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Reminders and Repetition of Misinformation: Helping or Hindering Its Retraction?[☆]

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People frequently rely on information even after it has been retracted, a phenomenon known as the continued-influence effect of misinformation. One factor proposed to explain the ineffectiveness of retractions is that repeating misinformation during a correction may inadvertently strengthen the misinformation by making it more familiar. Practitioners are therefore often encouraged to design corrections that avoid misinformation repetition. The current study tested this recommendation, investigating whether retractions become more or less effective when they include reminders or repetitions of the initial misinformation. Participants read fictional reports, some of which contained retractions of previous information, and inferential reasoning was measured via questionnaire. Retractions varied in the extent to which they served as misinformation reminders. Retractions that explicitly repeated the misinformation were more effective in reducing misinformation effects than retractions that avoided repetition, presumably because of enhanced salience. Recommendations for effective myth debunking may thus need to be revised.

General Audience Summary

Information that is thought to be true but then turns out to be incorrect—so-called misinformation—can affect people's thinking and decision making even after it has been clearly corrected by a credible source, and even if people understand and later remember the correction. It has been proposed that one reason why corrections are so ineffective is that a myth is often repeated when it is corrected—explaining that vaccines do not cause autism almost necessarily repeats the association between vaccines and autism. This repetition can make the myth more familiar such that it comes to mind more easily in the future. Based on this notion, one recommendation to “myth debunkers” has been to avoid myth repetition in a correction. The present study directly tested this recommendation. We presented participants with news reports that did or did not contain corrections; these corrections did or did not repeat the to-be-corrected misinformation explicitly. We found—contrary to the popular recommendation—that corrections were more effective when they explicitly repeated the myth. Thus, it seems “safe” and even beneficial to repeat the myth explicitly when debunking it.

Keywords: Continued-influence effect, Misinformation, Myth debunking, Familiarity

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Information that is initially presented as true but later identified as false and explicitly retracted often continues to influence people's cognition. This phenomenon is known as the continued-influence effect (CIE) of misinformation (Johnson & Seifert, 1994; Wilkes & Leatherbarrow, 1988). Research on the CIE has traditionally used a paradigm in which individuals read a (fictional) news report or scenario that includes a piece of critical information that subsequently is or is not retracted. The typical finding is that people's inferential reasoning, as for example measured through questionnaire, continues to be affected by the critical information despite clear and credible retractions, and even when individuals demonstrably understand and later remember the retraction (Johnson & Seifert, 1994; Wilkes & Leatherbarrow, 1988; for reviews, see Lewandowsky, Ecker, Schwarz, Seifert, & Cook, 2012; Seifert, 2002; for more recent work, see Ecker, Lewandowsky, Chang, & Pillai, 2014; Ecker, Lewandowsky, Cheung, & Maybery, 2015; Ecker, Lewandowsky, Fenton, & Martin, 2014; Guillory & Geraci, 2013; Guillory & Geraci, 2016; Nyhan, Reifler, & Ubel, 2013; Rich & Zaragoza, 2016; Thorson, 2016). In most of these studies, the retraction does have an effect—reliance on the critical information is typically halved compared to the no-retraction control—but the critical information almost always continues to be used to a significant extent.

Such continued reliance on misinformation is of particular concern when important decisions are at stake. One of the most commonly used examples of the CIE's real-world relevance is the ongoing impact of the fabricated link between childhood vaccines and autism, which has proven fairly resistant to correction (e.g., Poland & Spier, 2010). These real-world implications of the CIE are one of the factors that have stimulated research effort into designing more effective correction strategies (cf. Cook & Lewandowsky, 2011; Lewandowsky et al., 2012; Schwarz, Newman, & Leach, 2016).

One of the recommendations that has arisen from these efforts is to avoid repeating the misinformation when correcting it. This recommendation is founded in psychological theorizing that repeating the misinformation when retracting it may inadvertently strengthen the misinformation by making it more familiar. As it is well known that familiar claims are more likely to be trusted and believed (e.g., Dechene, Stahl, Hansen, & Wanke, 2010; Weaver, Garcia, Schwarz, & Miller, 2007), the retraction could ironically backfire and increase reliance on misinformation rather than reduce it. Repeating the misinformation while identifying it as false could thus later leave people thinking "I've heard that before, so there's probably something to it" (Lewandowsky et al., 2012, p. 115).

Some evidence for this "familiarity backfire effect" comes from a study by Skurnik, Yoon and Schwarz (2007; also see Skurnik, Yoon, Park, & Schwarz, 2005), who provided participants with a "myths vs. facts" flyer that listed a number of claims regarding the flu vaccine, which were either affirmed or retracted. Skurnik et al. (2007) found that after a delay of 30 min, a substantial proportion of retracted myths were misremembered

as facts, presumably based on the retraction-induced boost to the familiarity of the myths.¹

More recently, Swire, Ecker, and Lewandowsky (2017) also investigated the role of familiarity in myth corrections. Participants were given a set of true and false claims of unclear veracity (e.g., the fact that dogs can smell certain types of cancer, or the myth that playing Mozart can improve a baby's intelligence), which were subsequently repeated and then either affirmed or retracted. Claim belief was then measured after various retention intervals of up to three weeks. Swire et al. found that over time, the impact of myth retractions was less sustained than the impact of fact affirmations. This asymmetry was explained within a dual-processing framework, assuming that belief ratings can be based both on recollection of the affirmative/corrective explanation and on the claim's familiarity (cf. Jacoby, 1991). The authors argued that for facts, it does not matter if belief is based on recollection of the affirmation or the familiarity of the claim—both will lead to acceptance of the fact; for myths, however, recollection of the retraction will lead to accurate rejection, whereas familiarity of the claim may lead to erroneous acceptance of the myth as true. The CIE thus seems at least partially familiarity-based. However, Swire et al. observed no familiarity backfire effect: myth belief post-retraction did not return to or exceed a pre-manipulation baseline (also see Peter & Koch, 2016). In sum, there is evidence for a role of familiarity in the CIE, but the evidentiary foundation for the recommendation that misinformation should not be repeated during its retraction is relatively weak.

Some theoretical accounts that focus on the *salience* of the misinformation during the correction even suggest that repeating misinformation when retracting it may be beneficial. Putnam, Wahlheim, and Jacoby (2014) as well as Stadtler, Scharrer, Brummernhenrich, and Bromme (2013) argued that detection of a conflict between rival event interpretations facilitates updating of a person's mental model of an event (cf. Morrow, Bower, & Greenspan, 1989). Such conflict detection is arguably more likely to occur if the retraction explicitly refers to both the invalidated interpretation as well as the new correct interpretation. Likewise, Kendeou, Walsh, Smith, and O'Brien (2014) argued that effective knowledge revision requires the co-activation of invalidated and correct event interpretations, which again is more likely to occur if the misinformation is explicitly repeated when it is retracted.

The Current Study

The current study aimed to determine whether providing reminders or repetitions of misinformation in the course of a retraction increased or decreased the subsequent CIE, thus

¹ In this study, the facts and myths all concerned the same topic, so an alternative account may involve source confusion (cf. Johnson, Hashtroudi, Lindsay, 1993): participants may have just been confused about which statements were affirmed and which retracted. However, the effect was asymmetrical, in that a delay only led to increased acceptance of myths as true, with the rate of fact rejection remaining stable over time. This pattern is more in line with a familiarity-based explanation.

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