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The Devil's Advocate Approach: An Interview Technique for Assessing Consistency among Deceptive and Truth-telling Pairs of Suspects

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## Author Note

This research was supported by the Erasmus Mundus Joint Doctorate Programme in Legal Psychology, Award 2014 - 0678.

We would like to thank Tonislava Asparuhova, Gerges Dib, and Lavinia Pontigia for their assistance with this research.

The authors declare that there are no conflicts of interest.

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#### Abstract

**Purpose.** The aim of this study was to assess statement consistency in pairs of deceptive and truth-telling suspects when the Devil's Advocate approach is implemented. This approach involves asking suspects an 'opinion-eliciting' question for arguments that support their opinions followed by a 'devil's advocate' question to elicit opposing arguments. On the basis of the confirmation bias and impression management literatures, we predicted that truth-telling pairs would provide more consistent arguments in response to the opinion-eliciting question than to the devil's advocate question. Deceptive pairs were expected to be equally consistent with each other in response to both questions.

**Method.** Forty-nine pairs of participants were matched, based on their strong opinions about a controversial topic, and were asked to either tell the truth or lie about their opinions to an interviewer. Pair members were permitted to prepare for the interview together. Each participant was interviewed individually with the Devil's Advocate approach.

**Results.** Prepared truth-telling pairs were more consistent with each other in response to the opinion-eliciting question than to the devil's advocate question. However, and as predicted, deceptive pairs were equally consistent with each other in response to both questions.

**Conclusions.** The Devil's Advocate approach seems to be a promising interview technique for assessing consistency among pairs who hold false opinions and pairs who hold true opinions. It also has implications for the consistency heuristic as consistency is not diagnostic of deception or honesty unless the interview technique is taken into consideration.

The Devil's Advocate Approach: An Interview Technique for Assessing Consistency among Deceptive and Truth-telling Pairs of Suspects

In light of violent attacks by extremist groups (Soufan, 2011; Weiss & Hassan, 2015), it is essential for intelligence and security officers to identify the nature of suspect affiliations to political, ideological, and religious organisations. Often, militant extremists work in cells so they travel and launch their attacks in small groups (Turretini, 2015; White, 2014). They may travel as couples such as the San Bernardino shooters ("San Bernardino Shooting: Who Were the Attackers?," 2015) or they may pose as refugees, such as the Paris Attackers ("Paris Attacks: Who Were the Attackers?," 2016). Officers who suspect and question individuals at checkpoints may need to assess whether suspects hold views that support extremist organisations (e.g., the so-called Islamic State) or not. In the current study, we examined an interview technique that may assist officers in uncovering false opinions of pairs of suspects: the Devil's Advocate approach.

In the Devil's Advocate approach interview (Leal, Vrij, Mann, & Fisher, 2010), suspects are asked two types of questions: One about their opinions on a topic (the opinion-eliciting question) and another for which they are asked to take the 'devil's advocate' position and generate arguments that run counter to their opinions (the devil's advocate question). In a deception scenario, truth-tellers are likely to provide their truly held opinions in response to the opinion-eliciting question, whereas liars are likely to provide their truly held opinions in response to the devil's advocate question.

# Theoretical Framework for the Devil's Advocate Approach Confirmation Bias

Attitudes are activated in line with one's experience with the target object, and these attitudes are often maintained by confirmation bias (Ajzen, 2001). Individuals selectively attend

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to evidence that supports their views , and at the same time, ignore evidence that runs counter to their views, because they deem opposing evidence to be weaker than supporting evidence (Edwards & Smith, 1996; Felton, Garcia-Mila, & Gilabert, 2009; Mercier & Sperber, 2011). Their reactions eliminate the discomfort of having to confront contrary evidence and enable them to maintain their own attitudes which in turn reduce cognitive dissonance (Petty, Wegener, & Fabrigar, 1997). This cycle sustains individuals' views and enhances their access to arguments that support those views.

Therefore, if individuals are asked to generate arguments for a topic about which they have strong views, they would find it easier to generate supporting than opposing arguments (Ajzen, 2001; Nickerson, 1998). Truth-tellers interviewed with the Devil's Advocate approach should be able to provide arguments in response to the opinion-eliciting question as these represent their genuine opinions. Given that individuals ignore arguments that refute their opinions, it would be difficult for truth-tellers to generate arguments for the devil's advocate question. A similar pattern may be true for liars who would have easier access to arguments that support their genuine views in response to the devil's advocate question than to opposing arguments for the opinion-eliciting question. Nevertheless, as described in the following section, liars can also have access to arguments for the opinion-eliciting question if they employ counter-interrogation strategies to make an honest impression on the interviewer.

