In the DNA Exoneration Cases, Eyewitness Memory was *Not* the Problem: A reply to Berkowitz and Frenda (2018) and Wade, Nash and Lindsay (2018)

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Abstract

Wixted, Mickes and Fisher (2018) argued that on an initial test, eyewitness memory is generally reliable – both in the lab and in the real world. Berkowitz and Frenda (2018) and Wade, Nash and Lindsay (2018) disagree because they believe that an initial test in the real world is likely to be based on contaminated memory or to involve non-pristine testing procedures. However, they offer no direct evidence that eyewitness memory initially tested under non-pristine conditions in the real world is unreliable. Scientists have every right to be unconvinced by the available evidence, but they should not get ahead of it. The available real-world evidence suggests that, on an initial test, eyewitness memory is often reliable. Even the DNA exoneration cases – which certainly involved non-pristine testing conditions and may also have involved contaminated memory – show how *reliable* an initial test of eyewitness memory in the real world can be. On that first test, these eyewitnesses usually indicated the inconclusive nature of the test result by expressing low confidence. We endorse the use of pristine testing procedures, but their absence does not automatically imply that eyewitness memory is unreliable.

Keywords: eyewitness identification, eyewitness memory, eyewitness reliability, confidence and accuracy, Cognitive Interview

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We claim that in the lab and in the real world, when eyewitness memory is uncontaminated and properly tested, it is reliable, not unreliable (Wixted, Mickes & Fisher, 2018). This is true of both recall (police interviews) and recognition (eyewitness identifications from police lineups). In both cases, eyewitness memory is reliable in the sense that, on an initial test, low confidence implies low accuracy, whereas high confidence implies high accuracy.

In their commentaries, both Berkowitz and Frenda (2018) and Wade, Nash and Lindsay (2018) accept our claim with respect to lab studies, but they worry that in the real world, eyewitness memory is unreliable, either because it is often contaminated before the first official test or because the police often use improper testing procedures. That concern appears to be the new frontier in the debate over the reliability of eyewitness memory.

Being concerned that eyewitness memory might be unreliable in the real world seems perfectly reasonable to us, but police department field studies suggest that eyewitness memory for real crimes is often reliable. A notable feature of those studies is that, in one way or another, they actually measured the reliability of eyewitness memory on an initial test (e.g., Fisher, Geiselman & Amador, 1989). Berkowitz and Frenda (2018) and Wade et al. (2018) remain unconvinced by the available evidence, which is every scientist's right, but they offer no direct evidence that on the initial test of an actual police investigation eyewitness memory is in fact unreliable. Instead, they point to evidence that uncontaminated eyewitness memories and pristine testing conditions might be rare. As Wade et al. (2018) put it: "Wixted et al.'s (2018) reasoning implies that near-pristine conditions or uncontaminated memories are normative, but we doubt this."

In truth, our reasoning does not imply that near-pristine conditions or uncontaminated memories are normative (Mickes, Clark & Gronlund, 2017). It is tempting to view this issue in the following dichotomous terms:

1. Under pristine (or near-pristine) conditions, eyewitness memory on an initial test is reliable.
2. Under non-pristine conditions, eyewitness memory is unreliable.

It is certainly true that under certain non-pristine conditions (e.g., unfair lineups and repeated testing), eyewitness memory is unreliable. The problem is that there is a third state of knowledge:

3. Under non-pristine conditions that have not yet been subjected to careful research, the reliability of eyewitness memory on an initial test might still be reliable.

Point #3 precludes the claim that the mere existence of non-pristine testing conditions automatically implies that eyewitness memory is unreliable. In this regard, Garrett (2011) documented how the eyewitness identification practices associated with the DNA exoneration cases often deviated wildly from what we would today regard as pristine. Even so, in every case in which initial eyewitness confidence could be determined (91 of 161 cases), the eyewitnesses appropriately expressed low confidence (if they identified the suspect at all). This is true even though, as Berkowitz and Frenda (2018) and Wade et al. (2018) contend, the memories of these eyewitnesses might very well have been contaminated before the first official test. Critically,

despite possible contamination and despite the non-pristine testing conditions, these witnesses unmistakably signaled the error-prone nature of their initial IDs. It was other actors in the legal system who made the mistake of ignoring those inconclusive test results (namely, the low-confidence IDs) and who then compounded that mistake by relying on later tests (e.g., at trial). By that time, the memories of the eyewitnesses had become so badly contaminated that they misidentified innocent suspects with high confidence.

What turns out to be rare (so far, anyway) are examples of initial IDs made with high confidence leading to a wrongful conviction. We agree that such errors, if they were the norm, would be an indictment of the reliability of eyewitness memory in the real world. But those errors appear to be *rare*. Indeed, even studies suggesting that collaboration among witnesses before a first police interview can reduce accuracy (e.g., Granhag, Ask, Rebelius, Ohman, & Giolla, 2013), it is not yet clear that the contaminated memories were recalled with high confidence. Except under conditions specifically designed to implant false memories (e.g., by *repeatedly* exposing participants to false information), eyewitness memory may be sufficiently robust that contaminated memories are usually recalled with low confidence. In a similar way, eyewitness identification is robust to a variety of forces ordinarily thought to compromise reliability (Semmler, Dunn, Mickes & Wixted, in press). Thus, before rethinking the confident eyewitness in the real world, as Berkowitz and Frenda (2018) would like us to do, we should at least wait for some actual data showing that high-confidence eyewitness memory on an initial test in the real world is unreliable. So far, the bulk of the evidence points in the opposite direction.

Two more points are worth making. First, Wade et al. (2018) ask “how reliable is reliable enough?” and then quote a sentence from a chapter co-authored by Wixted stating that high-

confidence memory reports are "simply not a reliable enough indicator of truth to unilaterally adjudicate guilt or innocence" (Roediger, Wixted, & DeSoto, 2012, p. 113). In retrospect, Roediger et al. (2012) should not have addressed this question because it confuses value judgments with scientific judgments (cf. Clark, 2012). It is the job of judges and juries, not scientists, to make the difficult value judgment of deciding how reliable is reliable enough.

Second, we argue that the accuracy of eyewitness memory is informed by confidence in much the same way that the accuracy of a DNA match is informed by the random match probability (RMP). In response, Berkowitz and Frenda (2018) point out that "leading forensic DNA researchers have long-cautioned that analyzing DNA using RMPs alone is potentially misleading without accompanying information about the rate of human error and the probability of a coincidental match." Actually, we are acutely aware of the fact that the RMP, *alone*, is not enough. In this regard, we invite readers to consider a recent analysis of the tragic case of Gary Leiterman (Wixted, Christenfeld & Rouder, 2018). The RMP in that case was an extraordinarily low 170.1 trillion to 1 (i.e., it was an extraordinarily high-confidence match), yet a consideration of other issues associated with the DNA testing in that case points strongly in the direction of contamination arising from human error. Our point is that the RMP informs accuracy, not that it precisely quantifies the level of accuracy.

Just as a compelling DNA match will sometimes turn out to be wrong due to human error, it will surely sometimes happen that high-confidence eyewitness memory on an initial test will turn out to be wrong as well (e.g., perhaps due to repeated contamination of memory before the first official test). Errors like that do not change the fact that, as a general rule, on an initial test, low confidence implies low accuracy, and high-confidence implies high accuracy. In that sense, the available evidence from both the lab and the real world suggests that eyewitness

memory is reliable, not unreliable. Obviously, future work may change that verdict, but, in our view, it is important for experimental psychologists to resist getting ahead of the evidence.

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