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Collective interviewing: A transactive memory approach towards identifying signs of truthfulness

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ABSTRACT

Group interviewing has been neglected in the deception literature, yet it coincides with recent collective memory research. The present experiment applied the transactive memory theory to a collective interviewing situation and explored whether signs of truthfulness emerged through measuring joint memory recall. Truth-tellers were real couples who had been in a relationship for at least one year and cohabiting. Lying pairs were friends who pretended to be in a relationship for at least one year and cohabiting. All couples were interviewed in their pairs about their 'real' or 'fictitious' relationships. It was found that truth-telling pairs posed questions to one another, provided cues to one another, handed over remembering responsibility, and finished each others' sentences significantly more than lying pairs, supporting the idea that real couples have a transactive memory system, unlike pretending couples. Implications for a collective interview approach that considers memory within deception detection are discussed.

Cognitive psychology, specifically memory research, has developed over recent years through the exploration of not only individual memory, but also collaborative learning, collaborative remembering, and joint recall (e.g., Barnier & Sutton, 2008; Blumen, Rajaram, & Henkel, 2013; Harris, Paterson, & Kemp, 2008). Collective memory examines the social nature of memory by treating past experiences and events as memories shared with others (Barnier & Sutton, 2008; Hirst & Manier, 2008; Rajaram, 2011). It explores how individuals collectively recall information together (Rajaram & Pereira-Pasarin, 2010). The research suggests that group collaboration can aid memory through cross-cueing (where members of the group provide cues to one another that increase recall) and error-pruning (where feedback from other members of the group create discussions that make people realise their recall errors) (Rajaram, 2011; Ross, Blatz, & Schryer, 2008).

Deception research has primarily focused on interviewing single suspects despite the fact that crimes are frequently committed by pairs or multiple offenders (Van Mastrigt & Farrington, 2009; M^{c}Gloin & Piquero, 2009). Therefore, it seems relevant to explore how group members lie or tell the truth together. Collective interviewing is a new approach to lie detection that coincides with the current trend in collective memory research by focusing on the joint recall of events when two or more individuals are interviewed together at the same time. Although suspects are typically interviewed individually and immediately separated from their group members within police interview settings (Kassin & Gudjonsson, 2004), there are alternative situations whereby it would be more suitable, timely and convenient to interview group members simultaneously, for example, at road border controls where cars containing several people are checked, or at security checkpoints (e.g., airports). Importantly, collective interviewing is already part of some existing procedures. For example, in Canada immigration officers at airports carry out collective interviews, and in the United Kingdom couples are expected, at one potential stage, to be interviewed simultaneously in order to marry and achieve British Citizenship.

Four recent studies have illustrated the clear potential for using collective interviewing to elicit social cues to deceit, specifically communication and interaction cues. Vrij et al. (2012) examined verbal communication cues and found that pairs of truth-tellers interrupted and corrected each other more than pairs of liars, as well as adding more information to each other's accounts. Jundi, Vrij, Mann, et al. (2013) examined nonverbal communication cues and found that pairs of liars made more eye contact with the interviewer than pairs of truth-tellers, whereas pairs of truth-tellers looked more at each other than pairs of liars. Driskell, Salas, and Driskell (2012) investigated the social indicators of deception within a transactive memory framework and found that pairs of truth-tellers illustrated more synchrony in behaviour and exhibited more interactions (e.g., mutual eye gaze and verbal transitions) than pairs of liars. Finally, Jundi, Vrij, Hope, Mann, and Hillman (2013) applied the theory of transactive memory to a timeline task

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in which pairs had to work together to illustrate on paper the length of time each part of their experimental task had taken. The authors found that truth-telling pairs, in comparison to lying pairs, posed more questions to one another during the timeline task. These four studies show that a collective approach can generate discrepancies between pairs of truth-tellers and pairs of liars in the way they communicate.

The aim of the present experiment was to apply a collective interviewing approach to the setting of being interviewed simultaneously to achieve British Citizenship. Similar to the studies by Driskell et al. (2012) and Jundi, Vrij, Hope, et al. (2013), the present experiment explored differences between truth-telling and lying couples within the context of transactive memory. However, the present experiment differed from the previous studies in some important ways. First, Driskell et al. (2012) focused on generic verbal transitions defining them broadly in terms of back- and fourth-verbal exchange (i.e., the number of times an individual elaborated or responded immediately after their partner). Conversely, the present experiment explored the specific types of verbal transitions used by the pairs, focusing on the fundamental memory cues that emerge through collaborative recall and remembering and that may be an indication of truthfulness. Second, whilst Driskell et al. (2012) and Jundi, Vrij, Hope, et al. (2013) both measured posing questions to one another, we thought it to be relevant to replicate this measurement within a different context in the present experiment. That is, whereas Driskell et al. (2012) used a brief investigative interview (similar to that which might occur during initial screenings at security checkpoints) and Jundi, Vrij, Hope, et al. (2013) measured the number of questions posed to one another whilst the pair completed a timeline task, the present experiment measured the frequency of questions posed to one another during a lengthy immigration-type interview. Third, an extra factor was added to the present experiment to explore the influence of question type, an area that has been investigated in previous deception research and been shown to be important. For example, Vrij et al. (2009) found that asking unanticipated questions about central topics increased the discrepancies between pairs of liars' statements because they had not been able to prepare answers to these questions. These discrepancies were not found between pairs of truth-tellers' statements because they were relying purely on memory. To take the expectedness of the interview questions into consideration, the present experiment split the interview into anticipated questions (which pairs may have planned for) and unanticipated interview questions (which negate the benefit of planning for the interview).

