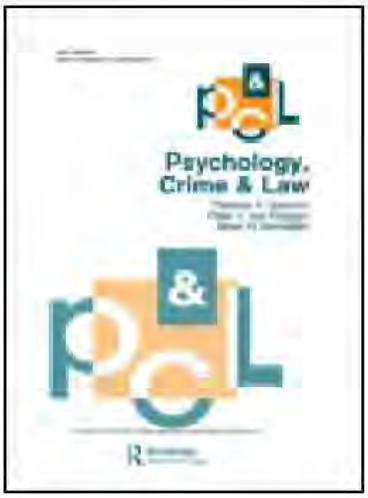

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Tuule Sooniste[a], Pär Anders Granhag[a], Melanie Knieps[a] & Aldert Vrij[b]
[a] Department of Psychology, University of Gothenburg, Gothenburg, Sweden
[b] Department of Psychology, University of Portsmouth, Hampshire, UK
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True and false intentions: asking about the past to detect lies about the future

Tuule Sooniste[a]*, Pär Anders Granhag[a], Melanie Knieps[a] and Aldert Vrij[b]

[a]*Department of Psychology, University of Gothenburg, Gothenburg, Sweden;* [b]*Department of Psychology, University of Portsmouth, Hampshire, UK*

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This study is on how to discriminate between true and false intentions, an emerging area within psycholegal research. We argue that asking about the past (the planning phase) might be a promising way to detect lies about the future (intentions). That is, participants who had developed false intentions to mask their criminal intentions were assumed to provide equally long and detailed answers to questions about intentions, compared to participants who told the truth about their intentions. In contrast, we predicted that lying participants would be worse at answering questions about the planning of their stated (false) intentions, compared to participants telling the truth about the planning of their stated (true) intentions. To test our assumptions, we used a newly devised experimental set-up accommodating the main characteristics of intent. Both lying and truth-telling suspects perceived the questions on planning as more unanticipated, and more difficult to answer, compared to the questions about their intentions (future actions). Furthermore, in support of our predictions we found that the truth-telling (vs. lying) suspects' answers to questions on planning were longer and perceived as more detailed and clear, whereas liars' and truth-tellers' answers to questions on intentions were equally long and perceived as equally detailed.

Keywords: true intentions; false intentions; unanticipated questions; planning phase

Today it is possible to look back at more than 30 years of systematic research on deception and its detection (Vrij, 2008). In one of the main lines of research scholars have mapped people's ability to detect deception, and in another major line researchers have tried to find non-verbal and/or verbal cues to deception. Of note, both these and related strands have dealt exclusively with liars' and truth-tellers' statements about their past actions (Granhag & Strömwall, 2004). The fact that virtually all deception research is on *past actions* is remarkable considering the frequency and importance of situations calling for assessments of whether a person is lying or telling the truth about his or her *intentions*, for example, stated reasons for crossing a border or entering a stadium (Andrew, Aldrich, & Wark, 2009). Intention refers to an agent's mental state preceding his or her corresponding action (Malle, Moses, & Baldwin, 2001). Intentions are directed at the intender's own action, they

*Corresponding author. Email: tuule.sooniste@psy.gu.se

are often based on some amount of planning, and they typically come with a strong commitment.

The present paper is part of a new wave of deception research that revolves around the idea that diagnostic cues to deception can be elicited by interviewing in a strategic manner (Vrij, Granhag, Mann, & Leal, 2011b). Furthermore, the present paper is one of the first to test to what extent such strategic interviewing can be successful for discriminating between true and false intentions. In order to properly conduct such a test we used a newly devised experimental set-up accommodating the main characteristics of intent.

Previous research on true and false intentions

To our knowledge there are only a couple of papers examining true and false intentions that have immediate relevance for the current investigation. The first study was conducted by Vrij, Granhag, Mann, and Leal (2011a), and it was carried out at an international airport in the UK. The study showed that passengers who lied about their intentions came up with statements that were less plausible, but as detailed, as statements from passengers who were truthful about their intentions. In the second study, the same team of researchers had serving military personnel and police officers act as undercover agents, where each met with both hostile and friendly agents (Vrij, Leal, Mann, & Granhag, 2011). The study showed that false intentions and lies about past actions were less plausible than their truthful counterparts. There was no difference in terms of details comparing truthful and deceptive intentions. Hence, this result replicated the findings by Vrij et al. (2011a).

