

How Can Researchers Tell Whether Someone Has a False Memory? Coding Strategies in Autobiographical False-Memory Research: A Reply to Wade, Garry, and Pezdek (2018)

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Julia Shaw 

Research Department of Clinical, Educational and Health Psychology, University College London

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Research on autobiographical false memories requires a method of classifying memories. But how do researchers know whether to classify a memory as false? Recently, a “mega-analysis” of false-memory studies was conducted in an attempt to apply a universal coding strategy. It was published by a number of senior researchers in the field of false memory (Scoboria et al., 2017) and involved the recoding and reanalysis of the transcripts from eight false-memory studies. According to Scoboria et al., a mega-analysis was conducted rather than a more typical meta-analysis because “given the variation in coding schemes across studies, meta-analysis is not an appropriate approach for combining data from memory implantation studies” (p. 149). This shows that coding strategies vary widely in false-memory studies.

One such variation is the topic of a recent Commentary by Wade, Garry, and Pezdek (2018), who prepared a critique of the coding strategy applied in Shaw and Porter (2015). Wade et al. criticized Shaw and Porter for not differentiating between false memories and false beliefs. Further, they reported evidence that when this distinction was made, the percentage of participants classified as having false memories was considerably lower than the percentage reported by Shaw and Porter.

Two methodological disagreements are apparent from this debate. The first is disagreement as to the operational and theoretical definition of false memory. The second involves the particular methodology by which participants should be classified as having false memories. I will address both of these disagreements in turn.

Disagreement 1: False Belief, False Memory, or Neither?

False-memory studies often make a clear distinction between beliefs and memories, a distinction that Shaw

and Porter dismissed for two reasons. First, while there is a large body of literature showing that false memories and beliefs are qualitatively different (e.g., Otgaar, Scoboria, & Mazzoni, 2017), researchers including Johnson and Raye (2000) argue that this difference may be difficult, if not impossible, to reliably detect: “It is difficult to draw a sharp distinction between the concepts of memory and belief. Memories are beliefs about what happened, and beliefs are constructed from, and reinforced by, memories” (Johnson & Raye, 2000, p. 36). Because of problems with clear differentiation, Shaw and Porter chose not to make this distinction at all.

Second, such a distinction was not seen as particularly relevant for the false-confessions literature to which the study was intended to contribute. The classification structure in the Shaw and Porter (2015) study was based on work by Kassin, Bogart, and Kerner (2012), where false beliefs and false memories are considered part of the same category of “internalized false confessions.” Because Shaw and Porter used a novel coding approach, the operational definition of false memory was outlined in detail in the original manuscript. Clarity of this operational definition was supported by Wade et al. when they applied the original coding strategy and replicated the original results. It was only when a different operational definition was used, with a different coding strategy, that Wade et al. obtained different results.

In retrospect, it would have been useful for Shaw and Porter to apply the conventional strategy of coding beliefs and memories separately, alongside the new

Corresponding Author:

Julia Shaw, University College London, Research Department of Clinical, Educational and Health Psychology, Gower Street, London, WC1E 6BT, United Kingdom
E-mail: drjuliashaw@gmail.com

coding strategy. I recommend that researchers studying internalized false confessions code for both beliefs and memories separately, as it makes their results more methodologically and theoretically compatible with the existing literature in the field.

Disagreement 2: How Should We Classify a Memory as False?

Studies on false memory vary as to how and by whom false memories are classified. As Wade et al. summarized, in false-memory studies, “two or more independent judges typically read transcripts of subjects’ memory reports to determine whether subjects reject the suggestion outright, appear to believe the suggestion, or even seem to remember something about the false event” (p. XXX). This is true. Extant coding types are summarized in Table 1, which shows that rich false-memory studies are coded by researchers, research assistants, participants, or a combination of these. Unfortunately, methodology sections are often lacking in detail, which makes it difficult to understand how exactly researchers defined, coded, and classified false memories.

Those in the best position to classify memories in false-memory studies are the participants themselves. They are best able to tell whether they (a) believe they are actually remembering something, (b) think they cannot remember something, or (c) are knowingly telling a lie. This is problematic because scientists cannot directly assess a participant’s memory experience. They can infer it only from the participants’ statements and behavior: for example, from participants’ self-reports when asked questions such as “Do you feel like you are remembering the event?” Although many false-memory studies have included such questions to identify whether or how strongly an event was remembered, only a few have used these ratings to ultimately classify participants as having or not having false memories.

The lack of self-report data used in false-memory classification may be due to a worry about their sensitivity to demand characteristics. The setting in which participants are asked to explain their recollective experience may encourage them to lie or distort the information they present to the researcher. Alternatively, participants themselves may not know how to adequately describe their recollective experience and may acquiesce to the descriptive options presented to them by researchers. Such limitations can be partly overcome by reducing the demand characteristics of the situation in which participants are asked to explain their recollective experience (e.g., by not incentivizing the classification of experiences as memories). Even with these limitations, the participant is the best source as to

whether he or she is remembering an experience, so self-report should play an important role in the classification of false memories in research studies.

There also appears to be a dearth of discussion about whether using judges to classify memories is appropriate. There is broad critique of observers’ ability to tell the difference between true and false memories. Accordingly, in studies using judges, it seems problematic for researchers to say that observers cannot reliably tell the difference between true and false memories and then say that they are relying on observers (judges) to tell the difference between true and false memories in their research.

