

Additional Questions about the Applicability of “False Memory” Research

KATHRYN BECKER-BLEASE^{1*} and JENNIFER J. FREYD²

¹*Oregon State University, Corvallis, USA*

²*University of Oregon, Eugene, USA*

Summary: Brewin and Andrews present a strong case that the results of studies on adults' false memories for childhood events yield small and variable effects of questionable practical significance. We discuss some fundamental limitations of the literature available for this review, highlighting key issues in the operationalization of the term 'false memory', publication bias, and additional variables that have been insufficiently researched. We discuss the implications of these findings in the real world. Ultimately, we conclude that more work is needed in all of these domains, and appreciate the efforts of these authors to further a careful and evidence-based discussion of the issues. Copyright © 2016 John Wiley & Sons, Ltd.

This clear, compelling, and thorough review correctly highlights the small size, variable, and questionable practical significance of the effects reported in studies of adults' false memories for childhood events. Nevertheless, the analysis is limited in ways linked to the available data and how the issue has been conceptualized previously. We put these findings in context to encourage continued thoughtful analyses of this topic.

First, the published effects available for review are likely inflated. All authors of reviews must be concerned with the file drawer effect; studies with insignificant findings are less likely to be published. In this case, there is additional reason for concern. When it comes to imagination inflation, false feedback, and memory implantation studies, researchers who are least likely to hypothesize these methods are effective or in widespread use may also be the most concerned about the ethics of using these techniques in the first place. As Bernstein & Loftus (2009) write, some people might 'cringe' at the use of implanted memories even when it is for someone's own good. Similarly, some researchers might cringe at implanting memories even in the name of science. If so, then published work is biased toward the view that false memories are relatively common, easy to implant, and consequential.

Relatedly, the types of false memories and methods for influencing memories that have been published are not representative. For the most part, false memory researchers have neglected research into how adults interfere with children's memories of painful, invasive, and abusive experiences. However, one study shows just how possible it is for adults to manipulate children's memory for painful experiences, and how doing so actually makes children less likely to resist getting the same treatment a second time. Pediatric dentists have published data showing that they can increase behavioral compliance for an invasive and painful dental procedure by 'restructuring' memories for an earlier dental visit (Pickrell et al., 2007). Clearly, the study of how adults manipulate children's memories is both possible and practically relevant.

Sex offenders themselves describe a host of deliberate efforts to reduce encoding or retrieval, or to change the facts

about an event they do not wholly deny, using an astonishing variety of tactics, including making suggestions, giving false feedback, and even using imaginative games and play (Elliott, Browne, & Kilcoyne, 1995). Pope (1997) explicitly encouraged research into the effects of the comments and pressure from disbelieving families on an adult survivors' memory. More generally, adults clearly play an important role in discussing events with children in ways that shape their autobiographical memory (DePrince et al., 2012; Fivush, 2003). Surely, perpetrator-induced false memory in child abuse victims must lead to miscarriages of justice that are at least as compelling as the legal cases involving false convictions. Thus, despite a clear motivation for the work, and a decades-old body of evidence that there exists a group of people who must be at least as motivated as therapists and therapy clients to influence the memory of others, the field has generated essentially no information on the phenomena of perpetrator-induced false memories in abuse survivors. With these studies missing from the literature, any review is necessarily incomplete.

Therefore, the available data are likely to be biased in two ways over and above the usual concerns about unreported null findings: first an unwillingness to undertake false memory research at all because of ethical concerns and second an unwillingness to undertake studies of the full range of false memories that may lead to false acquittals.

The review is restricted further because it is confined to just three types of 'false memory' studies—those that involved imagination inflation, false feedback, and memory implantation. Some of the issues here regarding whether these studies actually measure episodic memory for events or increased belief that the events occurred echoes similar measurement issues in the false memory literature in general. For example, in studies in which the dependent measure is recall for words in a list, some authors have conflated memories for words with full episodic memories (Baugerud, Howe, Magnussen, & Melinder, 2016; DePrince, Allard, Oh, & Freyd, 2004; Freyd & Gleaves, 1996).

Further, although this review clarifies some important points about memory recall versus belief the event occurred, and the strength of those memories and belief, there is the less explicit but equally important distinction between altering a memory and implanting a new memory at play (DePrince et al., 2012; Freyd, 1998). Just how memories

*Correspondence to: Kathryn Becker-Bleuse, School of Psychological Science, 224 Reed Lodge, Oregon State University, Corvallis, OR 97331, USA.

