First, as Lindsay and Read mentioned, subjects are more likely to be influenced by plausible suggestions than implausible suggestions (Read and Bruce, 1984). Lindsay and Read argue that a therapist who suggests to a client that their symptoms are typical of people with repressed memories of childhood sexual abuse would be promoting their suggestion as a plausible one. I would argue that there is nothing plausible about incestuous sexual contact for a person who has not experienced it. Referring back to the SDT model, if a person has no signal distribution and only a low level of noise, it would be difficult to develop a signal distribution with a memory strength that exceeds that of the noise distribution. Second, a number of studies in the social psychology literature (e.g. Sherif, 1979) have demonstrated that people are more suggestible when the topic of suggestion is of very little personal concern to them. Thus, although it might be easy to induce suggestibility in typical experimental situations, suggestibility would be less likely to occur for important real life events, especially those of some consequence.

Together, the studies reviewed above do not support the conclusion that it is relatively easy to plant illusory memories for events that did not occur, especially if the plant is an implausible one that concerns a domain about which a person is not likely to have a well developed schema, and if it involves a matter of great personal importance to the individual. Stated in terms of the SDT model, although suggestibility in general would be expected to increase the amount of noise in the distribution, and the probability of suggestibility occurring in the classic suggestibility paradigm may be 0.20 to 0.30, the probability of planting an illusory memory for incestuous sexual abuse appears to be very small.

**CONCLUSION**

Surely there have been some illusory memories of incest, whatever their cause. And surely, some therapeutic techniques are more likely to support such illusory memories than others. However, to assume that therapist-implanted illusory memories for childhood sexual abuse is a widespread problem and to reprimand psychotherapists generally for the occurrence of such incidents inflames the controversy by adding more
heat than light. This commentary attempts to generate more light than heat by replacing the 'all true versus all false' approach with the Signal Detection model to frame the real versus illusory memory debate.

REFERENCES


