The effect of the presence and seating position of an interpreter

on eliciting information and cues to deceit

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Abstract

The present experiment examined how the seating position of an interpreter during investigative interviews affects information elicitation and cues to deceit. A total of 60 native English speakers were interviewed in English and 200 non-native English speakers were interviewed in English (a non-native language) or through an interpreter who either sat next to the interviewer, behind the interviewee or interpreted via the telephone. Interviewees either lied or told the truth about a mock security meeting they watched. Interviewees who spoke in their native language provided more detail than interviewees who spoke in their native language through an interpreter or in a non-native language (English) without an interpreter. The latter groups did not differ. Additionally, the amount of detail differentiated truth tellers from liars in all conditions and interviewees found the presence of an interpreter to be a largely positive experience. The interpreter's seating position had no effect on the findings.

Keywords: interpreter, information gathering, seating position, telephone interpreting, deception

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Due to increasing ethnic diversity in many countries the number of people who are less than proficient in the language of the country they live in is rising. Together with the increase in worldwide travel, this highlights that investigators and interviewees often do not share the same native language, which may limit their communication. The investigators may conduct the interview in their native language with interviewees responding for them in a non-native language. However, poor communication can hinder the effectiveness of investigative interviews and using interpreters is often vital to investigations (Gibbons, 2001).

Information-Gathering

Interviewees who communicate in their native language could, in theory, provide more detail than interviewees communicating in a non-native language which they are not proficient in, because native speakers have a larger vocabulary and can express themselves better (Ullman, 2001). Those who speak in a non-native language may leave information out because (i) they are unable to express these details in that language (Huang, 2010), (ii) speaking in that language is too cognitively demanding (Evans & Michael, 2014; Evans, Michael, Meissner, & Brandon, 2013; Duñabeitia & Costa, 2015), and (iii) they need to actively inhibit neural control mechanisms that would otherwise automatically make them respond in their native language (Wang, Xue, Chen, Xue, & Dong, 2007). In alignment with this, it has been found that native speakers provide more details than non-native speakers (Evans et al., 2013; Evans & Michael, 2014).

The presence of an interpreter allows interviewees to speak in their native language, and, in theory, those who speak through an interpreter could say as much as those who are interviewed in their native language. However, research has shown that those speaking

through an interpreter provide the same amount of information as those who speak in a non-native language and significantly less information than those interviewed in their native language without an interpreter (Ewens et al, 2014). Ewens et al. could only speculate why this happened and gave three possible explanations, which we empirically tested in the present experiment. First, the introduction of an interpreter disrupts the flow of conversation. Interruptions during conversations lead to frustration and anxiety (Bailey & Konstan, 2006), and interviewees who are annoyed volunteer less information (Bull, 2010; Fisher, 2010). Second, interruptions may make memory retrieval more difficult, because it disrupts the interviewee's train of thought (Vrij, Hope, & Fisher, 2014), which would result in less information being reported (Nelson & Goodmon, 2003). Third, an interviewee may decide to be concise when an interpreter is present given the extra time it takes to communicate through an interpreter (similar to that people are more concise when talking to a hard hearing person). We predicted that more detail would be provided in interviews where the interviewer and interviewee shared their native language than in interviews where interviewees speak in a non-native language or speak through interpreters (Hypothesis 1). This would be a replication of Ewens et al. (2014). We further predicted, in addition to Ewens et al. (2014) that in the post-interview questionnaire interviewees would report that they found the presence of the interpreter was largely disruptive and frustrating, made memory retrieval more difficult, and led them to be more concise (Hypothesis 2).

The idea that an interviewee would find the interpreter disruptive and frustrating, suggested by Ewens et al. (2014), may not hold true. From an interviewee's perspective an interpreter can be a positive experience. The interpreter's translations slow down the interview and give an interviewee time to think. It may also be pleasant for interviewees to have someone present in the interview who speaks their language and shares their culture.

