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Reality Monitoring in the Forensic Context: Digging Deeper into the Speech of Liars

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Reality monitoring (RM) indicates that truthful accounts contain more perceptual and contextual details than false accounts. Considering the tendency of liars to manipulate their accounts by adding false details, I compared truths and lies in terms of the amount and veracity of details provided by suspects across three conditions: a single statement provided immediately; a single statement following a two-week delay; or two statements, the first provided immediately and the second following a two-week delay. Distinguishing truths from lies was possible across conditions, but with varying intensity. Truth-tellers provided only truthful details, whereas liars provided both truthful and false details. While the opportunity to provide truthful details decreased over time for both truth-tellers and liars, only the latter compensated for this decrease by adding false details. The current study provides a new empirical approach and significant insight into the application of the RM framework in the forensic context.

General Audience Summary
The current study examined the verbal behavior of suspects, who tell the truth or lie when they are interviewed about their involvement in a crime, across three situations: when they provide a single statement immediately after the crime occurred; a single statement following a two-week delay; or two statements, the first provided immediately after the crime occurred and the second following a two-week delay. According to the reality-monitoring approach for lie detection, truth-tellers provide more perceptual (e.g., what they saw, heard, and smelled during the described event) and contextual details (e.g., times and locations) than liars. While truth-tellers usually provide truthful details in the interviews, liars, who are motivated to be convincing, manipulate their accounts by adding false details. Results showed that distinguishing truths from lies was possible in all situations, but with varying intensity. Truth-tellers provided only truthful details, whereas liars provided both truthful and false details. While the opportunity to provide truthful details decreased over time for both truth-tellers and liars, only the latter compensated for this decrease by adding false details. The current study provides new insights into the verbal behavior of liars and truth-tellers.

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Reality monitoring (RM) theory (Johnson & Raye, 1981) describes the process used by an individual to monitor his or her own memories by their content qualities. According to RM, memories for experienced events (externally derived memories) are characterized by perceptual and contextual attributes, while memories for imagined events (internally derived memories) are characterized by the cognitive operational attributes that help to generate them. A few decades ago, the RM framework was adapted to the field of deception detection (Sporer, 1997, 2004), where the process of judging the source of other people's memories has been labeled *interpersonal RM* (iRM; Johnson, 2006; Johnson, Bush, & Mitchell, 1998). In this application, true accounts are expected to be richer in perceptual and contextual details than are fabricated accounts (e.g., Vrij, 2008). This extension of RM has been supported by many studies (see DePaulo et al., 2003; Masip, Sporer, Garrido, & Herrero, 2005; Nahari, Vrij, & Fisher, 2012; Vrij, 2005, 2008). Yet, I argue that it occurred without taking into consideration the factors that distinguish fabrication (in iRM) from false memory (in RM).

One factor involved in iRM for deception detection and absent in RM, where intended deception and manipulation are not likely, is the tendency of liars to manipulate their accounts to make them seem truthful (Granhag & Hartwig, 2008; Nahari, Vrij, & Fisher, 2014a, 2014b), for example by intentionally adding false perceptual and contextual details to their accounts (Masip & Herrero, 2013; Nahari et al., 2012). Similar to a false memory, a fabrication also entails creation of a memory internally, using thought and imagination. However, in contrast to a false memory, liars operate on the fabricated memory intentionally, in a manipulative way. As the nature of these two memories is different, I argue that the term "internally derived memory" used to describe a "false memory" in RM process is somewhat inaccurate for describing a "fabricated memory." I therefore suggest to distinguish fabricated memories by terming them "self-manipulated memories" rather than "internal memories." The current study sought to shed light on the distinctive characteristics of these self-manipulated memories.

Boundaries of Reality

Truth-tellers usually believe that sticking with the truth is the best strategy for convincing others of their honesty (Granhag & Hartwig, 2008; Hartwig, Granhag, & Strömwall, 2007; Masip & Herrero, 2013; Nahari et al., 2014b); thus, their accounts generally depend on what actually happened. When asked to repeat their account, truth-tellers still try to be consistent with reality rather than with their previous accounts (Granhag & Strömwall, 2002). Liars, on the other hand, are less limited by reality because they fabricate it. Thus, in their first account liars are relatively free to include many false details. However, their degree of freedom decreases in subsequent statements, as they try to be consistent with their previous accounts (Granhag & Strömwall, 2002). Therefore, from the second time they provide a statement, liars actually recall their first account. As such, for liars, the first account functions as reality does for truth-tellers.

Lack of Memory

Truth-tellers depend on their memory, which decreases over time (see, Nahari & Ben-Shakhar, 2011), and tend to provide fewer details when interviewed after time has passed. In contrast, fabricated memories do not depend to the same extent on the time when the event occurred. As such, the passage of time does not influence the amount of details that liars can provide (see Harvey, Vrij, Hope, Leal, Mann, 2017; Harvey, Vrij, Leal, Hope, & Mann, 2017). Consequently, the differences between truths and lies may be diminished by a delay—with the truth-tellers' *forgetting* offsetting their initial advantage over liars, making it more difficult to discriminate between the two groups. The situation is different, though, when liars repeat their original account. As the first account is their reference, the memory factor plays a role for liars when they are required to repeat it.

Current Study

The current study examined conditions that provide liars with the opportunity to manipulate their accounts by adding false perceptual and contextual details and conditions that hinder them from doing so. Specifically, I examined the effects of statement time (following the event described) and repetition. In Stage 1, participants either committed a mock theft (liars) or left the laboratory and attended to their business for 30 min (truth-tellers). In Stage 2, liars and truth-tellers provided their statements at different times: (a) a single statement immediately after Stage 1, (b) a single statement two weeks after Stage 1, or (c) two statements, the first immediately after Stage 1 and the second two weeks after Stage 1. If I extrapolate from the unadorned RM approach, I would expect truth-tellers to provide more perceptual and contextual details than liars in all conditions (Hypothesis 1a). Yet, I expected that the differences in the amount of details provided by liars and truth-tellers would change across conditions. Since liars create their statement rather than retrieve it from memory the first time they provide it, they are likely to be unaffected by a delay in the provision of their statement, unlike truth-tellers, who are likely to exhibit a decrease in the amount of details they recall with passing time. Thus, I expected that the differences between liars' and truth-tellers' statements would be greater when participants provided a single statement immediately than when the initial statement was provided following a delay of two weeks (Hypothesis 1b). Hypothesis 1b assumes that the magnitude of the forgetting effect (i.e., the decline between the immediate and delayed conditions) among truth-tellers is not greater than the magnitude of the veracity effect (i.e., the difference between truth-tellers and liars in the immediate condition). This assumption has some empirical support (Harvey, Vrij, Hope, et al., 2017), and will be discussed further in the Discussion section.

However, in the attempt to be consistent with their first statement, liars, like truth-tellers, may exhibit a lack of memory in subsequent repetitions. Therefore, I expected that, just like when providing a single statement immediately, the differences between liars' and truth-tellers' statements in the amount of details would be greater when participants provided a second statement after a two-week interval than when only a single