### **Impression Management**

In forensic contexts, both liars and truth-tellers want to convince the interviewer they are innocent, but they employ different strategies to achieve this goal (DePaulo et al., 2003; Hartwig, Granhag, Strömwall, & Doering, 2010). According to the self-presentation perspective, truth-tellers may change their behaviour to make an honest impression on the interviewer, but they do that within the boundaries of honesty (DePaulo et al., 2003). Examples of this strategy include

waiving their rights to silence and being forthcoming (Hartwig et al., 2010; Kassin, 2015; Luke Dawson, Hartwig, & Granhag, 2014).

Liars' change in behaviour is designed to mislead the interviewer. Liars invest more effort than truth-tellers in self-presenting themselves positively, and they employ a variety of counterinterrogation strategies to make their lie easier (Hartwig, Granhag, & Strömwall, 2007; Leins, Fisher, & Ross, 2013). One commonly used counter-interrogation strategy is preparation. Liars think of questions that may be asked during the interview and rehearse responses to them (Clemens, Granhag, & Strömwall, 2013; Vrij, Mann, Leal, & Granhag, 2010). The importance of preparation is emphasised in manuals of extremist organisations, such as the Manchester Manual by Al Qaeda (U.S. Department of Justice, 2002). Sample questions that are asked at airports or immigration checkpoints are provided in the manual, and members are encouraged to rehearse responses to them with their unit commander. They are also instructed to discuss information they may provide in case they are intercepted. Hence, extremists may prepare arguments that counter their opinions to demonstrate to the interviewer that they do not hold extreme views and that they are not affiliated with the extremist organisation (Soufan, 2011). This enables liars to provide arguments in response to the opinion-eliciting question when the Devil's Advocate approach is implemented. In contrast, truth-tellers often do not prepare for the interview (Granhag & Strömwall, 1999; Granhag, Vrij, & Verschuere, 2015b; Vrij et al., 2009, 2010), and hence they may have more difficulty providing opposing arguments in response to the devil's advocate question.

Another common counter-interrogation strategy used by liars is maintaining statement consistency. Liars attempt to maintain consistency in interviews to appear honest and they achieve that by preparing and rehearsing responses for anticipated interview questions (Granhag & Strömwall, 1999, 2002; Vrij et al., 2009). Research has shown that liars are at least as

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consistent as truth-tellers, which contradicts the commonly held belief by practitioners that consistency is a valid cue to deception (Greuel, 1992; Strömwall & Granhag, 2003). These findings also contradict the widely employed consistency heuristic which assumes that consistency is associated with truth-telling (Granhag & Strömwall, 2001; Granhag, Strömwall, & Hartwig, 2005). Hence, it seems that practitioners fail to consider that liars want to appear convincing so they prepare and maintain consistency during interviews.

Statement consistency may be a valid cue to deception but only when certain interview techniques are employed, such as strategically disclosing evidence (Granhag, Strömwall, Willén, & Hartwig, 2013b), imposing cognitive load (Ewens, Vrij, Mann, & Leal, 2016; Masip, Blandón-Gitlin, Martinez, Herrero, & Ibabe, 2016), asking unanticipated questions (Vrij et al., 2009), and employing different question formats (Deeb et al., 2017; Leins, Fisher, & Vrij, 2012). These techniques have received empirical evidence demonstrating that they are effective at increasing interview difficulty for liars but not for truth-tellers, which eventually reduces liars' -but not truth-tellers'- statement consistency. In the context of the Devil's Advocate approach, however, the interview is not difficult for liars as they would have access to supporting arguments (their genuine opinions) and they would have prepared opposing arguments. Hence, it would be easy for them to maintain consistency within their statement (Granhag et al., 2013b; Strömwall & Willén, 2011). Truth-tellers, on the other hand, would find it difficult to generate arguments for the devil's advocate question for which they did not prepare so, as they would not be concerned about consistency, they are not likely to be consistent in their responses to interview questions.

Overall, impression management indicates that liars would provide arguments for both the opinion-eliciting and the devil's advocate question which makes them appear consistent, whereas truth-tellers would provide more arguments in response to the opinion-eliciting question than to the devil's advocate question which reduces their statement consistency.

## The Devil's Advocate Approach

Leal and colleagues (2010) conducted the only study on the Devil's Advocate approach. They examined differences between liars and truth-tellers for the number of details and for latency time. Truth-tellers' statements featured more words and shorter latency time in response to the opinion-eliciting question than to the devil's advocate question. Liars' statements, on the other hand, did not differ on the number of words and latency time when responding to the opinion-eliciting and the devil's advocate questions. In addition, truth-tellers were judged as more talkative, immediate, emotional, and plausible in their responses to the opinion-eliciting question compared to their responses to the devil's advocate question. However, liars' responses were judged similarly across questions in terms of being immediate, emotional and plausible.