For both the above studies two sets of statements were compared; one set for which the participants lied about their intentions (false intentions), and one set for which the participants told the truth about their intentions (truthful intentions). For the current study, the same basic comparison will be made, with the addition of analysing the answers given to questions pertaining to the planning of the intentions (the planning phase). We have two reasons for asking questions on the planning phase. The first reason is that planning is an inherent part of many intentions (Malle et al., 2001). Second, it is reasonable to assume that both truth-tellers and liars will perceive questions on the planning phase as relatively unanticipated. Critically, the assumption is that truth-tellers will be able to provide longer and more detailed answers to these unanticipated questions, as they can draw on their actual memory of their planning phase. Below, this assumption will be further explicated.

Strategic Questioning: The unanticipated question approach

The Strategic Questioning approach is an example of a new wave of deception research and contains several unique approaches (e.g., asking unanticipated questions, Devil's advocate tactic and Strategic Use of evidence technique) (Hartwig, Granhag, Strömwall, & Kronkvist, 2006; Leal, Vrij, Mann, & Fisher, 2010; Vrij, Granhag, Mann, & Leal, 2011b; Vrij et al., 2009;). These approaches are all different from each other, but share two basic features. First, they have a common aim in that they actively try to elicit and enhance verbal and nonverbal cues to deceit. Second, they all exploit the fact that liars and truth-tellers often have different psychological states when entering an investigative interview (Granhag & Hartwig, 2008).

The most relevant approach for the current paper is the 'unanticipated questions' approach. A closer look at the empirical work conducted on this approach reveals that it comes in at least two different versions. First, the suspect might be asked to respond in a format that is unanticipated (e.g., a suspect is asked to draw a sketch instead of a verbal report).

The second version of the 'unanticipated questions' approach is to ask questions that are unanticipated; and this is the road taken for the present paper. The rationale behind this is not that a particular question is perceived as more (or less) anticipated by liars compared to truth-tellers. Instead, the assumption is that liars and truth-tellers will differ with respect to how they will respond to unanticipated questions. For example, liars' and truth-tellers' answers to unanticipated questions have been found to differ in terms of *response length*. Granhag and Knieps (2011) asked both lying and truth-telling suspects whether they had evoked a mental image while planning their stated intentions. The results showed that having to answer questions on the formation of mental images was not anticipated by the suspects. In alignment with the prediction, truth-telling suspects provided significantly richer verbal descriptions of the most dominant mental image compared to lying suspects.

An unanticipated question is often more cognitively demanding to answer than an anticipated question. The reason, however, may be different for truth-tellers and liars. For truth-tellers, an unanticipated question may be cognitively demanding if it requires a thorough search of their memories. For liars, an unanticipated question may be cognitively demanding if it requires that an answer is invented on the spot. Indeed, recent empirical data suggests that liars' main strategy during the planning before an upcoming interview is to come up with a cover story that will help them to answer questions on their intentions (Clemens, Granhag, & Strömwall, 2013). Differently put, liars do not seem to prepare for questions on the planning of their stated intentions. In addition, liars may have to monitor their fabrication of the answer to make sure it is perceived as plausible, and that what is stated adheres to what the interviewer might know, or might find out (Vrij et al., 2011a). Therefore, the use of the 'unanticipated question' tactic may impose more cognitive load on liars than on truth-tellers.