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We therefore asked interviewees questions about possible negative and positive aspects of an interpreter.

Seating Position of the Interpreter

The US Army Field Manual 2-22.3 (hereafter AFM) states that the interpreter should be placed in a position that enhances the mood or general impression that the interviewer wants to establish (U.S. Department of the Army, 2006). Two possible seating positions for the interpreter are proposed: Behind the interviewee or next to the interviewer. The AFM posits that by placing the interpreter behind the interviewee anxiety levels will be increased or maintained (see also Cross Cultural, Rapport-Based Interrogation, Version 5, 2010) which facilitates a dominant position for the interviewer. The AFM recommends this position during interrogations. Placing the interpreter next to the interviewer (the approach taken by Ewens et al., 2014) is seen as a more relaxed approach, and trained FBI interpreters reported that they mostly use this position (Russano, Narchet & Kleinman, 2014). In the UK, there appears to be no consistent method in seating position in police interviews with both being used (Vaughan, 2009).

In addition to these two seating positions, there is the opportunity to interpret via the telephone. Telephone interpreting (TI) is used by Australian Immigration (Ozolins, 2011), and in Swedish police interviews (Wadensjö, 1999). UK procedure indicates that TI should only be used for procedural matters (e.g., name and address details, fingerprints/photographs, and reason for arrest) but not for evidential procedures such as investigative interviews (Cambridgeshire Police, 2015). The advantages of TI include not usually having to wait as long for an interpreter to arrive, lower cost, and no interpreter discrimination towards the interviewee based on physical characteristics (Kelly, 2008). Disadvantages include quality of sound (Kelly, 2008), and the interpreter being unable to capture some of the communicative cues that guide the interpretation (Wadensjö, 1999).

Little is known about the effect of the interpreter's seating position on eliciting information. This is examined for the first time in the present experiment. Visual contact between two people tends to increase their interaction rates (Hearn, 1957), which in turn could lead to more information. Visual contact with the interpreter is only present in the next to the interviewer condition. Furthermore, people tend to talk less when they are socially anxious (Schlenker & Leary, 1985). The AFM states that by positioning the interpreters behind the interviewee their anxiety will be increased. We therefore hypothesised that the 'next to the interviewer' condition would elicit more information from interviewees than the 'sit behind the interviewee' and 'telephone' conditions (Hypothesis 3).

Verbal Indicator to Deceit: The Amount of Detail

When interviewees say more, the opportunities of verbal cues to deceit occurring will increase because words are the carriers of verbal cues to deceit (Vrij, Mann, Kristen, & Fisher, 2007). Since the interviews whereby interviewer and interviewee share the same native language are expected to elicit most detail, these interviews are also most likely to elicit verbal cues to deceit. Interviewees who are interviewed without an interpreter in a non-native language are likely to experience cognitive difficulty when communicating in that language (Evans et al., 2013; Evans & Michael, 2014; Duñabeitia & Costa, 2015). This additional mental load may elicit cues to deceit. Lying in investigative interviews is often more mentally taxing than truth telling, because lying involves multiple tasks, including fabricating and maintaining a lie, creating a convincing impression and scrutinising the interviewer to check if s/he believes the lie (Vrij et al., 2008). Therefore, liars typically have fewer cognitive resources left over. Cognitive demand is further raised by requesting interviewees to communicate in a non-native language (Akca & Elkilic, 2011; Duñabeitia & Costa, 2015; Evans & Michael, 2014; Evans et al., 2013;), which should affect liars more than truth tellers, with verbal cues to deceit being more likely to occur.

With an interpreter present, the interview may become easier for interviewees. First, it allows interviewees to speak in their native language, which is cognitively easier (Duñabeitia & Costa, 2015; Evans & Michael, 2014; Evans et al., 2013). Second, each time the interpreter translates an answer the interviewee has time to contemplate what to say next. This reduced cognitive load, combined with the possibility that limited detail will be conveyed in interviews with interpreters, makes it less likely that cues to deceit may occur. In alignment with this, Ewens et al. (2014) found that liars were less detailed than truth tellers, but only when there was no interpreter present.