These findings may be explained by confirmation bias and impression management. Truth-tellers and liars had access to arguments that supported their views. Liars, however, were more concerned about impression management, and hence they may have attempted to maintain consistency by using accessible arguments to respond to the devil's advocate question and rehearsed arguments to respond to the opinion-eliciting question. Accordingly, truth-tellers' but not liars'—responses to the opinion-eliciting and devil's advocate questions differed from each other. These results suggest that liars' responses to the Devil's Advocate approach questions may be more consistent than those of truth-tellers. The current study examines this speculation.

## The Current Study

The current study was designed to extend the findings by Leal and colleagues (2010) on the Devil's Advocate approach to pairs of suspects by assessing within-group statement

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consistency. The procedure involved matching pairs of participants who shared similar and strong opinions about a topic. After they were given the opportunity to prepare and were then separately interviewed with the Devil's Advocate approach, the consistency of their arguments was measured. Within-group consistency is generally defined by the level of correspondence between statements from different suspects in a single case (Granhag, Rangmar, & Strömwall, 2015a; Vredeveldt, van Koppen, & Granhag, 2014). Hence, consistency indicated the extent to which pair members reported the same number of similar arguments to the opinion-eliciting question and to the devil's advocate question.

Previous studies have shown that truth-tellers do not tend to prepare together for an interview when given the opportunity (Vrij et al., 2009, 2010). In those studies, however, truthtellers engaged in an event which they were asked to recall later in the interview. As they experienced the event, they may have believed they did not need to prepare for the interview. Recall of opinions, however, is more abstract than the recall of a single event, which is aided by episodic memory (Tulving, 1984). Hence, truth-tellers may want to prepare to remember possible arguments for their opinions and to enhance impression management during the interview (DePaulo et al., 2003; Vernham, Granhag, & Mac Giolla, 2016; Vrij et al., 2010). Their preparation was predicted to involve responses to expected questions, and hence they would discuss arguments that support rather than oppose their opinions (Vrij et al., 2009). As for deceptive pairs, we expected that, in line with the deception literature on alibis and events (Granhag, Mac Giolla, Strömwall, & Rangmar, 2013a; Vrij et al., 2009, 2010), they would prepare for the interview and anticipate they would be asked questions about their false opinions. Hence, they would be likely to prepare arguments that oppose their genuine views. Accordingly, both deceptive and truth-telling pairs would prepare responses for the opinion-eliciting question. Therefore, we expected truth-telling pairs who decide to prepare to discuss arguments that

supported their opinions, whereas liars would discuss arguments that opposed their genuine opinions (Hypothesis 1).

As a result of confirmation bias, truth-telling and deceptive pairs would have more access to arguments that support their views, because individuals tend to ignore opposing arguments. As individuals who share similar views are able to provide similar arguments (Mercier & Landemore, 2012), truth-telling pairs should provide similar arguments in response to the opinion-eliciting question, whereas deceptive pairs should provide similar arguments in response to the devil's advocate question. However, liars would also prepare arguments that oppose their genuine views, and hence are likely to provide similar arguments for the opinion-eliciting and the devil's advocate questions. Accordingly, we predicted that truth-telling pairs would be more consistent with each other in response to the opinion-eliciting question than to the devil's advocate question, but no such difference was expected for deceptive pairs (Hypothesis 2).

#### Method

## **Participants and Design**

One hundred (50 pairs) university students and staff members were recruited, through the departmental participant pool and announcements posted in the university buildings, to participate in a study that examined interactions between pairs discussing their opinions. Participants received a reward of either one course credit or £5 for taking part in the research. The sample included 82 females and 18 males, and their average age was 21.60 years (*SD* = 5.97).

A 2 (Veracity: truth-teller, liar)  $\times$  2 (Question Type: opinion eliciting question, devil's advocate question) mixed design was used with veracity as the between-subjects factor, question type as the within-subjects factor, and prepared argument type and within-group consistency as the dependent variables.

## Procedure

Before their appointment, participants were sent an online questionnaire (adapted from Leal et al., 2010) that included 23 statements about controversial social and political topics (see Table 1). Participants rated the extent to which they agreed or disagreed with each statement on a 7-point scale (1 = I disagree to 7 = I agree). The order of questions was counterbalanced between participants. Ratings were examined for extreme scores (1 or 7). Pairs who gave the same extreme rating for one of the 23 topics were matched and given an appointment at the same time. They were not informed about why or with whom they were paired, or about the topic they would be discussing during the experimental session.