A consistent finding in deception research is that guilty (vs. innocent) suspects tend to prepare themselves more before an investigative interview (e.g., Hartwig, Granhag, & Strömwall, 2007). Previous research indicates that a prosperous road for lie detection is to use an interview protocol which consists of both anticipated and unanticipated questions (Vrij et al., 2009). The unanticipated questions should be selected in a manner so that the truth-telling suspects will be able to answer these questions by utilizing their actual memory, whereas the same questions should require that the lying suspects are forced to invent answers on the spot. Drawing on theoretical accounts (Granhag & Hartwig, 2008), as well as recent empirical findings (Clemens, Granhag, & Strömwall, 2011; Hartwig et al., 2007; Vrij et al., 2009) on suspects' counter-interrogation strategies, guilty suspects' construction of a convincing cover story is assumed to be characterized by information management; specifically (1) the anticipation of the questions asked if intercepted and (2) the production of ready-made answers to these anticipated questions. The overarching assumption is that this will result in liars and truth-tellers providing very similar answers to the anticipated questions (i.e., the liars' preparation will pay off); but that

their answers to the unanticipated questions will differ (i.e., liars will suffer from not being able to draw on their actual memory).

The present study

The present study advances previous research by making the planning phase – during which the stated intentions are formed, a main target for the unanticipated questions. Differently put, the participants were not only asked about their intentions, but also about the planning of those intentions. Based on basic research on intentions (Malle et al., 2001) and suspects' counter-interrogation strategies (Clemens et al., 2011), we expected the questions on their intentions to be perceived as anticipated, and the questions on their planning of the stated intentions to be perceived as unanticipated. A new experimental set-up was used for the study, which accommodates the main characteristics of intent.

Half of the participants planned a non-criminal act (shopping for gifts in a shopping mall); whereas the remaining half were asked to plan (1) a mock-criminal act (placing a memory stick containing illegal material on a particular shelf in a shop in the same mall), and (2) a cover story that they could provide in case they were intercepted. All participants were intercepted before having the chance to carry out their tasks. As they were intercepted they were instructed that they were soon to be interviewed. Those participants having planned a non-criminal act were instructed to tell the truth during the upcoming interview, whereas those participants having planned a mock-criminal act were instructed to conceal their criminal intentions by telling a cover story (i.e., they were asked to lie). The cover story used by the lying participants was structurally similar to the non-criminal intentions expressed by the truth-telling participants. That is, we created a situation where all participants expressed the same intentions (i.e., that they were about to go to a specific mall to shop for gifts), but where half of the participants were lying about their intentions, and the remaining half were telling the truth.

During the interview all participants were asked (1) one set of questions on their *intentions* and (2) one set of questions on the *planning* of their stated intentions. Our assumption was that the questions on intent would be perceived as anticipated, whereas the questions on the planning of the stated intentions would be perceived as unanticipated. The planning phase was chosen as the target for the unanticipated questions since planning, as it is argued, is an inherent part of many true intentions. That is, the participants expressing true intentions have actually planned, and can therefore draw on the memory of this planning when answering the unanticipated questions.

In contrast, liars' preparation is assumed to comprise two activities. First and foremost, they planned their mock criminal act. Second, they constructed a convincing cover story to be used if intercepted. That is, they came up with ready-made answers to anticipated questions (questions on their intentions). As a result, they will have prepared answers for the questions about the intentions but not for the questions about the planning of their intentions. Obviously, liars cannot reveal their real planning activities as they are related to the criminal act they wish to conceal. Therefore, liars will have to invent their answers about planning on the spot.

We predicted that both liars and truth-tellers would perceive the questions asked on their intentions as more anticipated compared to the questions asked on the planning of their stated intentions (Prediction 1). In a similar vein, we predicted that both liars and truth-tellers would perceive the questions on their intentions as less difficult (cognitively demanding) to answer, compared to the questions asked on the planning phase (Prediction 2a). To qualify this further, we predicted an interaction effect, saying that lying suspects would perceive the unanticipated questions as more difficult to answer compared with truth-tellers' perception of the same questions, whereas no difference was predicted for the anticipated questions (Prediction 2b). Furthermore, we predicted that (1) truth-tellers would be able to provide answers to the unanticipated questions that would be longer (have a higher number of words) compared to liars and (2) that liars' and truth-tellers' answer to questions on their intentions would be equally long in terms of the number of words (Prediction 3). Finally, we predicted that truth-tellers' answers to the unanticipated questions would be perceived as more detailed and clear, compared to the answers provided by liars, whereas we did not predict any differences between liars' and truth-tellers' answers to the questions on their intentions (Prediction 4).

