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REVIEW

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Increasing pressure does not benefit lie detection: a reply to Ten Brinke et al. (2015)

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ABSTRACT

When passively attending to suspects, observers are poor at distinguishing lies from truths. Deception research has therefore shifted to examining interview styles aimed at eliciting and enhancing deception cues. Based upon a literature review and three empirical studies, ten Brinke, L., Khambatta, P., and Carney, D. R. [2015. Physically scarce (vs. enriched) environments decrease the ability to successfully tell lies. *Journal of Experimental Psychology: General*, 144, 982–992. doi:10.1037/xge0000103] recommend increasing pressure on interviewees as it would increase lie detection accuracy. In this comment, we argue that these authors (1) misinterpret the literature when concluding that lie detection benefits from increasing pressure on interviewees, and (2) their data do not show that lie detection is more accurate when pressure is increased. In absence of such data, we recommend that increasing pressure on interviewees should be avoided: it hampers the elicitation of valuable information and can lead to false confessions.

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Many crimes can only be solved through effective interrogations (Leo, 2008). In their influential police training manual, Inbau, Reid, Buckley, and Jayne (2013) argue that a physically uncomfortable interrogation room (e.g. bare room without windows and decoration, low temperature, hard chair) may be effective to obtain a confession because it increases discomfort and thereby the urge in suspects to escape from the interrogation.

In line with Inbau et al.'s (2013) reasoning, ten Brinke, Khambatta, and Carney (2015) examined whether placing interviewees in an environment that causes feelings of anxiety, powerlessness, and mental taxation increases the ability to distinguish truth tellers from liars. They argue (1) that the current scientific literature has generally shown that lie detection will benefit from increasing pressure, and that (2) the results of their three studies support the idea that putting pressure on suspects decreases the ability to lie successfully. Based upon their review of the literature and their empirical work, they conclude that

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Coupling this environmental pressure with interviewing techniques that challenge the liar is likely to produce greater increases in accuracy. With additional research, results may provide lie detectors with a simple, cheap, and easy-to-institute intervention for the improved detection of deception in organizational, legal, and security settings. (p. 990)

We argue that ten Brinke et al. misinterpret the available evidence on interviewing techniques and lie detection, and that their data do not support the idea that increasing pressure on suspects improves lie detection. We further argue that in the absence of convincing data, exposing interviewees to additional pressure should be avoided because it hampers the elicitation of valuable information and cues to deceit (Meissner et al., 2014) and can lead to false confessions (Kassin, 2005; Kassin et al., 2010).

Does the literature support the claim that lie detection benefits from increasing pressure?

In their article ten Brinke et al. (2015) state that:

research has generally shown that increasing the pressure on the person telling the lie (vs. truth) will significantly hinder their lie-telling success by increasing stress reactivity and depleting cognitive resources. For example, cognitively taxing the lie-teller will significantly reduce effectiveness (Vrij, Granhag, Mann, & Leal, 2011). Making the lie-teller feel powerless has similar effects (Carney et al., 2015), as does increasing the intensity of to-be-concealed emotions (Porter, ten Brinke, & Wallace, 2012). Increasing the perceived importance of stressful lying may also reduce deception effectiveness (i.e., motivational impairment effect; DePaulo, Kirkendol, Tang, & O'Brien, 1988; but see Hartwig & Bond, 2014). In the current research, our hypothesis was inspired by research in fields such as architecture, design, engineering, and environmental science by looking at the intervention power of physical environments. (pp. 982–983)

Ten Brinke et al. (2015) thus refer to three lines of research that would indicate that increasing the pressure would improve lie detection.

The first line of research is known as cognition-based lie detection (Vrij, Fisher, & Blank, 2015). Because the differences in cognitive load between liars and truth tellers is often subtle, Vrij, Fisher, Mann, and Leal (2006) and Vrij et al. (2011) suggested to use active interviewing strategies that makes lying a more difficult task, hereby enhancing the differences in cognitive load experienced by truth tellers and liars. Such strategies may involve asking unexpected questions (Lancaster, Vrij, Hope, & Waller, 2012), telling the story in reverse order (Evans, Michael, Meissner, & Brandon, 2013), providing a model statement to encourage interviewees to say more (Leal, Vrij, Warmelink, Vernham, & Fisher, 2015) and late disclosure of evidence (Jordan, Hartwig, Wallace, Dawson, & Xhahani, 2012). These techniques aim to make lying a more difficult task, but none of these authors claimed it involved 'increasing the pressure'.

In fact, cognitive lie detection has strong links with so called information-gathering interviewing in which efforts are made to encourage suspects to tell their side of the story without being criticized or interrupted (Meissner et al., 2014; Vrij, Hope, & Fisher, 2014). Research has shown that creating a supportive atmosphere facilitates lie detection because it encourages truth tellers to provide more information, something liars are often unable or unwilling to do (Vrij et al., 2015). Therefore, in information-gathering interview protocols, the amount of detail becomes a diagnostic cue to deceit. A meta-analysis in

which information-gathering interviewing was compared with an accusatory style of interviewing revealed that information-gathering interviewing leads to the most cues to deceit (Meissner et al., 2014). By using questions such as 'Did you steal the money from this office?' and 'Why should I believe you?' ten Brinke et al. focusing on an accusatory interview style that has shown to typically elicit few diagnostic cues to deceit.