## Table 1 about here

On the appointment date, pairs were informed they had been chosen because they shared the same opinion on a specific topic, and they were to be interviewed separately by the same interviewer about their opinions regarding that topic. Each pair was randomly allocated to the truth or lie condition. Truth-telling pairs were instructed to discuss their genuine opinions when interviewed, whereas deceptive pairs had to claim they held opposing views (to their own opinions). All pairs were instructed that they needed to convince the interviewer that their opinions (either genuine or contrived) were true. To motivate participants to be convincing, they were informed that they would receive the course credit /£5 only if the interviewer believed them; otherwise, they would be asked to write about their opinions. In fact, all participants were rewarded and none was asked to write about their opinions. Pairs were given the opportunity to prepare for the interview as long as they needed. We timed how long it took each pair to prepare for the interview.

Pair members were interviewed separately by one of two research assistants, both of whom were blind to the study hypotheses and to the participants' actual opinions. The interviews were audio-taped. Participants were first asked about their attitude towards the topic (whether they were in favour of, or opposed to, the topic). Then, they were asked the opinion-eliciting question ('Why and what do you think led you to having this view on the topic? Please try to be as detailed as possible in your response.'), followed by the devil's advocate question ('Try to play devil's advocate and imagine that you do not have this view at all. That is, imagine that you (dis)agree with the statement. What can you say in favour of this opposing view? Please be as detailed as possible in your response.'). Participants who did not provide at least three arguments for each of the questions were asked to do that. Previous research has shown that participants can typically generate at least three arguments in such tasks (Ajzen, 2001; Haddock, Rothman, & Schwarz, 1996; Wänke, Bless, & Biller, 1996). Also, obtaining at least three arguments allowed for a more accurate measurement of consistency between pair members.

At the end of the interview, participants were asked to honestly complete a computerised post-interview questionnaire. They indicated their age and gender and rated on a 7-point scale their motivation to convince the interviewer of their opinions (1 = *not motivated at all* and 7 = *very motivated*), their belief that they would receive a reward/write down their opinions (1 = *did not believe at all* and 7 = *definitely believed this*), and the difficulty of the opinion-eliciting and the devil's advocate questions (1 = *extremely easy* and 7 = *extremely difficult*). They were asked the following closed-ended questions: (a) Did you prepare for the interview with your partner (yes/no response options); and (b) Did you discuss with your partner arguments that (i) support your opinions, (ii) counter your opinions, (iii) support and counter your true opinion, or (iv) other *[open-ended]*. Moreover, participants were asked open-ended questions: (a) How did you prepare for the interview with your partner; and (b) What is the strategy you used to convince the interviewer of your responses to the opinion-eliciting/devil's advocate question. After completing the questionnaire, all participants were remunerated, debriefed and thanked.

## Coding

All interviews were transcribed and then coded for information units. An information unit was either an argument or an aspect of an argument. Every information unit included at least one noun and one verb. For example, the statement 'abusing cannabis is harmful for anyone' was considered to be one information unit. The statement 'a lot of cultures permit arranged marriages but these are more likely to be forced' constituted two information units: 'a lot of cultures permit arranged marriages' as one unit and 'these are more likely to be forced' as the second unit. Similarly, the statement 'if you are willing to move with someone means you are committed to them' constituted two information units: 'willing to move with someone' and 'you are committed to them'. Every information unit reported by both pair members (by content, not verbatim) was considered a consistent argument. That is, if pair members mentioned the same argument regarding the topic, this argument was considered one consistent argument. For example, if one member reported 'animals are more accessible than humans for medical research' and the other member reported 'animals are a lot easier to obtain than humans for medical research', this was considered as one consistent argument. Similarly, 'he generalises quite a lot' and 'he often describes groups of people using stereotypes' was considered as one consistent argument.

Two coders first counted the number of consistent arguments in three randomly selected pairs of interviews (n = 6). Disagreements were discussed and resolved. One coder coded nine other interviews (25% of the sample) whereas the second coder coded all the remaining interviews. An inter-rater reliability analysis indicated that the Intra-Class Correlation coefficients (*ICC*) were .68 for the opinion-eliciting question and .84 for the devil's advocate question. The coefficient for the opinion-eliciting question is not high but demonstrates *good*  agreement in common with similar lie detection studies (Mac Giolla & Granhag, 2015; Vrij, 2005; Vrij, Leal, Mann, & Fisher, 2012).

