Recoding and reanalyzing subjects' memory reports from eight familial-informant false memory studies

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Introduction

The absolute rate of false memory creation has varied across conditions in familial-informant false studies, from zero (Pezdek, Finger, & Hodge, 1997) to 65% (Lindsay, Hagen, Read, Wade, & Garry, 2004) of subjects.

Numerous factors probably account for the wide-ranging differences in false memory rates across studies, but one important contributor is the way in which different labs have operationalized false memories. The definitions of *false memory* have varied substantially, with different researchers drawing on different dimensions within subjects' memory reports to determine whether or not they have developed a false memory.

As such, it is difficult to determine the frequency with which false memories occur and the relative power of different suggestive techniques. This problem is exacerbated by the small sample sizes typically observed within false memory studies.

Aim

To shed more light on the absolute rate of false memories and to examine potential predictor variables, we aimed to recode false memory reports from a number of published familial-informant false memory studies using a common coding system.

Target studies

We thank the following authors for providing false memory transcripts:

Desjardins, T., & Scoboria, A. (2007). 'You and your best friend Suzy put a toy in Mrs. Smollett's desk': Producing false memories with self-relevant details. *Psychonomic Bulletin & Review, 14*, 1090-1095. (*N* = 43)

Garry, M., & Wade, K. A. (2005). Actually, a picture is worth less than a thousand words: Narratives produce more false memories than narratives do. *Psychonomic Bulletin & Review, 12, 359-366.* (*N* = 44)

Hessen-Kayfitz, J., & Scoboria, A.(2012). False memory is in the details: Photographic details predict memory formation. *Applied Cognitive Psychology, 26,* 333-341. (*N* = 81)

Hyman, I. E., Jr., & Pentland, J. (1996). The role of mental imagery in the creation of false childhood memories. *Journal of Memory & Language, 35*, 101-117. (*N* = 64)

Lindsay, D., Hagen, L., Read, J., Wade, K. A., & Garry, M. (2004). True photographs and false memories. *Psychological Science*, *15*, 149-154. (*N* = 45)

Ost, J., Foster, S., Costall, A. & Bull, R. (2005). False reports of childhood events in appropriate interviews. *Memory, 13,* 700-710. (*N* = 26)

Strange, D., Wade, K. A., & Hayne, H. (2008). Creating false memories for events that occurred before versus after the offset of childhood amnesia. *Memory, 16,* 475-484. (*N* = 110)

Wade, K. A., Garry, M., Read, J., & Lindsay, S. (2002). A picture is worth a thousand lies: Using false photographs to create false childhood memories. *Psychonomic Bulletin & Review*, *9*, 597-603. *N* = 20

Method

New coding system: We developed and validated a new (14 item) false memory coding system based on the autobiographical memory literature and themes previously used for defining false memories. Key themes included: statements of *remembering*, *acceptance*, *elaboration*, *emotion*, *imagery* and *coherence*.

Coding false memory reports: Pairs of raters coded 424 false memory reports from 8 published studies (see list below). Inter-rater agreement was high (range 72-94%). Disagreements were resolved via discussion and favored the more conservative rating.

Partial false memories = moderate acceptance, any elaboration, any imagery

Full false memories = moderate acceptance, moderate elaboration, moderate imagery

Robust false memories = high acceptance, moderate elaboration, moderate imagery

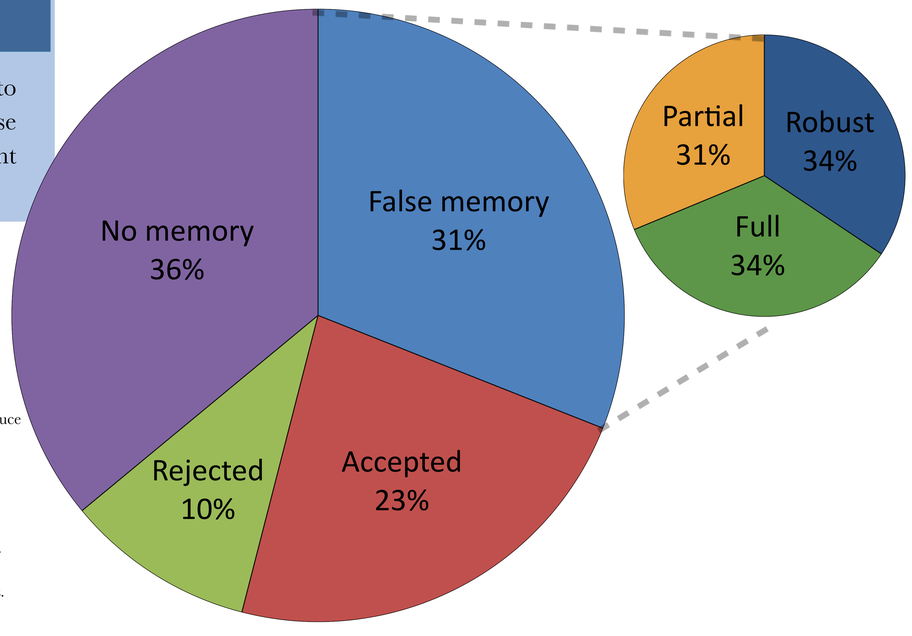
Conclusion

This mega-analysis addressed concerns about combining results from false memory studies by applying the same false memory coding system across studies. Setting all differences between studies and conditions aside, the false memory formation rate was 31%, with 11% of memory reports meeting our criterion for robust false memories.

These data show that if a false event is suggested, if evidence of the event is provided, if idiosyncratic personal information can be tied to the suggestion, if resistance to accepting the suggestion can be overcome, and if imagination is employed, then false memories can occur with notable frequency.

Combining and recoding false memory datasets enables us to ask more refined questions and to answer questions with greater statistical power.

Results



31% of memory reports were categorised as false memories (partial, full, robust combined)

False memories increased when subjects imagined the suggested event, were exposed to self-relevant information, or were exposed to narratives rather than photos of the suggested event.

	Idiosyncratic self-relevant info in suggestion		Suggested event imagined		Narrative (not photo) depicted event	
	NO	YES	NO	YES	NO	YES
% False memories [95%CI]	24 [19,30]	40 [32,47]	19 [13,25]	37 [32,43]	26 [20,32]	34 [28,40]
No. of Ss	249	174	158	265	170	253
No. of studies	5	6	3	6	4	6