We examined the amount of detail as an indicator of deceit, which we singled out because eliciting information (e.g. providing detail) is the main aim of investigative interviewing (Bull, 2010; Fisher, 2010: Vrij, Fisher, & Hope, 2014). The amount of detail that liars provide, compared to truth tellers, depends on the situation. In interview settings liars use an information management approach whereby they calculate which information they can freely reveal, and which information they need to fabricate or withhold (Granhag & Hartwig, 2008; Hartwig et al., 2011). Liars realise that detailed stories sound convincing and may therefore be inclined to be detailed (Nahari, Vrij, & Fisher, 2014). As a result, in situations where liars can talk freely without incriminating themselves they may be detailed and, given their desire to sound convincing, they may even be more detailed than truth tellers (Deeb et al., 2016; Warmelink, Vrij, Mann, Jundi, & Granhag, 2012). However, being detailed may often be problematic for liars. Liars may be reluctant to provide much detail through fear that such details may provide leads for investigators to check, which means that they would incriminate themselves (Nahari, et al., 2014). Many liars may also lack the imagination to convey the amount and type of detail that truth tellers convey. In alignment with these difficulties for liars, deception research has shown that truth tellers typically give more detail than liars (DePaulo et al., 2003; Masip, Sporer, Garrido, & Herrero, 2005; Vrij, 2008). We

therefore predicted a Veracity X Interview Condition interaction effect in that truth tellers would be more detailed than liars, particularly in the interviews without an interpreter (Hypothesis 4).

Correct and Incorrect Information

Deception research mainly focuses on 'cues to deceit' (Vrij, 2008; Vrij & Granhag, 2012). However, the aim of an investigative interview is to elicit accurate information (Bull, 2010; Fisher, 2010). Liars rarely make up entire stories but typically embed their lies in truthful stories (Leins, Fisher, & Ross, 2013; Vrij, 2008), which means that liars also provide accurate information. It is therefore important to examine whether the amount of correct and incorrect information liars provide differs when speaking in a native language, a non-native language or through an interpreter. To our knowlegde this has never been examined before. The ideal interview setting represents a scenario whereby liars are encouraged to give more correct information.

Liars embed their lies in truthful stories due to concerns they may have. They may be worried that (i) they lack the imagination to fabricate lies that are detailed enough, (ii) that their lies give away leads to investigators or, (iii) that they will forget the lies they have told (Nahari, Vrij, & Fisher, 2012; Vrij, 2008). With those concerns in mind, staying close to the truth is a valid and logical option. Cognitive load may affect the amount of incorrect information given by liars. Research has shown that people are less likely to lie when experiencing high cognitive load because they then lack the cognitive resources required to lie (van 't Veer, Stel, & van Beest, 2014). Additionally, being interviewed in a non-native language is cognitively more demanding than being interviewed in a native language or through an interpreter. The result could be that the non-native liars interviewed in English would provide a higher proportion of correct information than their counterparts (Hypothesis 5).

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Method

Participants

A total of 260 participants (81 males and 179 females) took part in the study. Their background was British ($n = 60$), Chinese ($n = 50$), Korean ($n = 79$) and Hispanic ($n = 71$). Ages ranged from 18-56 years with an average age of 23.34 years ($SD = 6.66$). Participation took place in three different universities in the United Kingdom, Republic of Korea and USA. The Chinese sample was collected in the UK. Participants at all locations consisted of university students and staff. Analyses revealed a similar gender distribution across all five Interview Conditions $X^2(4, 260) = 1.61$, $p = .81$, $\Phi = .08$. Age differed between conditions $F(4, 255) = 15.50$, $p < .001$, $\eta_p^2 = .20$, 95% CI [.11,.27], and Tukey post hoc tests showed that the participants in the English condition were older than the participants in the non-native English condition and the three interpreter conditions, see Table 1. Since the median age was similar across the five conditions (21 or 22 years), it becomes evident that some older participants brought up the age in the native English condition. When age was used as a covariate in all proceeding analyses it did not change the findings reported in the Results section regarding Total Detail and Proportion Correct Detail (the effect of age was not significant for Total Detail, $F(1, 248) = 3.14$, $p = .078$, $\eta_p^2 = .01$, 95% CI [.00,.05] and Proportion Correct Detail, $F(1, 248) = .01$, $p = .901$, $\eta_p^2 = .00$, 95% CI [.00,.00]).