The second line of research the authors refer to is the idea that making liars powerless (taking away access and control over resources) facilitates lie detection. Empirical support for this idea is claimed to be found in Carney et al. (2015). Because this paper is yet unpublished, it is not possible to independently evaluate this evidence. There is, however, other evidence that speaks against this idea. Indeed, making examinees powerless is at the heart of many coercive interrogation techniques. For example, the CIA's controversial enhanced interrogation program used in the War on Terror was inspired by learned helplessness theory 'in which the examinee might become passive and depressed in response to adverse or uncontrollable events'. However, this 'was not an effective means of acquiring intelligence of gaining cooperation from detainees' according to a US Senate report (Senate Select Committee on Intelligence, 2014).

The third line of research involves the idea that 'Increasing the perceived importance of stressful lying may also reduce deception effectiveness' (ten Brinke et al., 2015, p. 983). This line of research involves the intuitive and popular idea that lie detection in high stake (field) situations is easier than lie detection in low stake (laboratory) situations. The authors cite an initial study from DePaulo et al. (1988) that supported the idea that high stake lying would be more readily detected than low stake lying. However, the scientific evidence has greatly accumulated since then and was examined in a meta-analysis involving 144 study samples in which 9380 liars and truth tellers conveyed 26,866 messages (Hartwig & Bond, 2014). This meta-analysis showed that lie detection accuracy did not differ between high versus low stakes situations.

Taken together, the published literature does not support the hypothesis that lie detection benefits from increasing pressure on subjects.

Does the data in ten Brinke et al. (2015) support the claim that lie detection benefits from increasing pressure?

ten Brinke et al. (2015) report three studies examining the idea that scarce environments make liars feel anxious, powerless and mentally taxed, and thereby less successful in lying.

Study 1 was an uncontrolled field study involving video scoring of the richness of the environment (richness of color, objects and texture) in which presumed liars and truth tellers appealed for missing persons. The scarcer the environment, the more liars displayed cues indicative of lying (e.g. shorter statements). However, as the authors acknowledged themselves, these data were correlational so they could not conclude that the rich versus scarce environment caused the effect. Moreover, the authors did not provide the crucial analysis: Whether lie detection was more accurate in the rich versus the scarce environment.

Study 2 aimed to 'establish that scarce environments cause ineffective deception'. Undergraduates who truthfully or deceptively denied stealing \$100, were interviewed with an accusatory interview style ('Did you steal the money from this office?' and 'Why should I believe you?', p. 986) in a rich (i.e. a decorated room with plants and carpet)

versus scarce (i.e. a sterile room with only a chair and table) environment. The authors concluded that that 'deception under conditions of environmental scarcity is accompanied by greater behavioral signals of deception'. This conclusion suggest that the intervention affected liars only. In contrast, the manipulation of the environment had the same effect on liars and truth tellers: all interviewees displayed more deceptive behavior when they were interviewed in a scarce environment than in an enriched environment. The crucial interaction that would indicate a differential effect on liars and truth tellers was not significant ($p = .88$). Thus, not only liars but also truth tellers displayed more deception cues in the scarce environment. A manipulation that makes truth tellers look like liars is unlikely to be effective for lie detection purposes.

The crucial question whether interviewing in a rich versus a scarce environment led to better lie detection was answered in Study 3, where participants watched the videotapes collected in Study 2, and made veracity judgments. Observers indeed were more accurate in discriminating lies from truths produced in a scarce than in a rich environment. However, a closer look at Figure 7 (ten Brinke et al., 2015, p. 989) shows that lie detection accuracy was modest in all conditions ranging from 44% to 56%. Moreover, in the scarce condition veracity judgments were not impressive at all with only 54% of the genuine and 56% of the deceptive accounts classified correctly. In fact, these accuracy rates are typical for deception detection research and were similar to the 54% accuracy rate obtained by Bond and DePaulo (2006) in their meta-analysis involving almost 25,000 observers. The statistically significant difference between the scarce versus enriched environment was driven by the lower than average accuracy rates (44–53%) obtained in the enriched environment (see also Levine & Bond, 2014). In other words, there was no evidence for 'improved detection of deception (ten Brinke et al., 2015, p. 990)' in the scarce environment.

Discussion

ten Brinke et al. (2015) put forward the hypothesis that increasing pressure on interviewees increases lie detection accuracy. The deception literature provides little evidence for this hypothesis, nor do the data presented by these authors. The accusatory interrogation technique employed in Studies 2 and 3 resulted in the typical poor accuracy rates, which is not surprising given that, compared to information-gathering interview styles, accusatory techniques lead to less information including less accurate information (Meissner et al., 2014). In other words, harsh interrogations are ineffective (Fallon, 2015).

The problems associated with the type of interrogation employed by ten Brinke et al. go beyond being ineffective, it may even be dangerous. Study 2 showed that participants showed more deceptive behavior in the scarce environment, regardless of their veracity status. There is good reason to assume that the behavioral cues elicited by the increased pressure on truth tellers could be misinterpreted as signs of deceit (Vrij, Mann, Kristen, & Fisher, 2007). This, in turn, can lead to a vicious circle of increased (erroneous) presumption of guilt and a greater confrontational interrogation style (Kassin, Goldstein, & Savitsky, 2003). Under such conditions, innocent suspects are more likely to falsely confess according to documented wrongful conviction cases and extensive laboratory work (Kassin, 2005; Kassin et al., 2010). Increasing pressure on examinees does not facilitate, but rather hampers the search for the truth.

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No potential conflict of interest was reported by the authors.

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