Method

Participants and design

A total of 70 undergraduate students (48 women, 22 men) from the University of Gothenburg (Sweden) participated in the experiment. Their mean age was 27, and they were paid 100 SEK (approximately 13 USD). We employed a between-group design, where half of our participants were asked to plan a mock-crime ($n = 35$), and half were asked to plan a non-criminal event ($n = 35$).

Procedure

The planning phase

Half of the participants planned to place a memory-stick containing 'illegal' material on a particular shelf in a shop in a shopping mall (the mock-criminal event). These participants were further asked to plan a cover story masking their criminal intent. This story was to be used if they were intercepted, and in order to achieve high comparability between the events told about in the interview they were instructed that the main theme for their cover story should be 'shopping in the mall'. That is, a 'frame' for the cover story was provided, but it was made very clear that it was up to each participant to fill in this frame in order to construct a convincing cover story. The remaining half of the participants planned to buy two gifts in the same shopping mall (the non-criminal event). The participants asked to carry out the mock-criminal act (plus to come up with a cover story on the theme of 'shopping in the mall') were given 10 minutes to plan, and the participants asked to shop for gifts were also given 10 minutes to plan. The shopping mall used was the major shopping mall in Gothenburg (Nordstan), which is one of the largest shopping malls in Northern Europe. Hence, there was good reason to believe that all participants would be rather familiar with this particular mall.

All participants were instructed to carefully plan their future actions and they were given access to printed maps and the Internet (this mall has its own website, containing detailed information on all shops in the mall). The participants' planning was further motivated by a number of explicit constraints; the participants were instructed that they had one, and only one, opportunity to carry out the task, and that they also had a very limited amount of time for carrying out the task. That is, we used a set-up which encouraged the participants to envisage themselves acting at a particular time and place in the very near future. In addition, several initiatives were taken in order to let all participants believe that they actually were going to execute their planned actions. A manipulation check, consisting of asking each participant after the planning 'what awaits you next?', revealed that all participants believed they next were to go to the shopping mall.

The interception

All participants were intercepted before having the chance to execute their planned actions. After the planning phase, each participant was brought to a particular room (located in the same building as where the planning took place) to receive a ticket for the tram. However, immediately after entering this room they were intercepted. In brief, they were handed a sheet of instructions asking them to imagine that they had faced a security check at the entrance of the shopping mall, and that – when trying to pass this security check – they had been selected for further questioning. Furthermore, they were to imagine that they were brought to a nearby interviewing room, and were asked to wait in the room in which they were now seated. The participants who had planned the illegal act were asked to use their cover story in order to avoid detection. The participants who had planned to shop in the mall were asked to tell the truth about their intentions.

The interview

All participants were interviewed individually according to a structured interview protocol. We used a total of three interviewers, and all interviewers were blind to the participants' truth status and the predictions of the study. In the first part of the interview the suspects were asked the following five questions on their intentions: (1) 'What is your errand in Nordstan?', (2) 'I want you to tell me about what you intend to do in Nordstan. Please tell me about each and every step – and try to be as detailed as possible?', (3) 'How long do you intend to stay in Nordstan?', (4) 'Which shop do you intend to visit first?', and (5) 'Which other shops do you intend to visit in Nordstan?'. In the second part of the interview the participants were asked the following six questions about their planning of their stated intentions: (6) 'Now, I want you to think back on when you planned your errand. I want you to tell me about your planning, and I want you to be as detailed as possible?', (7) 'What was the main goal of your planning?', (8) 'I want you to tell me about the order in which you planned your errand?', (9) 'What was the final thing you planned?', (10) 'What was the easiest part of your planning?', and (11) 'What was the most difficult part of your planning?'. In brief, the first set of questions (1–5) addressed the suspect's intentions, whereas the second set of questions (6–11) addressed the suspect's planning of the stated intentions.