This begs a different question: What exactly are judges doing when we ask them to classify a participant’s account as a false memory? In many studies, it is not entirely clear what the “highly trained” judges were taught to do. In acknowledgment of these perceived limitations of the literature, Shaw and Porter (2015) attempted to create an objective checklist for false-memory classification. Some of these criteria were theoretically consistent with the proposition that only the participants themselves can know whether they think they remember an event.

However, even in this attempt at objectivity, it was also not left entirely up to the participants themselves to decide whether they had a false memory. Two independent, blind research assistants coded the number of details in the memory accounts, and the number of coded details was one of the criteria for memory classification. The difference between this coding method and most previous coding methods was that the judges did not make the final decision regarding whether a participant had a false memory or not; they simply identified and counted details.

I believe that an attempt should be made in the false-memory literature to code memories rather than judge them. “Coding” in this sense refers to classifying memories on the basis of objective features of a report, such as the presence of particular words, and “judging” being a more global and subjective classification of memories. Schemes that are more closely tied to objectively observable features of a report are more likely to be reliable than are those that rely on holistic and subjective judgments.

Recommendations

There seems to be much that memory researchers still need to discuss. I offer three practical suggestions that I believe can improve the quality and consistency of false-memory coding strategies.

First, there needs to be continued discussion regarding the nature of false beliefs, false memories, and the classifiable distinctions between these. While this issue

Table 1. Review of Extant Coding Styles for Classifying Participants as Having a False Memory

Study	Coder ^a			Coding method
	R	RA	P	
Garry and Wade (2005)		X		Data were coded by “three judges who read interview transcripts (which were disguised to conceal condition)” (p. 362).
Heaps and Nash (2001)	X	X	X	Coders were used only for classifying the number and type of details in accounts; the final decision was made by the researcher. “Three independent raters made ratings for all events (amount remembered)” (p. 924); other criteria were scored by the participants themselves.
Hyman, Husband, and Billings (1995)	X	X		“Two raters agreed that all 13 [false recalls/memories] did include incorporations or elaborations” (p. 192).
Hyman and Pentland (1996)	X	X		“Two independent judges rated the responses to the false events by all participants in all interviews” (p. 109).
Lindsay, Hagen, Read, Wade, and Garry (2004)		X		“Two trained judges (blind to the photo/no-photo manipulation) independently reviewed typed transcripts” (p. 151).
Loftus and Pickrell (1995)	X			Data were coded by the researchers; no information was provided on how exactly this was done (and, when contacted, researchers could not remember).
Mazzoni and Memon (2003)	X			“The first author scored each participant’s memories” (p. 187).
Otgaar, Candel, and Merckelbach (2008)		X		“Two trained, independent raters scored all false reports” (p. 352).
Otgaar, Candel, Merckelbach, and Wade (2009)		X		“Two independent judges classified each memory report as no false memory, images but not memories or false memory” (p. 120).
Pezdek, Finger, and Hodge (1997)	X			“An event was operationally defined as remembered if the subject recalled specific details of the event that were not included in the description” (p. 438). The researcher was the sole judge.
Porter, Yuille, and Lehman (1999)		X	X	Coders were used only to identify the number of details. “Three volunteer coders kept blind to the purpose of the experiment were carefully trained in the scoring procedures” (p. 523). Other criteria were scored by participants themselves.
Scoboria et al. (2017)		X	X	Researchers “trained separate pairs of raters to code each item” (p. 154). Each pair then independently rated the 423 false-memory transcripts and “judged memory.” Some items included were scored by participants themselves.
Shaw and Porter (2015)	X	X	X	Research assistants coded the presence of details, not the quality of memory: “Memories were coded for details by two independent researchers” (p. 294). Other criteria were scored by participants themselves. The primary researcher ultimately decided how to classify each memory.
Spanos, Burgess, Burgess, Samuels, and Blois (1999)		X	X	Research assistants coded the presence of specific detail, not the quality of memory: “The responses of participants who reported infancy ‘memories’ were coded for the presence or absence of the suggested mobile.” Participants themselves rated “the extent to which they believed their infancy experiences of the previous week had been memories as opposed to fantasies” (p. 206).
Wade, Garry, Read, and Lindsay (2002)	X	X		Memories were coded by “five independent raters (the first and second authors and three graduate students)” (p. 599).

Note: For some of these studies, self-report ratings were collected and reported but were not used to categorize participants as having versus not having false memories.

^aR = researcher, RA = research assistant, P = participant.

is under discussion, it is important for researchers to be very clear regarding the operational definitions they are using. If, in the future, it is decided that current conceptualizations of false memory are insufficient, such operational definitions can help if data are reanalyzed or reinterpreted.

Second, researchers need to be far more transparent in how judges, if they are used, are trained. This can be achieved by developing training protocols that can be shared or by recording the actual training process. This is in line with current open science initiatives. Preregistering studies, sharing research materials, and sharing data will also contribute to the replicability of memory classification strategies.

Third, whatever the classification process used, there needs to be an explicit justification, ideally a theoretical one, as to why it is the most appropriate. This may seem obvious, but a useful discussion of theory is not always found in research articles on false memory. It is insufficient to say that previous research used the same coding system without explaining what the original theoretical foundation of that coding system actually was. Along with this, I believe that we need to be more explicit in reminding the audience that we are opining about the nature of participants' memories, and only participants can know whether or not they are having the subjective experience of remembering a past event.


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Author Contributions

J. Shaw is the sole author of this article and is responsible for its content.

ORCID iD

Julia Shaw  <https://orcid.org/0000-0003-3585-3081>

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