E-mail: Kathryn.blease@oregonstate.edu

for details related to an event are related to belief that the event has occurred is not fully understood. Some evidence suggests that it is after people decide a memory is true—or more likely to be true—that they bring in details that support the memory (DePrince et al., 2012; Pezdek, Finger, & Hodge, 1997). This means, for example, that those who imagine an event could increase their confidence that the event occurred first, and only if they did, would they then also increase their confidence that certain details occurred. Without testing these steps independently, a finding that either increased confidence that the event occurred or increased recall of false details does not explain the kind of ‘false memory’ that has been induced. This is even trickier when people do not come to believe an event is more likely than not to have happened, but that it is more likely than they previously thought that it happened. A testable prediction would be that the greater the increase in belief that an event occurred, the greater the recalled details consistent with that event.

Even more fundamentally, the term ‘false memory’ is confusing because it conflates memory *accuracy* and memory *accessibility*. In fact, continuously accessible memories, unavailable memories, and memories that are now available but were previously unavailable are distinct (see Fig. 1). Further, there is little evidence that the two dimensions are correlated in real life. When researchers assume the two are highly correlated, they focus more attention on those memories that are less accessible and false. If in reality these two dimensions are less correlated than researchers assume, then they risk discovering only confirming evidence rather than searching for evidence of inaccurate, continuously available memories.

In addition, no discussion of true and false memory for child abuse is complete without considering gender. Women are more likely to experience child sexual abuse and other betrayal traumas that are more related to dissociation, forgetting, and recovering memories (Goldberg & Freyd, 2006). Women are more likely than men to be diagnosed with PTSD and to receive negative social reactions following trauma (Andrews, Brewin, & Rose, 2003). At the same time, most perpetrators of child sexual abuse and other betrayal

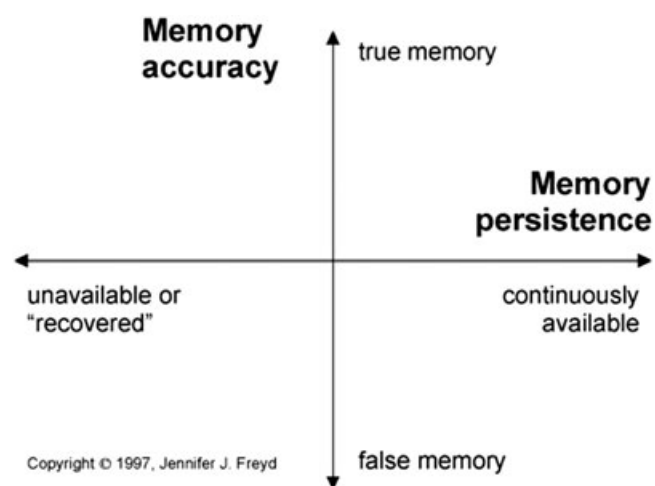


Figure 1. Memory accuracy and persistence are distinct dimensions

traumas are more likely to be men (DePrince, Freyd, & Kimerling, 2002) and self-report taking steps to make themselves more believable than their victims (Elliott et al., 1995). The controversy over false positive memories for sexual abuse bolsters a more general denial of the prevalence and severity of abuse, particularly of women and children (Stoler, Quina, DePrince, & Freyd, 2001). For example, in the late 1980s and early 1990s, researchers working to bring to light true cases of child sexual abuse were met with the argument that victimologists were unnecessarily making victims of children who may have actually had neutral or ‘positive’ sexual experiences with adults (Okami, 1990). As recently as this year, a similar argument was made about acquaintance rape (Yoffe, 2016). If victimologists were causing people to have more false memories, we should see more false memories in countries in which there is greater media attention to the issue. However, studies in Russia, where there is little public knowledge or attention to abuse, dissociation, and traumatic memory nevertheless show rates of memory unavailability at least as high as in the US (Palesh & Dalenberg, 2006).

Finally, we underscore Brewin and Andrews’s point concerning the confusion about these topics in therapeutic practice and textbook content in the real world. For example, the open access textbook *Psychology* (Spielman et al., 2014) explains recovered memories this way: ‘On one side of the debate are those who have recovered memories of childhood abuse years after it occurred. These researchers argue that some children’s experiences have been so traumatizing and distressing that they must lock those memories away in order to lead some semblance of a normal life. They believe that repressed memories can be locked away for decades and later recalled intact through hypnosis and guided imagery techniques...’ As Brewin and Andrews make clear, researchers who study recovered memory are in fact researchers—not ‘a group of people who have recovered memories of childhood abuse’—and in fact as a group reject hypnosis and guided imagery as therapeutic techniques for recovering memories.

There is still work to be done by researchers, clinicians, authors, editors—even dentists! Only continued careful scientific thinking and debate will yield the answers. We appreciate the step in that direction taken by Brewin and Andrews in this article.