Post-interview ratings

After the interview, each participant was asked to fill out an extensive post-interview questionnaire of which only some parts are relevant for this paper. Importantly, for guilty suspects, this questionnaire started with a separate section making it clear that the role-playing part of the study was now over, and that all questions should be answered truthfully. We also checked that this instruction was fully understood.

To start with, each participant was asked to rate the truthfulness of the statement he or she had made during the interview (to check) whether the participants complied with the instructions to lie or tell the truth during the interview); truthfulness was rated on a 7-point scale running from 1 (everything I told was true) to 7 (everything I told was untrue).

To map how the participants experienced basic features of the planning phase, they were asked to conduct a number of ratings. First, they were asked to rate how difficult they found the planning on a 7-point scale running from 1 (very easy) to 7 (very difficult). Next they were asked how sufficient they found the time allocated for the planning phase (which was 10 minutes for both groups of participants). This was reported on a scale running from 1 (not at all sufficient) to 7 (totally sufficient). Finally, the participants rated (1) how satisfied they were with the planning and (2) how stimulating (interesting) they found the planning; for both these questions we used 7-point scales running from 1 (not at all satisfied/stimulating) to 7 (very satisfied/stimulating).

Finally, each participant was given a copy of the interview protocol, and for each question he or she was asked to rate (1) how anticipated this particular question was, using a scale running from 1 (very anticipated) to 7 (very unanticipated); and (2) how difficult this particular question was to answer, using a scale running from 1 (not at all difficult) to 7 (very difficult).

All interviews were transcribed verbatim. Thereafter, the answers given to the main question on planning (i.e., 'Now, I want you to think back on when you planned your errand. I want you to tell me about your planning, and I want you to be as detailed as possible?'), and the answers given to the main question on intent ('I want you to tell me about what you intend to do in Nordstan. Please tell me about each and every step – and try to be as detailed as possible?') were rated by two independent coders according to two aspects (1) 'level of details' and (2) 'clarity'.

Codings

Level of detail

For this aspect, the coders rated on a 7-point Likert scale to what extent they perceived an answer as detailed. The scores ranged from (1) 'very low in terms of detail' to (7) 'very high in terms of detail'. Both coders coded 100% of the statements. The Intra-class Correlations Coefficient (ICC) was 0.680 for details/planning and 0.682 for details/intentions.

Clarity

The 7-point Likert scale used for this rating ranged from (1) very unclear to (7) very clear. Importantly, the rating of 'clarity' was very closely related to the level

specificity of the statement. It was explained to the coders that statements high in specificity (e.g., 'I will to go to the Levis shop and buy a white T-shirt') should receive higher ratings in terms of clarity than less specific statements (e.g., 'I was thinking of finding a place to buy some fruit'). Both coders coded 100% of the statements. The ICC was 0.682 for clarity/planning and 0.722 for clarity/intentions.

Results

Basics: Manipulation check and the planning phase

Manipulation check

After the interview all participants rated (on a seven point scale) the extent to which they had lied during the interview. The participants who had planned an illegal act reported that they lied during the interview significantly more ($M = 4.43$, $SD = 1.82$) than those participants who had planned a non-illegal act ($M = 2.00$, $SD = 1.41$), $t\ (68) = 6.23$, $p < 0.001$. Hence, the participants complied with the instructions to lie or to tell the truth.

