Social influence and mental routes to the production of authentic false memories and inauthentic false memories

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A B S T R A C T

Two studies assessed the extent to which people incorporated false facts provided by bogus others into their own recognition memory reports, and how these false memory reports were affected by: (a) truth of the information in others’ summaries supporting the false facts, (b) motivation to process stories and summaries, (c) source credibility, and (d) ease of remembering original facts. False memory report frequency increased when false facts in a summary were supported by true information and varied inversely with the ease with which original facts could be remembered. Results from a measure probing participants’ memory perceptions suggest that some false memories are authentic: People sometimes lack awareness of both the incorporation of false facts into their memory reports and where the false facts came from. However, many false memories are inauthentic: Despite reporting a false memory, people sometimes retain knowledge of the original stimulus and/or the origin of false facts.

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1. Introduction

After exposure to a stimulus (e.g., viewing a scene or reading a story), encountering false post-stimulus information sometimes causes participants to erroneously report that the false post-stimulus information actually appeared in the original stimulus. For example, after seeing a running back tackled during an American football game, a person might later hear a friend say (incorrectly) that the tackler punched the running back as the tackle was made. The person might later erroneously incorporate this information into their memory report, including the punch when relating their own memory for the tackle. This error, sometimes called the misinformation effect, is very well-documented (for a review, see Loftus, 2005).

1.1. Alternative cognitive routes to false memory responses

A number of cognitive mechanisms underlying the misinformation effect have been described and examined (e.g., Hammersley & Read, 1986; Loftus, Schooler, & Wagenaar, 1985; McCloskey & Zaragoza, 1985a; McCloskey & Zaragoza, 1985b; Tversky & Tuchin, 1989; Zaragoza & McCloskey, 1989). For example, in her strong integration account, Loftus and Palmer (1974) suggested that false post-event information wholly replaced or altered the memory for the original stimulus. In comparison, the McCloskey and Zaragoza (1985a) coexistence account posited that memory for the original stimulus and...
memory for the post-event information are stored intact, but separately, in long-term memory. False memory reports might occur when the false information is retrieved instead of the veridical memory as might happen when the false memory inhibits or blocks retrieval of the veridical memory (Eakin, Shreiber, & Sergent-Marshall, 2003; Schooler, Foster, & Loftus, 1988).

Alternatively, according to McCloskey and Zaragoza, it is possible that participants might remember both items of information and make a judgment about which of them (i.e., misinformation or original stimulus material) is correct based on other variables, such as perceived information credibility. Yet another view comes from Hammersley and Read (1986). Their weak integration account suggests that participants can accurately remember post-event information as being encountered post-event (they have some memory for the source of recalled information), but are unaware of the extent to which the information had an influence on their memory for the original stimulus. A fourth view comes from scholars who have claimed that failure to either encode cues or to retrieve cues indicating the sources of different pieces of remembered information contribute to false memory production (e.g., the Source Monitoring Framework proposed by Lindsay, Hagen, Read, Wade, & Garry, 2004).

Our reading of this literature leads us to conclude there is not a single cognitive mechanism that can potentially lead to the production of a false memory response – there are multiple mechanisms. Betz, Skowronski, and Ostrom (1996) articulated an early version of this view. They suggested that some false memories might sometimes emerge because people “honestly” misrecalled a false second-hand fact as having appeared in an original stimulus. We suggest that such false memories (which we term authentic false memories) require that people both forget elements of the original stimulus and forget the source of the false information. In contrast, Betz et al. also suggested that a rememberer might sometimes produce a false memory response, even when the rememberer knew that the memory response they provided came from a second hand source. False memories like these might be termed inauthentic false memories.

To explore these ideas, Betz et al. (1996) examined false memories by looking at participant “yielding” to false post-stimulus information provided by a (bogus) fellow group of participants. However, to ensure that at least some false memories were authentic, for some analyses the false memory report data were adjusted to examine only those cases in which: (a) people changed from an original correct response to the group’s incorrect response, and (b) people could not correctly recognize the group’s response. Responses that did not meet these requirements (the potential inauthentic false memories) were discarded from some analyses. Despite these discards, data analyses revealed evidence reflecting misinformation effects: Participants sometimes changed from true responses to false ones (especially when group consensus was high in the bogus group and original memories were weak or non-existent), even when they could not correctly report the answer endorsed by the group. Betz et al. argued that such effects could only reflect authentic false memories: Such results could not come from other routes to false memory responses that require knowledge of the responses of others and require memory for the sources of such knowledge. That misinformation effects sometimes reflected authentic false memories was also consistent with another finding reported by Betz et al. (1996): Informing participants that the information provided by others was false did not eliminate or appreciably diminish the potency of the misinformation effect evinced in their studies (for similar results, see Numbers, Meade, & Perga, 2014).

However, people sometimes may be able to avoid false memory reports. False memory production may be reduced when the following conditions are jointly met: (a) the source of misinformation is correctly attributed to the source, and (b) people are instructed not to report such information when it is known that the information came only from a secondary source. Results reported by Bodner, Musch, and Azad (2007) supported his idea. Their results showed that when people accurately attributed the source of misinformation to a secondary source, then explicit instructions to avoid false memories reduced the frequency with which participants reported the misinformation at test.

A study reported by Zhu et al. (2012) yielded evidence that converges with that provided by Betz et al. (1996) and Bodner et al. (2007). Zhu et al. conducted a study in which participants viewed an original stimulus photo and a second-hand narration, and they looked for evidence that memory reports were influenced by the false facts in the narration. However, Zhu et al. recognized that false memory reports may be produced by multiple routes, only some of which might reflect “real” false memories (which they termed robust false memories). To make sure that “real” false memories were influenced by exposure to false second hand information, after engaging in the recall task participants reported on their memory experience. Response options provided allowed participants to indicate that when trying to recall their memory they: (a) saw it in the picture only, (b) read it in the narration only, (c) saw it in both and they were the same, (d) saw it in both and they conflicted with each other, and (e) guessed. Duplicating the logic used by Betz et al. (1996), Zhu et al. used the self-report data to exclude from analyses those false memory responses that might have been produced despite the presence of memory information (options b and d) that might cast doubt on the false memory report. Complementing the data produced by Betz et al. and Bodner et al., Zhu et al., found evidence that some false memory reports reflected what people believed that they remembered about the story.

However, the focus on documenting the emergence of “real” false memories led both Betz et al. (1996) and Zhu et al. (2012) to ignore inauthentic or non-robust false memories. One might wonder about the characteristics of these false memories (especially in comparison to the characteristics of “real” false memories) and the various routes by which they are produced. The results provided by Bodner et al. suggest that awareness of a remembered fact’s source is one such characteristic, but there may be others. Clearly, an improved understanding of the misinformation effect will come from an improved understanding of the various mechanisms that people use when generating a false memory response and the kinds of variables that influence the use of, and the products derived from, those mechanisms. Accordingly, one goal of the research that is described in the present article is to take the next step toward the production of such understanding.
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