Insert Table 1 about here

Procedure

On arrival to the corresponding university, participants were informed that they were going to play the role of a security officer and that they would be viewing video footage from an intelligence agency of a secret meeting. The videos were dubbed over into the appropriate language and participants viewed the video in their native language. The videos were 6 minutes and 29 seconds in length. All participants completed a pre-interview questionnaire

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before watching the video, in which they were asked to what extent they were motivated to perform well in the interview on a 5 point scale (1 = not at all motivated to 5 = very motivated). All forms were translated and completed in the native language of the participant.

The purpose of the secret meeting was to vote on a suitable location to plant a spy device. All participants were told to watch the footage and that it was essential they remembered as much detail as they could. See Appendix 1 for a review of the video content. Once the video had finished the participants were randomly allocated to the truth telling ($n = 132$) or lying ($n = 128$) condition and subsequently given instructions derived from Shaw et al. (2015). Truth tellers were told to be completely truthful in the interview. Liars were instructed to give false information about the location that was selected to hide the spy device. They were further instructed to give some truthful and some false information when asked to describe the device (see Appendix 2 for full instructions). We gave liars the instruction to include some truthful information to ensure that the content of their stories would be comparable with the content of the truth tellers' stories. Also, when testing Hypothesis 5, in which we examine whether the amount of correct and incorrect information liars provide differs between interview conditions, it is needed that liars report at least some correct information. The instruction for liars to include truthful information is not artificial because embedding lies in truthful stories is what liars typically do (Leins, Fisher, & Ross, 2013).

All participants were told that they must convince the investigator that they were telling them the truth, and if they did they would receive £7 (or an equivalent amount in Korea and the US). They were further told that if they could not convince the investigator, they would be asked to write a report about the meeting. All instructions were given to participants in their native language.

Interview. Both interviewer and interpreter were blind to the veracity of the participant and to the hypotheses. Two British female interviewers were used for all interviews and spoke English during the interviews. The interviewers were instructed to keep an open posture but to avoid displaying any expressiveness, as being supportive or sceptical influences participant's responses during an interview (Mann et al., 2012). Both interviewers have vast experience in interviewing native English and non-native English participants in research studies, and were also used as interviewers in Ewens et al. (2014) and Vrij, Granhag, Mann, & Leal (2011). The interviewers did not speak any languages spoken by the non-native participants in the study (Chinese, Korean or Hispanic).

In total, six interpreters were used in the study: Chinese ($n = 2$), Korean ($n = 2$) and Hispanic ($n = 2$). We approached several people with fluent bilingual skills (native language and English) and asked them for their willingness to take part in the study as an interpreter. Two of them were professional interpreters. Using a mixture of professional and unprofessional interpreters reflects real life in police interviewing (Ewens, Akehurst, Leach, & Vrij, under review; Wakefield, Kebbell, Moston, & Westera, 2014). The interpreters were requested to speak in the first person and to give a complete account of the interviewee's response [to the best of their ability] after the interviewee had finished answering each question. They were allowed and encouraged to take notes when the interviewee spoke.