Perception of the planning phase

As planning is at the heart of the present study, the participants were asked to make a number of basic ratings with respect to how they had experienced the planning phase. The results showed that truth-telling ($M = 3.40$, $SD = 1.70$) and lying suspects ($M = 2.97$, $SD = 1.72$) found it equally difficult to plan, $t(68) = -1.04$, $p = 0.30$). The means indicate that both groups found the task of planning relatively easy. In a similar vein, we found no differences between the two groups in how satisfied they were with their own planning (truthful suspects: $M = 5.34$, $SD = 1.18$, lying suspects: $M = 4.86$, $SD = 1.73$, $t(68) = -1.36$, $p = 0.18$) or how stimulating they found the planning to be (truthful suspects: $M = 4.66$, $SD = 1.66$, lying suspects: $M = 4.14$, $SD = 1.71$, $t(68) = -1.27$, $p = 0.21$). Lying suspects ($M = 5.54$, $SD = 1.80$) found the time allocated for planning as significantly more sufficient compared to truthful suspects ($M = 4.49$, $SD = 1.97$), $t(68) = 2.33$, $p = 0.02$. Importantly, it should be noted that the absolute numbers indicate that both groups perceived that the time allocated was rather sufficient.

Truth-tellers' and liars' perception of the questions

Anticipation

A two-way mixed ANOVA with the between-subjects factors Veracity (truth-tellers vs. liars) and the within-subjects factor Type of Question (questions on intentions vs. questions on planning) as independent variables, and the degree of anticipation as the dependent variable revealed that the questions on planning ($M = 4.41$, $SD = 1.26$) were perceived as significantly more unanticipated than the questions on intentions ($M = 2.70$, $SD = 1.28$), $F(1, 68) = 97.45$, $p < 0.001$. This supports Prediction 1. We also found a significant main effect of Veracity. Liars ($M = 3.89$, $SD = 1.06$) found the questions more unanticipated than truth-tellers ($M = 3.34$, $SD = 0.96$), $F(1, 68) = 5.82$, $p = 0.02$. The Veracity $\times$ Type of Question interaction effect was not significant $F(1, 68) = 0.01$, $p = 0.95$.

Cognitive complexity

A two-way mixed ANOVA with the between-subjects factor Veracity (truth-tellers vs. liars) and the within-subjects factor Type of Question (questions on intentions vs. questions on planning) as independent variables, and the degree of difficulty to answer (cognitive complexity) as the dependent variable revealed that the questions on intentions ($M = 2.12$, $SD = 0.92$) were perceived as significantly less difficult to answer than the questions on planning ($M = 3.38$, $SD = 1.18$), $F(1, 68) = 107.32$, $p < 0.001$. This supports Prediction 2a. We found no significant main effect of Veracity: truth-tellers ($M = 2.71$, $SD = 0.90$) and liars ($M = 2.91$, $SD = 1.00$) found the questions equally difficult to answer, $F(1, 68) = 1.10$, $p = 0.30$. The Veracity × Type of Question interaction effect was not significant $F(1, 68) = 1.83$, $p = 0.18$. Thus, we failed to find support for Prediction 2b.

Truth-tellers' and liars' statements on intent and planning

Response length

In support of Prediction 3 we found that truth-tellers ($M = 115.57$, $SD = 76.89$) used a significantly higher number of words answering the main question on planning compared to liars ($M = 65.09$, $SD = 29.66$), $t(68) = -3.64$, $p < 0.001$. In line with our expectations the truth-tellers' and the liars' response length did not differ with respect to the main question asked on their intentions ($M = 99.03$, $SD = 76.43$ vs. $M = 112.60$, $SD = 50.05$, $t(68) = 0.88$, $p = 0.38$).

Perception of the statements

As predicted, truth-tellers' (vs. liars') answers to the main question on planning were perceived as significantly more detailed ($M = 3.49$, $SD = 1.48$ vs. $M = 2.32$, $SD = 0.84$, $t(53.93) = -4.08$, $p < 0.001$, $d = 0.84$). Furthermore, and as expected, the truth-tellers' and the liars' answers to the main question on the intentions were perceived as equally detailed ($M = 3.66$, SD = 1.48 vs. $M = 3.36$, $SD = 1.03$, $t(60.45) = -0.98$, $p = 0.44$ $d = 0.84$). In addition, the truth-tellers' answers to the main question on planning were perceived as significantly clearer ($M = 4.56$, $SD = 1.24$) than the liars' answers ($M = 2.94$, $SD = 0.76$), $t(56.29) = -6.60$, $p < 0.001$, $d = 0.84$. Finally, in contrast to our expectation the truth-tellers' answers on the main question on intent were perceived as significantly more clear than the liars' answers to the same question ($M = 5.04$, $SD = 1.07$ vs. $M = 3.29$, $SD = 0.88$, $t(68) = -7.50$, $p < 0.001$, $d = 1.81$). All in all, we found rather strong (but not full) support for Prediction 4.