1. Transactive memory

The theory of *Transactive Memory* is concerned with how groups (and individuals) process and structure information with regard to past events. The theory was developed to describe how people in close intimate relationships share cognition and 'think together' (Wegner, 1987). It proposes that people in close relationships have a specialised memory system or 'division of labour' for encoding, storing and retrieving information (Hollingshead, 1998; Wegner, 1987). This is particularly relevant to the present experiment whereby 'real' (truth-telling) or 'fictitious' (lying) couples were the focus.

Transactive memory theory postulates that people who are actually in a close relationship (truth-tellers) share remembering, also knowing each other's memory expertise (i.e., each person knows what they are to remember as well as what the other person in the relationship is to remember) (Hollingshead & Brandon, 2003). This results in a transactive memory system that is greater than the total of all of the individual memories (Wegner, Erber, & Raymond, 1991; Wegner, Giuliano, & Hertel, 1985). Over time, the individuals within the pair (couple) update their transactive memory systems, improving the system and making it more efficient. This transactive memory system is active at all three stages of memory formation and recall: Encoding, storing, and retrieving. First, when information is encoded regarding a shared experience responsibility for information is divided and shared between the members of the pair (Hollingshead & Brandon, 2003). Second, when information is stored, each individual within the pair has remembering responsibilities, knowing what their role is, what they are to remember, and what information their partner has access to (Wegner et al., 1991). Third, retrieval of information is social and interactive as the individuals within the pair communicate considerably with one another to retrieve as much information as possible. The communication with one another and the discussion of incoming information enhances their individual recollections. Hollingshead (1998) refers to the *transaction memory search* whereby group members who have experienced a past shared event make instinctive use of their transactive memory system to increase recall by posing questions to one another to check information or find out information, cuing one another to remind one another of further information, and handing over remembering responsibility to whoever best remembers that part of the event. These interactive and communicative behaviours between the group members help one another tap into their different memory domains and trigger further information, increasing recall. Consequently, it should be the truth-telling couples in the present experiment that demonstrate the use of a transactive memory system, and therefore display these fundamental interactive and communicative behaviours during their joint recall.

Conversely, pairs of individuals who are fabricating their relationship and inventing (or at least partially inventing) shared events will need to mislead or deceive investigators, and in order for these lying pairs to be able to do this, they will need to illustrate the same pattern of responses as the truth-telling pairs. This will be difficult for them to do without the shared memory system for encoding, storing and retrieving information that truth-telling pairs have. Research has shown that deceptive communication is characterised by the absence of social and interactive behaviours and that this is likely to be due to the fact that at the time of recall deceptive pairs do not retrieve information from a transactive memory system, unlike truth-telling pairs (Driskell et al., 2012). Instead, lying pairs will rely on a combination of individual processes, which means that each member needs to rely on their individual cognitive ability to create a story that makes sense and matches with what the other individual in their pair is saying (Hintz, 1990). Retrieval of information in lying pairs is therefore an individual cognitive task which will result in lying pairs exhibiting fewer interactions as they recall their fabricated story (Driskell et al., 2012; Vrij et al., 2012), and only providing prepared answers to expected questions (Granhag, Strömwall, & Jonsson, 2003; Strömwall, Granhag, & Jonsson, 2003; Vrij, Mann, Leal, & Granhag, 2010). Additionally, lying pairs will focus on appearing credible when investigated (DePaulo, LeMay, & Epstein, 1991; DePaulo et al., 2003), and due to the misconceptions held by people with regards to the cues that imply deceit (Vrij, 2008a), the lying pairs in particular will avoid certain behaviours, e.g., correcting and interrupting one another (Vrij et al., 2012), posing questions to one another (Driskell et al., 2012), and admitting a lack of memory (Porter & Yuille, 1996). This again will make the memory cues arising from transactive memory more apparent in truth-telling pairs who believe the truth will shine through ('illusion of transparency'; Gilovuch, Savitsky, & Medvec, 1998) and are not as concerned with appearing credible, and hence do not avoid particular communications and interactions.