REFERENCES

- Andrews, B., Brewin, C. R., & Rose, S. (2003). Gender, social support, and PTSD in victims of violent crime. *Journal of Traumatic Stress, 16*, 421–427. DOI:10.1023/a:1024478305142.
- Baugerud, G. A., Howe, M. L., Magnussen, S., & Melinder, A. (2016). Maltreated and non-maltreated children’s true and false memories of neutral and emotional word lists in the Deese/Roediger–McDermott task. *Journal of Experimental Child Psychology, 143*, 102–110. DOI:10.1016/j.jecp.2015.10.007.
- Bernstein, D. M. & Loftus, E. F. (2009). The consequences of false memories for food preferences and choices. *Perspectives on Psychological Science 4*(2) 135–139. DOI:10.1111/j.1745-6924.2009.01113.x.
- DePrince, A. P., Allard, C. B., Oh, H., & Freyd, J. J. (2004). What’s in a name for memory errors? Implications and ethical issues arising from the use of the term “false memory” for errors in memory for details. *Ethics & Behavior, 14*, 201–233. DOI:10.1207/s15327019eb1403_1.

- DePrince, A. P., Brown, L. S., Cheit, R. E., Freyd, J. J., Gold, S. N., Pezdek, K., & Quina, K. (Eds) (2012). *Motivated forgetting and misremembering: Perspectives from Betrayal Trauma Theory* (edn, Vol. 58). New York: Springer.
- DePrince, A. P., Freyd, J. J., & Kimerling, R. (2002). The intersection of gender and betrayal in trauma. In R. Kimerling, P. Ouimette, & J. Wolfe (Eds.), *Gender and PTSD*, (pp. 98 – 113). New York, NY: Guilford.
- Elliott, M., Browne, K., & Kilcoyne, J. (1995). Child sexual abuse prevention: What offenders tell us. *Child Abuse & Neglect*, *19*, 579–594. DOI:10.1016/0145-2134(95)00017-3.
- Fivush, R., Hazzard, A., McDermott Sales, J., Sarfati, D., & Brown, T. (2003). Creating coherence out of chaos? Children's narratives of emotionally positive and negative events. *Applied Cognitive Psychology*, *17* (1), 1–19. DOI:10.1002/acp.854.
- Freyd, J. J. (1998). Science in the memory debate. *Ethics & Behavior*, *8*, 101–113. DOI:10.1207/s15327019eb0802_1.
- Freyd, J. J., & Gleaves, D. H. (1996). “Remembering” words not presented in lists: Relevance to the current recovered/false memory controversy. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *22*, 811–813. DOI:10.1037/0278-7393.22.3.811.
- Goldberg, L. R., & Freyd, J. J. (2006). Self-reports of potentially traumatic experiences in an adult community sample: Gender differences and test-retest stabilities of the items in a brief betrayal-trauma survey. *Journal of Trauma & Dissociation*, *7*, 39–63. DOI:10.1300/J229v07n03_04.
- Okami, P. (1990). Sociopolitical biases in the contemporary scientific literature on adult human sexual behavior with children and adolescents. In J. Feerman (Ed.), *Pedophilia: Biosocial dimensions* (edn, pp. 91 – 121). New York: Springer-Verlag.
- Palesh, O. G., & Dalenberg, C. J. (2006). Recovered memory and amnesia in Russian college students. In M. V. Landow (Ed.), *College students: Mental health and coping strategies* (edn, pp. 153 – 165). Hauppauge, New York: Nova Science Publishers.
- Pezdek, K., Finger, K., & Hodge, D. (1997). Planting false childhood memories: The role of event plausibility. *Psychological Science*, 437–441.
- Pickrell, J. E., Heima, M., Weinstein, P., Coolidge, T., Coldwell, S. E., Skaret, E., Castillo, J., Milgrom, P. (2007). Using memory restructuring strategy to enhance dental behaviour. *International Journal of Paediatric Dentistry*, *17*, 439–448. DOI:10.1111/j.1365-263X.2007.00873.x.
- Pope, K. S. (1997). Science as careful questioning: Are claims of a false memory syndrome epidemic based on empirical evidence? *American Psychologist*, *52*(9), 997–1006. DOI:10.1037/0003-066X.52.9.997.b.
- Spielman, R. M., Dumper, K., Jenkins, W., Lacombe, A., Lovett, M., & Perlmutter, M. (2014). *PsychologyOpen* Textbook Library. Retrieved May 20, 2016 from <http://cnx.org/contents/Sr8Ev5Og@5.46:197J3Te3@7/Problems-with-Memory>.
- Stoler, L., Quina, K., DePrince, A. P., & Freyd, J. J. (2001). Recovered memories. *Encyclopedia of women and gender*, *2*, 905–917.
- Yoffe, E. (2016). The hunting ground: The failures of a new documentary about rape on college campuses. Retrieved May 20, 2016, from http://www.slate.com/articles/double_x/doublex/2015/02/the_hunting_ground_a_campus_rape_documentary_that_fails_to_provide_a_full.html.