MEMORY-BASED LIE DETECTION IN REPEATED INTERVIEWS:
The importance of early use of mnemonics

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Avhandlingen för avläggande av filosofie doktorsexamen i psykologi, som med vederbörligt tillstånd av samhällsvetenskapliga fakultetsstyrelsen vid Göteborgs universitet kommer att offentligen försvaras fredagen den 15 Februari 2019, klockan 10 i sal F1, Psykologiska institutionen, Haraldsgatan 1, Göteborg.

Fakultetsopponent: Professor Dave Walsh, School of Law, De Montfort University, Leicester, United Kingdom

This thesis is based on the following four studies, which are referred to by their Roman numerals:

I.   Izotovas, A., Vrij, A., Hope, L., Mann, S., Granhag, P.A., & Strömwall, L.A. (2018). Facilitating memory-based lie detection in immediate and delayed interviewing: The role of mnemonics. *Applied Cognitive Psychology, 32*, 561–574. DOI: 10.1002/acp.3435

II.   Izotovas, A., Vrij, A., Hope, L., Granhag, P. A., Strömwall, L.A., & Mann, S. (2018). *Facilitating memory-based lie detection in immediate and delayed statements: The role of sketch mnemonic*. Manuscript submitted for publication.

III.   Izotovas, A., Vrij, A., Hope, L., Granhag, P. A., Strömwall, L.A., & Mann, S. (2018). *Deception detection in repeated interviews: The effects of immediate type of questioning on the delayed accounts*. Manuscript submitted for publication.

IV.   Izotovas, A., Vrij, A., Strömwall, L.A., Mann, S., Hope, L., & Granhag, P. A. (2018). *Mnemonic techniques and lie detection: Accuracy of truth and deception judgments in repeated accounts.* Manuscript.

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ABSTRACT

The aim of this thesis was to examine how memory-enhancing (mnemonic) techniques used in an interview carried out immediately after an event affected truth tellers' and liars' responses in both an immediate interview and in a delayed interview. In Studies I-III participants took part in a mock intelligence scenario in which they were asked to take the role of an intelligence officer. Participants were instructed either to tell the truth or lie about its contents in two interviews, one of which was immediately after watching the video and the other after an approximately two-week delay. In **Study I** ($N = 143$), three mnemonic techniques were tested: Context reinstatement, Sketch, and Event-line. In the immediate interview, participants were asked to provide a free recall and then asked to give further information via one of these three mnemonics. In the delayed interview, they were only asked to provide a free recall. Truth tellers reported more visual, spatial, temporal, and action details in the immediate and delayed interviews, regardless of which mnemonic technique was used. Truth tellers experienced more of a decline in reporting details after a delay than liars, thus showing more than liars, patterns of reporting indicative of genuine memory decay. Truth tellers and liars did not differ in terms of between-statement consistency. In **Study II** ($N = 49$), the effects of the Sketch mnemonic on truth tellers' and liars' immediate and delayed responses were examined. Participants were only asked to draw a sketch of the apartment of the break-in, and to describe that sketch. In the immediate interviews, truth tellers reported more visual, spatial, temporal, and action details than liars. In the delayed interviews, truth tellers reported more spatial, temporal, and action details than liars. As in Study I, truth tellers more than liars, showed patterns indicative of genuine memory decay. Between-statement consistency did not differ between veracity groups. In **Study III** ($N = 80$), the effects of different interviewing techniques used in the immediate interview on truth tellers' and liars' delayed responses were examined. In the immediate interview participants were instructed either to report everything they remembered, or asked open-ended spatial questions related to the event. Truth tellers reported more visual, spatial, temporal and action details than liars, both immediately and after a delay, regardless of the interview technique used in the immediate interview. However, in the immediate interview the differences between truth tellers and liars were larger using the report everything mnemonic than using the spatial questions. Regarding between-statement consistency, truth tellers provided more reminiscences and repetitions and made fewer omissions than liars. Participants in **Study IV** (N = 96) read the immediate and delayed statements from Study I and were asked to make veracity judgements. One group of participants was informed about the findings of Study I, the other group was not informed about them. Deception detection accuracy did not differ between the informed and uninformed groups. In addition, the majority of participants in both conditions based their decisions on unreliable cues to truth/deceit. The results of this thesis demonstrate that the way an interview immediately after an event is carried has an effect on the verbal content of later interviews. Practitioners need to be aware that it is important to conduct the first interview as soon as possible after an incident, and to use interview techniques that enhance complete statements from the interviewee in order to effectively elicit differences between truthful and deceptive accounts. Differences that, in the further stages of the investigation, may lead to the detecting of deception.