We transcribed and coded the interpreter's translations of the interviewee's spoken words and we report these results in the Results section. We found the interpreter's translations particularly important as this is what interviewers hear and rely upon in real life. However, there may be a difference between the interpreter's translations and the interviewee's spoken words. Unlike Ewens et al. (2014) we therefore transcribed the interviewee's spoken words in their own language into English and also coded this text. We do not report the interviewee's spoken words in the Results section because it showed strong

overlap with the interpreter's translations. That is, with one exception, all differences that emerged between conditions in the reported interpreter's translations also emerged in the interviewee's spoken words and even the effect sizes in the two sets of analyses were similar. The single exception is discussed in the Results section, endnote 1. The correlation between details in the interpreter's translations and interviewee's spoken words very high ($r = .93$), so was the correlation between proportion of correct detail given by the interpreter and interviewee ($r = .96$). As could be expected, interviewee's spoken text contained more detail ($M = 38.73$, $SD = 16.91$, 95% CI [36.46, 41.16]) than the interpreter's translations ($M = 33.23$, $SD = 14.17$, 95% CI [31.31, 35.33]). However, the loss of information due to translation was, with less than 15%, not substantial. These findings show that the interpreters interpreted the interviewee's spoken words adequately. A full set of analyses in which the interviewee's spoken words and the interpreters' translations of these words are compared are available from the first author.

Participants at each university were allocated to one of three different interpreter conditions, and the interpreters were equally distributed amongst these three conditions. The interpreter either sat next to the interviewer (thus both interpreter and interviewer facing the interviewee) forming a triangle ($n = 52$), behind the interviewee (thus both interpreter and interviewer facing the interviewee [$n = 49$]), or interpreted via the telephone, with interviewer and interviewee facing each other ($n = 49$) and the interpreter being in another room, not visible to the interviewee and interviewer. The telephone, a conference telephone was positioned on the interviewer's desk. Each interpreter conducted interviews in each seating condition.

The study included two further conditions that did not have an interpreter present. One condition (native English) consisted of native English speaking participants ($n = 60$) who were interviewed in English. These participants were recruited via the university in the UK.

The other condition (non-native English) consisted of Chinese, Korean and Hispanic native speakers ($n = 50$) who were interviewed in English (and answered in English). These participants were recruited at the UK, Korean and US universities. In the non-native English condition, all participants spoke English well enough to ensure they would be able to get by in the interview, as judged by the RAs. Non-native participants were randomly allocated to the four conditions (one non-native English condition and three interpreter's conditions), although a few participants in Korea who were judged to be too poor in English to be interviewed without an interpreter could not be allocated to the non-native English condition and were therefore randomly allocated to one of the interpreter conditions. The non-native languages were equally distributed across the non-native English and interpreter conditions, ensuring that language did not affect the non-native conditions. The interview contained five information-gathering style open-ended questions about the video, selected location and device, see Appendix 3.

Post-Interview Questionnaire. After the interview, participants completed a post-interview questionnaire, which measured their perceived likelihood of receiving £7 (or the equivalent) and writing a statement (on Likert scales, 1 = not at all to 7 = totally). Participants in the three interpreter conditions were further asked a number of questions on Likert scales (1 = not at all to 7 = very much) regarding their experience with the interpreter and their disruptions (the periods when the interpreter translated the interviewee's text). The participants were asked how annoying, pleasant, distracting, disturbing and relaxing the interruptions were; whether the disruptions made the interview (i) easier, or (ii) more difficult and whether the disruptions made it (i) easier, or (ii) more difficult to remember what happened in the meeting. Participants were also asked whilst the interpreter spoke whether they thought about (i) what to say next, or (ii) what happened in the meeting. Participants in the three interpreter conditions were finally asked whether they thought they would say less

or more if they would have been interviewed without an interpreter on a 7-point Likert scale

ranging from (1) less to (7) more.

The interviews were video and audio recorded and the English speech in the

audiotapes was subsequently transcribed for all interviews. In addition, in the interpreter's

conditions, the Chinese, Korean and Hispanic spoken words were first transcribed and then

translated into English.