One of the coders coded the responses for the open-ended questions in the post-interview questionnaire (participants' preparation strategy with their partners and convincing strategies during the interview) and generated data-driven general categories (i.e. not predetermined) in accordance with the reported strategies. Responses by some participants were allocated to more than one category. Another coder allocated the responses to the adopted categories, and disagreements between the two coders were discussed and resolved.

*Preparation strategies* were classified into three categories for liars and truth-tellers. For liars, the categories were: Discussing arguments, preparing convincing techniques (e.g., 'we largely just discussed difficulties that we would come across and how to state our opinion without actually agreeing with it'; 'we discussed how to sound convincing'), and other strategies. For truth-tellers, the categories were: Discussing arguments, discussing arguments only briefly, and other strategies. The other category for liars and truth-tellers included infrequently mentioned strategies such as writing down arguments and offering personal experience. Interrater reliability was very high, ICC = .99 for truth-tellers and .92 for liars.

Participants' *convincing strategies during the interview* are displayed in Table 2. For the opinion-eliciting question, six categories emerged for truth-tellers and seven categories for liars. As for the devil's advocate question, seven categories emerged for truth-tellers as well as for liars. The categorised strategies included an 'other' category which referred to strategies that were not mentioned frequently such as 'was finding it difficult to respond' or 'attempting to control my behaviour'. For the opinion-eliciting question, inter-rater reliability was high, ICC = .97 for truth-tellers and .86 for liars. Regarding the devil's advocate question, ICC = .88 for truth-tellers and .74 for liars.

#### Table 2 about here

## **Results**

Before conducting the analyses, we screened the data for outliers. Cases with a z-score > ±3.29 were considered as outliers (Field, 2009). One case emerged as an outlier for within-group consistency across the opinion-eliciting question and the devil's advocate question, so it was deleted. Hence, the assumptions for parametric tests were met and the final sample included 98 participants with 50 liars and 48 truth-tellers (i.e., 25 deceptive pairs and 24 truth-telling pairs).

## **Post-Interview Questionnaire**

**Motivation.** A *t*-test with level of motivation as dependent variable and veracity as the independent factor revealed that liars (M = 5.38, SD = 1.52) and truth-tellers (M = 5.48, SD = 1.11) did not differ significantly with respect to self-reported motivation to convince the interviewer, t(96) = .37, p = .715, d = 0.07, 95% CI [-0.32, 0.47].

Another *t*-test revealed that both truth-tellers (M = 5.44, SD = 1.32) and liars (M = 4.75, SD = 1.67) believed they would receive a course credit or monetary remuneration for convincing the interviewer of their responses, but truth-tellers believed that to a significantly higher extent, t(96) = 2.26, p = .026, d = 0.46, 95% CI [0.06, 0.86]. A separate *t*-test showed that both liars (M = 4.52, SD = 1.48) and truth-tellers (M = 3.90, SD = 1.79) did not differ in the extent to which they believed they would have to write an opinion paper, t(96) = 1.88, p = 0.063, d = 0.38, 95% CI [-0.02, 0.78].

**Perceived question difficulty.** A mixed ANOVA on question difficulty with question type as the within-subjects factor and veracity as the between-subjects factor did not result in a significant effect for veracity, F(1, 96) = 0.20, p = .653,  $\eta_p^2 = .002$ , but the question type main effect, F(1, 96) = 15.78, p < .001,  $\eta_p^2 = .14$ , and the veracity x question type interaction effect, F(1, 96) = 55.28, p < .001,  $\eta_p^2 = .37$ , were significant. Overall, the devil's advocate question (*M*)

= 4.56, SD = 1.74) was perceived as more difficult to answer than the opinion-eliciting question (M = 3.74, SD = 1.92). Regarding the interaction effect, simple effects analyses revealed that liars found the opinion-eliciting question (M = 4.58, SD = 1.75) significantly more difficult to answer than the devil's advocate question (M = 3.84, SD = 1.75), F(1, 96) = 6.12, p = .015, whereas truth-tellers found the devil's advocate question (M = 5.31, SD = 1.39) significantly more difficult to answer than the opinion-eliciting question (M = 2.87, SD = 1.70), F(1, 96) = 63.75, p < .001. This is in alignment with the idea that people's true arguments are more accessible than their counter-arguments.

**Preparation strategies.** A chi-square test showed that liars and truth-tellers did not differ on whether they chose to prepare together before the interview,  $\chi^2 (1, N = 98) = 0.13$ , p = .723, Cramer's V = .01. Only six pairs of liars and six pairs of truth-tellers chose not to prepare at all. Among those who prepared, average preparation time was 3 min 48 s for deceptive pairs and 3 min 00 s for truth-telling pairs, F(1, 47) = .91, p = .346,  $\eta_p^2 = .02$ .