Discussion

We started with the observation that discriminating between true and false intentions is a paramount problem in many applied contexts, for example, in security and intelligence settings (Andrew et al., 2009), and that the issue of true and false intentions has been very much neglected in psycholegal research (Granhag, 2010). We employed a newly introduced experimental paradigm accommodating the main characteristics of intent (e.g., the participants had to carefully plan their own future

actions). In addition, the study drew on an emerging strand of deception research, which revolves around the idea that it is possible to elicit cues to deception by interviewing strategically. Specifically, we decided to explore the effectiveness of one particular tactic: to ask 'unanticipated questions' (e.g., Vrij et al., 2011a). The basic idea behind this tactic is to ask questions which are equally unanticipated for liars and truth-tellers, but which truth-tellers will have an easier time answering as they can draw on their actual memory. Dealing with true and false intentions, there is one natural area to target when asking unanticipated questions: the planning phase during which the intentions were formed. That is, a main characteristic of an intention is that it has been preceded by some amount of planning (Malle et al., 2001). Neither liars nor truth-tellers would anticipate questions on the planning phase. However, truth-tellers (compared to liars) are assumed to be in a much better position to answer these questions as they, in fact, have planned their intended acts. In contrast, liars were expected to prepare ready-made answers to anticipated questions on the intentions (Clemens et al., 2013). Therefore, liars will have to invent their answer about the planning stage on the spot, whereas truth-tellers can draw on their actual memory.

In line with our first prediction we found that both liars and truth-tellers perceived the questions asked on their intentions as significantly more anticipated compared to the questions asked on the planning of their stated intentions. For the present study the outcome of this comparison was highly important. That is, had the questions on the planning phase and the questions on the intentions been perceived as equally anticipated, the fundamental premise of our hypotheses would have been groundless.

Furthermore, we predicted and found that both liars and truth-tellers perceived the questions on the intentions (vs. planning) as less difficult (cognitively demanding) to answer. The predicted interaction effect, that lying (vs. truth-telling) suspects would find the questions on planning more difficult was, however, not supported. This finding will be addressed in more detail below. Furthermore, we predicted and found that the truth-tellers' answers to the unanticipated questions were longer (richer), compared to the liars' answers to the same question. In addition and as predicted, truth-tellers' and liars' answers to the questions on their intentions did not differ in terms of richness.

For the qualitative measures, we predicted and found that the truth-tellers' answers to the main question on the planning phase were perceived as more detailed compared to the liars' answers, whereas the truth-tellers' and the liars' answers to the main question on their intentions did not differ in terms of perceived level of detail. Furthermore, and in line with our prediction, the truth-tellers' answers to the main question on planning were perceived as significantly clearer compared to the liars' answers to the same question. In contrast to our expectations, the truth-tellers' answers on the main question on intent was perceived as significantly more clear, when compared to the liars' answers to the same question. In sum, the prediction that truth-tellers' answers to the unanticipated question would be different than the liars' answers received strong support. Furthermore, the other part of the same prediction, that the truth-tellers' and liars' answers to the anticipated questions would be very similar, found some support.

The fact that liars' answers to the questions on the planning (the unanticipated questions) were shorter and less detailed than truth-tellers' answers might explain

why liars did not experience the same questions as more difficult to answer (compared to truth-tellers). In brief, fulfilling a less ambitious goal often demands less effort than fulfilling a more ambitious goal. Translated to the current context: as liars took on a smaller task than truth-tellers (i.e., providing much shorter answers), they did not experience their task as more difficult than the truth-tellers.