Coding

All coders were blind to the hypotheses and experimental conditions of the study.

Total detail, correct detail and incorrect detail. A coder, blind to the experimental

conditions and hypotheses, read the transcript and coded each of the responses to the five

questions for number of detail. We used the same coder as in Ewens et al. (2014). Detail

included all the perceptual details (information about what the examinee saw or heard);

spatial details (information about locations or the spatial arrangement of people and/or

objects); and temporal details (information about when the event happened or an explicit

description of a sequence of events). The sentence "He wore a black jacket and stood behind

a table" contains five perceptual details (he, black, jacket, stood, table) and one spatial detail

(behind). Repetitions were not counted. We did not split detail into these sub-categories as no

hypotheses were formulated about them. Instead, detail was further split into correct and

incorrect detail. In order to complete this coding, the coder was made aware of the content of

the three versions of the video. Correct detail was any accurately reported detail from the

video, whilst incorrect detail was any inaccurate information reported. If interviewees

provided incorrect detail but then changed their account to correct information the incorrect

information was not included in the coding. A second coder coded a random sample of 50

transcripts. Inter-rater reliability between the two coders was excellent for total detail (ICC =

.96), correct detail (ICC = .96), and incorrect detail (ICC = .99). In the Results section we

report two types of detail: Total Detail and Proportion Correct Detail. Total Detail refers to everything the participant said and Proportion Correct Detail is the proportion of detail that was correct**.** Thus if a participant provided 90 correct details and 10 incorrect details, the Total Detail score would be 100 and the Proportion Correct Detail score would be .90.

Determining whether information is incorrect or correct can be challenging due to differences in languages. For example, in Chinese language there is no difference in the pronunciation of the third person pronoun, which can be he, she or it; and pronouns are often left out in the Korean spoken language. Problems can also arise due to the lack of temporal genre (past or future tense) or plural forms in Chinese. These differences can easily lead to inaccurate translations by interpreters of information correctly provided by interviewees. However, these issues are not relevant in our study where participants described the specific features of a location and spy device.

Grasp of English. Three coders rated English proficiency of the participants in the non-native English condition by listening to the interviews and using an English language training scheme scale from Embassy English (an accredited English language school). The scale consists of five categories: [1] Beginner (those who know a few English words i.e., hello, taxi, football), [2] Elementary (those who can communicate in a basic way/can make simple sentences, reply to questions on a range of personal and common subjects, talk about likes and dislikes, family and routines), [3] Pre-Intermediate (those with a good basic ability to communicate and understand many subjects and give opinions, grammar includes understanding of adjectives, adverbs, comparatives and basic prepositions), [4] Intermediate (those who have the grammar to talk about a wide number of subjects, have some understanding of tone and style, can confidently make sentences, question forms and clauses), and [5] Upper-Intermediate (those who can talk fluently and almost completely accurately). A reliability analysis revealed that the agreement between coders was very good

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(ICC = .87). When there was a disagreement between the three coders, two coders gave the same ratings and the third coder was an outlier. In such situations, we used the classification made by the two coders who agreed. The interviewees were classified as Beginner (0%), Elementary (32%), Pre-Intermediate (42%), Intermediate (26%), and Upper-Intermediate (0%). That participants with a poor grasp of English (Beginners) and good grasp of English (Upper-Intermediate) were not present in the non-native English condition reflects real life. Those who speak beginner English cannot be interviewed without an interpreter because their English is not good enough to convey information in English. Those who speak English at an Upper-intermediate level probably do not even consider using an interpreter during their interviews (and may not be offered one). It is thus the middle groups for whom the choice to use an interpreter is most valid and, consequently, for whom the comparison between being interviewed with or without an interpreter becomes most relevant.

Additionally, all non-native participants were asked if they would request an interpreter in a police interview in an English-speaking country via a yes/no response. In the non-native English condition 69% would have requested an interpreter, whereas in the interpreter condition 65% would have requested an interpreter. Those findings did not differ between these groups, $X^2(1, 194) = .22$, $p = .64$, $\Phi = .03$.