To test Hypothesis 1, that deceptive pairs would prepare opposing arguments, whereas truth-telling pairs would prepare supporting arguments, we analysed differences between pairs for prepared argument type (arguments that countered, supported, or countered and supported their views). There was a significant association between veracity and prepared argument type,  $\chi 2$  (3, N = 74) = 47.40, p < .001, Cramer's V = .84. Among truth-tellers, 87.5% discussed arguments that supported their opinions, 9.4% discussed arguments that both countered and supported their opinions, and 3.1% discussed other types of arguments. Among liars, 57.1% discussed arguments that countered their opinions, 31.4% discussed arguments that both countered their opinions, 5.8% discussed arguments that supported their opinions, and 5.7% discussed other types of arguments. Hence, Hypothesis 1 was supported.

We also looked at the preparation strategies employed by liars and truth-tellers. Among the 38 liars who prepared themselves for the interview, 50% reported discussing arguments in general, 39% reported preparing convincing techniques, and 3% mentioned other strategies. Among the 36 truth-tellers who prepared themselves, 53% reported discussing arguments in general, 25% reported discussing arguments only briefly, and 14% mentioned other strategies.

Interview strategies. The frequencies in Table 2 show that when responding to the opinion-eliciting question, more truth-tellers than liars were honest, provided details, and attempted to seem passionate about the discussed topic, but more liars than truth-tellers tried to keep their responses simple and used standardised (commonly held) arguments to appear logical. As for the devil's advocate question, truth-tellers reported providing details more than liars did, but liars tried more than truth-tellers to appear honest, include standardised arguments, disengage from their actual opinions, keep their responses simple, and maintain response consistency with the opinion-eliciting question.

#### Within-Group Consistency Analyses

As consistency of arguments between pair members would vary with the number of arguments provided, the total number of information units was included as a covariate in the analyses.<sup>1</sup>

A mixed ANCOVA was conducted on within-group consistency with veracity as the between-subjects factor, question type as the within-subjects factor, and information units as the covariate.<sup>2</sup> The analysis did not reveal a significant main effect for question type, F(1, 45) = 1.73, p = .196,  $\eta_p^2 = .04$ , or veracity, F(1, 45) = 1.97, p = .167,  $\eta_p^2 = .04$ . However, we found a significant veracity × question type interaction, F(1, 45) = 4.42, p = .041,  $\eta_p^2 = .09$ .

Simple effects revealed that truth-telling pairs were more consistent with each other in response to the opinion-eliciting question (M = 3.17, SD = 2.26) than to the devil's advocate

question (M = 1.33, SD = 1.05), F(1, 47) = 15.49, p < .001, d = 1.04, 95% CI [0.62, 1.47]. However, deceptive pairs were similarly consistent with each other in response to the opinioneliciting question (M = 2.24, SD = 1.54) and to the devil's advocate question (M = 1.56, SD = 1.16), F(1, 47) = 2.22, p = .143, d = 0.50, 95% CI [0.10, 0.90]. Hence, Hypothesis 2 was supported.

As it is uncommon for truth-tellers to prepare for interviews, we compared pairs of truthtellers who opted to prepare (18 pairs) with truth-telling pairs who did not prepare (six pairs). The analysis was exploratory and cannot be generalised given that the group sizes were small and discrepant, preparation was not manipulated, and participants were not randomly allocated to group conditions. However, the analysis may prove useful for future research. A mixed ANCOVA on within-group consistency with preparation as the between-subjects factor, question type as the within-subjects factor, and information units as the covariate did not reveal significant main effects for question type, F(1, 20) = 0.55, p = .466,  $\eta_p^2 = .03$ , and preparation,  $F(1, 20) = 0.07, p = .796, \eta_p^2 = .003$ , or a significant question type × preparation interaction effect, F(1, 20) = 2.81, p = .109,  $\eta_p^2 = .12$ . This suggested that preparation had no effect on the results for truth-telling pairs. Yet, to be certain of this, we ran within-group comparisons for the prepared and unprepared truth-tellers separately. The analyses showed that truth-telling pairs who prepared themselves were significantly more consistent with each other in response to the opinion-eliciting question (M = 3.44, SD = 2.53) than to the devil's advocate question (M = 1.17, SD = 0.86), F(1, 17) = 14.22, p = .002, d = 1.20, 95% CI [0.49, 1.91]. However, truth-telling pairs who did not prepare were consistent with each other in response to the opinion-eliciting question (M = 2.33, SD = 0.82) and to the devil's advocate question (M = 1.83, SD = 1.47), F(1, 1)(5) = 0.43, p = .542, d = 0.42, 95% CI [-0.72, 1.56].