For both studies by Vrij et al. (2011a) and Vrij, Granhag, Mann, & Leal (2011b) it was found that truth-tellers' answers to questions on their intentions were perceived as equally detailed compared to the liars' answers to the same questions. In the current study we replicated this result. For the present study we also found that truth-tellers' answers to the main question on the intentions were perceived as more clear than the liars' answers to the same question. Although unexpected, we believe this finding to be of interest. As the measure of clarity was highly related to the level of specificity of the statement, it might be that liars are successful in coming up with answers that are equally rich in terms of the number of details, but that the liars' answers are lower in terms of the specificity of the details compared to the truth-tellers' answers. Drawing on these findings it can be speculated that liars might talk about 'fruit' where truth-tellers talk about 'bananas', and that liars might refer to 'lunchtime' when truth-tellers state '12.30 pm'. We believe it will be worthwhile to examine this speculation in future research.

The present study is one of the first to have one set of questions addressing the intentions (anticipated questions), and a separate set of questions addressing the planning of the stated intentions (unanticipated questions). We found that the answers to the unanticipated questions contained more cues to deception than did the answers to the anticipated questions. Although the unanticipated questions were on the past (not on the future) we do not think that the pattern of result could have been predicted from previous deception research focusing on past actions. In the present study, the questions on the past pertained to the planning phase where the stated intentions were formed, a phase which is considered an inherent part of many intentions (Malle et al., 2001). In the paradigmatic study on deception, the questions on past actions tend to pertain to concrete actions that may or may not have been performed by the suspect (e.g., entering a specific room or stealing a wallet). In brief, for the present study there is an immediate and strong correspondence between the stated intention and the domain targeted by the questions on the past.

Importantly, we found no difference comparing truth-telling and lying suspects' self-reports with respect to the planning phase. In brief, we found that neither group found the planning very difficult, both groups reported to be quite satisfied with their planning, and both groups reported the planning phase to be rather interesting. The main result of the present study can therefore not be explained by truth-telling and lying suspects differing with respect to how they perceived central features of the planning phase. We did however, find that truth-telling and lying suspects differed with respect to their view on the time allocated for planning, and this finding warrants two comments. First, both groups of suspects found that they had sufficient time to plan their intentions and stories (the ratings were at the upper end of the scale). Second, the lying suspects perceived the allocated time as *more* sufficient than did the truth-tellers. Hence, the fact that lying (vs. truth-telling) suspects' answers to the questions on the planning phase were shorter and perceived as less detailed and clear, cannot be explained by lying suspects experiencing that they did not have enough time to plan.

Limitations

The core of our reasoning is that a true intention will be preceded by planning. This assumption could be challenged. It might be that an intention may come without any form of planning. For example, many script-like routine activities may not require any particular planning (e.g., driving to work). However the real-life scenarios that we want to mirror in our research are situations, where the intender is very likely to have planned his or her actions (e.g., crossing a border, departure from an airport, or purchasing a weapon). Hence, for our study we used an experimental set-up, which demanded that the participants planned their future actions (e.g., they were told that they had a strict time limit for executing the task). Still it is reasonable to argue that planning a trip to the shopping mall is generally not as complex as, for example, planning for a long international flight. However, to what extent our suggested tactic (to ask about the planning phase) would turn out as more or less effective as the planning becomes more demanding, is an open empirical question. We believe it is possible to argue that, the more the extensive planning, the more the truth-tellers will have to tell about this phase when asked. If this reasoning holds true, our tactic would become more (and not less) effective as the planning gets more extensive.

Conclusions

By asking unanticipated questions – targeting the *planning* of the stated intentions – we were successful in eliciting both objective and subjective cues, which separated truthful and deceptive statements. In contrast, we found much fewer differences comparing truth-tellers' and liars' answers to questions on their *intentions*. We believe that the reason for this is that the liars had anticipated questions on their intentions, but not questions on the planning phase. Obviously, much research is needed to arrive at interview protocols eliciting cues, which will discriminate reliably between true and false intentions (Granhag, 2010). However, the current study suggests that strategically asking questions about the planning phase – during which the stated intentions were formed – might be one possible way forward. Differently put, asking about the past might be a good way to detect lies about the future.

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