Results

Pre-Interview Questionnaire Responses and Interview length

The grand mean score ($M = 3.89$, $SD = .75$ on a 5-point scale) revealed that the participants were *motivated* to perform well during the interview. Data in this section were analysed with a 2 (Veracity) X 5 (Interview Condition) design. A complete report of the 2 X 5 ANOVAs is available from the first author.

Truth tellers and liars were equally motivated. Native-English participants were significantly more motivated than the non-native English and the participants who had the

interpreter behind them. The native-English condition did not differ from the 'next to the interviewer' and 'telephone' interpreter conditions. The non-native English condition and the three interpreter conditions did not differ from each other in motivation, see Table 2. When motivation was used as a covariate in the Total Detail and Proportion Correct Detail analyses it did not change the findings reported in the Results section.

Insert Table 2 about here

Truth tellers were more convinced that they would *receive the £7* (or equivalent) incentive than liars. Furthermore, the participants in the native English condition were less convinced they would receive the incentive than those in the 'sit behind the interviewee' condition, see Table 2. No other differences between Interview Conditions emerged. When the likelihood of receiving an incentive was used as a covariate in the Total Detail and Proportion Correct Detail analyses it did not change the findings reported in the Results section. Liars thought the *likelihood of writing a statement* was significantly higher than truth tellers, whereas no other effects emerged.

The truthful interviews were significantly longer than the deceptive interviews. The native-English interviews were significantly shorter than the 'next to', 'behind', 'telephone' and the non-native English interviews. Furthermore, the non-native English interviews were significantly shorter than the three interpreter conditions. The three interpreter conditions did not differ in duration, see Table 2.

Total Detail (Hypotheses 1, 3 and 4)

A 2 (Veracity) X 5 (Interview Condition) ANOVA was conducted on Total Detail. As reported in the Method section, we report here the interpreter's translations. These findings showed considerable overlap with the analyses of the interviewee's spoken text and also reporting the sets of analyses for the interviewee's spoken text would make this Results

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section too repetitive. The Ms and SDs related to the Interview Condition factor are provided

in Table 3.

Table 3 about here

The analysis revealed significant main effects for Veracity, $F(1, 250) = 74.18$, $p <$

.001, $d = 0.95$, 95% CI [.69,1.20], and Interview Condition, $F(4, 250) = 19.79$, $p < .001$,

$partial$ $\eta_p^2 = .24$, 95% CI [.15,.32]. Truth tellers provided more detail ($M = 45.58$, $SD =$

17.89, 95% CI [42.62, 47.42]) than liars ($M = 30.43$, $SD = 13.61$, 95% CI [27.62, 32.50]).

Furthermore, participants in the native-English condition provided more detail than

participants in the non-native English, 'next to', 'behind' and 'telephone' conditions,

supporting Hypothesis 1 (most detail would be provided in interviews where the interviewer

and interviewee shared their native language). The latter four groups did not differ in detail,

which means that Hypothesis 3, in which differences in eliciting information between the

interpreter conditions were expected, was not supported. The Veracity X Interview Condition

interaction effect was not significant, $F(4, 250) = 1.67$, $p = .158$, $partial$ $\eta_p^2 = .03$, 95% CI

[.00,.06]. The absence of a Veracity X Interview Condition interaction effect suggests that

truth tellers provided more detail than liars in all five Interview Conditions. This was indeed

the case (all F's > 5.48, all p's < .025, all d-scores ranged from $d = $ .68 [telephone condition]

to $d = 1.60$ [next to condition]). Hypothesis 4, in which it was predicted that truth tellers

would be more detailed than liars, particularly in the interviews without an interpreter, was

not supported.