## Discussion

The current study extended the findings on the effectiveness of the Devil's Advocate approach to pairs of suspects. As predicted, deceptive pairs were as consistent with each other in response to the opinion-eliciting as in response to the devil's advocate questions. Deceptive pairs prepared for the interview and discussed arguments that opposed their genuine opinions, with some also discussing arguments that supported their opinions. They reported preparing convincing strategies and rehearsing arguments to make them seem real and consistent and hence honest. These reports corroborate previous findings that liars are concerned about impression management, particularly consistency (Deeb et al., 2017; DePaulo et al., 2003; Granhag & Hartwig, 2008; Leins et al., 2012). These strategies are reflected in terrorist manuals, such as the Manchester Manual (U.S. Department of Justice, 2002) in which extremists are encouraged to prepare together for interviews in case they are apprehended so that they can provide convincing and consistent responses. Extremists' preparations enable them to provide consistent arguments to the opinion-eliciting question. In addition, extremists are likely to find it easy to provide consistent arguments for the devil's advocate question, because they are repeatedly lectured about their ideologies which ultimately results in attitude polarisation and conformity (Horgan, 2014).

Truth-telling pairs were more consistent with each other when they were asked to support their own opinions than when they were asked for opposing arguments. Additional analyses revealed this was particularly true for truth-telling pairs who prepared for the interview. Truthtellers may have needed to prepare briefly to generate specific arguments to support their opinions during the interview and eventually to make a positive impression on the interviewer. Indeed, the majority of truth-tellers reported having discussed supporting arguments, and 25% of them had very brief discussions aimed solely at remembering arguments (none of the liars mentioned preparing 'briefly' for the interview). Hence, unlike previous deception studies in which truth-tellers often did not make use of the opportunity to prepare for the interview (e.g., Vrij et al., 2009, 2010), it seems that the abstract nature of opinions prompt truth-telling pairs to prepare. However, truth-tellers only prepared responses for the anticipated question: Opinion-eliciting question. As people are generally less likely to have access to arguments that oppose their own views (Felton et al., 2009; Nickerson, 1998), truth-tellers could not provide similar arguments for the devil's advocate question. Hence, they were less consistent with each other in response to this question than to the opinion-eliciting question.

It may be argued that the within-pair consistency means indicate that deceptive and truthtelling pairs exhibited a similar pattern, with higher consistency levels for the opinion-eliciting question than for the devil's advocate question. However, as the analysis showed, this finding was more significant and the effect was larger for truth-tellers than for liars. Nonetheless, the similar pattern may make it difficult for practitioners to discriminate between deceptive and honest statements. This is a typical problem for deception detection, which remains one of the most challenging tasks in investigative interviewing (Vrij et al., in press). Research on deception detection has demonstrated that individuals are generally poor at accurately judging statement veracity, that judgments are made subjectively even in the presence of established criteria, and that several contextual factors such as counter-interrogation strategies employed by liars (Alison et al., 2014), experience with the reported event (Warmelink, Vrij, Mann, Leal, & Poletiek, 2013), and individual differences (Kashy & DePaulo, 1996) affect suspect and interviewer behaviours (Bond & DePaulo, 2006; Nahari & Vrij, 2015; Volbert & Steller, 2014). Whereas certain interview techniques (such as the interview technique used in this study) may enhance deception detection (Vrij, Granhag, Mann, & Leal, 2011; Vrij, Fisher, & Blank, 2017), the effectiveness of these techniques may only be estimated but not determined (Vrij, 2016). Withinsubjects designs and baselining may assist in partially resolving this problem by controlling for

some factors such as individual differences and counter-interrogation strategies (Vrij, 2016). Accordingly, the within-subjects design utilised in our study has removed some extraneous effects.

Also, we speculate that the effect of the interview technique would be more pronounced in real life due to suspects' motivation and concerns about making an honest impression (DePaulo et al., 2003; Granhag & Hartwig, 2008). Hence, unlike innocent suspects, extremists who have several opportunities to rehearse responses (rather than only three minutes as in the current study) would be similarly consistent in response to the interview questions.

These findings expand the literature on statement consistency. Previous research has shown that laypeople and professionals tend to employ the consistency heuristic by associating consistency with honesty (Granhag, Andersson, Strömwall, & Hartwig, 2004; Strömwall & Granhag, 2003). In contrast to these beliefs, our findings suggest that liars are more concerned about consistency than truth-tellers, and they invest more effort in maintaining high levels of consistency. Similar results have been obtained in previous research (Granhag & Strömwall, 2002; Hartwig, Granhag, Strömwall, & Andersson, 2004). Hence, practitioners are cautioned against the use of the consistency heuristic. Instead, they need to consistency. Certain interview techniques such as the Strategic Use of Evidence (Granhag et al., 2013b) and imposing cognitive load (Vrij et al., 2012) reduce liars' —but not truth-tellers'— consistency, so assessments may be made in line with the consistency heuristic. However, the Devil's Advocate approach seems to reduce consistency among truth-tellers more so than among liars which contradicts this heuristic.

### **Limitations and Future Directions**

As reported earlier, the preparation analysis suffered from several limitations. Hence, these findings cannot be confirmed before future research systematically manipulates preparation prior to the interview to examine its effect on statement consistency. This may be achieved by providing only half of the participants (liars and truth-tellers) with the opportunity to prepare for the interview.

We recruited pairs of strangers rather than pairs who were acquainted with each other. We expect that similar results would have emerged if acquaintances were recruited. Individuals become close to each other if they share similar attitudes (Gore, Cross, & Morris, 2006; Park & Shaller, 2005). This implies that acquaintances would be familiar with each other's opinions and are hence likely to provide similar arguments that support their genuine views. Future research might investigate this assumption.

#### Conclusions

Deceptive pairs were consistent with each other in response to the Devil's Advocate approach questions, whereas prepared truth-telling pairs were more consistent on the opinioneliciting question than on the devil's advocate question. More research is needed before this approach is used in applied settings. However, the results corroborate previous findings contradicting the consistency heuristic. Hence, security and intelligence officers are warned against over-reliance on this heuristic when assessing suspect credibility.

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## Notes

<sup>1</sup>The covariate (information units) and the independent variables (veracity and question type) were independent, and the relationship between the covariate and the dependent variable (within-group consistency) was linear for all groups. Hence, the assumptions of covariance were met and we were able to include information units as a covariate in the analysis.

<sup>2</sup>Thirty six liars and 36 truth-tellers were prompted to provide at least three arguments for the opinion-eliciting questions, whereas 30 liars and 38 truth-tellers were given a similar prompt for the devil's advocate question. Separate analyses conducted for responses provided prior to and following the prompt revealed similar results so we report the results for the complete statement (with at least three arguments).

## Table 1

## Topics Participants Rated in the Opinion Questionnaire on a 7-Point Scale

1) Women should have the right to an abortion

2) Capital punishment (i.e. death penalty) should be a legal option in judicial systems for very serious crimes

- 3) CCTV in streets and public areas is a good thing
- 4) The UK immigration laws should be much tougher for anyone wanting to live in the UK
- 5) I am firmly atheist (disbelief in God)
- 6) The smoking ban in public places is a good thing
- 7) Euthanasia should be a lawful option in the terminally ill
- 8) Obese people should pay for their own healthcare
- 9) It is right that animals are used for experimentation in medical research
- 10) Governments should allow polygamy (marriage to more than one spouse)
- 11) Sex before marriage is morally wrong
- 12) Couples should not cohabit before being married
- 13) I support the Labour Party
- 14) Arranged marriages should be disallowed
- 15) Telling young children that Father Christmas exists is wrong
- 16) I generally agree with Donald Trump's remarks
- 17) I would not mind if the Prime Minister of my country was female
- 18) It is okay for the minimum age for purchasing alcohol to be 18 years
- 19) The inclusion policy at schools, whereby children with behavioural problems are kept in
- mainstream school classrooms, is a good thing
- 20) I support the Conservative Party
- 21) Governments should allow the use of cannabis for personal use
- 22) The refugees' crisis will have an increased negative influence on European nations
- 23) I am happy that the Brexit campaign succeeded

## Table 2

Percentages of Convincing Strategies Reported by Truth-tellers and Liars for the Opinion-
Eliciting Question and the Devil's Advocate Question

Strategy	Truth	Lie
Opinion Eliciting Question (OE)		
Providing details	54%	34%
Being honest	28%	0%
Attempting to seem passionate about the topic	15%	8%
Controlling nonverbal behaviour	14%	13%
Thinking of standardised arguments/ Appearing logical	4%	18%
Taking the opposing perspective/ Reversing own views	0%	32%
Keeping it simple	0%	8%
Other	10%	14%
Devil's Advocate Question (DA)		
Taking the opposing perspective/ Reversing responses to OE	58%	20%
Providing details	17%	8%
Disengaging from my actual opinions/ Including	8%	28%
standardised arguments		
Being honest	6%	42%
Maintaining response consistency with OE	4%	30%
Keeping it simple	2%	10%
Other	4%	12%

*Note.* Percentages are calculated for truth-tellers and liars separately. The total exceeds 100% for each group because each participant could contribute to more than one category.