Proportion Correct Detail (Hypothesis 5)

A 2 (Veracity) X 5 (Interview Condition) ANOVA with proportion correct detail as

dependent variable revealed a main effect for Veracity, $F(1, 250) = 356.83$, $p < .001$, $d =$

2.36, 95% CI [2.02,2.65], with truth tellers ($M = .88$, $SD = .10$, 95% CI [.86, .91]) providing a

higher proportion of correct detail than liars ($M = .55$, $SD = .18$, 95% CI [.53, .58]). Although

the Interview Condition effect was not significant, $F(4, 250) = 1.18$, $p = .321$, *partial* $\eta_p^2 =$ .02, 95% *CI* [.00,.05], the Veracity X Interview Condition interaction effect was significant, $F(4, 250) = 2.78$, $p = .028$, *partial* $\eta_p^2 = .04$, 95% *CI* [.00,.09]. The Ms and SDs related to this interaction are provided in Table 3. Tukey post hoc tests revealed that truth tellers in the native-English condition provided a higher proportion of correct details than truth tellers in the non-native English condition, the 'next to' condition, and the 'behind' condition, but a similar proportion of correct detail as participants in the 'telephone' condition. The other four groups did not differ significantly from each other. For liars, no difference emerged between any of the conditions, which means that Hypothesis 5, where we predicted that non-native liars interviewed in English would provide a higher proportion of correct information than liars in the other conditions, is rejected.[1]

Impression of Using an Interpreter (Hypothesis 2)

A 2 (Veracity) X 3 (Interview Condition) MANOVA was conducted with the twelve variables listed in Table 4 (collected in the post-interview questionnaire) as dependent variables. In this analysis only the three interpreter conditions were included. At a multivariate level, the MANOVA revealed no significant effects for Veracity, Wilks' $\lambda = .89$ $F(12, 133) = 1.54$, $p = .119$, *partial* $\eta_p^2 = .12$, Interview Condition, Wilks' $\lambda = .85$, $F(24, 266) = .98$, $p = .494$, *partial* $\eta_p^2 = .08$, or Veracity X Interview Condition, Wilks' $\lambda = .87$, $F(24, 266) = .84$, $p = .686$, *partial* $\eta_p^2 = .07$. At a univariate level, only one out of the 36 effects was significant which could be expected by chance. Hence, the variables listed in Table 4 were not influenced by Veracity or the position of the interpreter.

Table 4 about here

Table 4 shows that a vast majority of participants did not agree with the negative statements about the use of interpreters. Thus, they did not find the interpreter annoying, distracting or disturbing, neither did they think that the interpreter's disruption (i) made the

interview more difficult or (ii) it more difficult to remember what happened in the meeting. The participants were divided about the positive effects of having an interpreter, some saw positive effects and others did not, with also many participants being undecided about the positive aspects (score of 4). However, overall more participants were positive rather than negative about the use of an interpreter.

While the interpreter spoke, more participants reported thinking about what happened in the meeting than about what to say next. Finally, in answer to the question how participants' speech would be affected when they would be given the opportunity to answer the questions in their own language without an interpreter, 13% said that they would say less, whereas 32% said that they would say more. We also correlated the participants' experiences about the interpreter with the amount of detail they provided in the interviews. Only one out of the 12 correlations reported in Table 4 was significant. This is almost what could be expected by chance which means that the participants' experiences about the interpreter, as reported in the post-interview questionnaire, were unrelated to the amount of detail the participants gave during the interview.

Discussion

Information-Gathering

In alignment with Hypothesis 1 (most detail would be provided in interviews where the interviewer and interviewee shared their native language) and previous research (Ewens et al., 2014) native-English participants, interviewed in English, provided more detail than non-native participants who were either interviewed in English (for them a non-native language) or in their native language through an interpreter, whereas the latter two groups did not differ from each other.

Ewens et al. (2014) could only speculate why non-native English interviewees interviewed through an interpreter did not provide more information than non-native English

interviewees interviewed in English. In the present experiment we examined these speculations through asking the interviewees about their experiences with the interpreter. Very few participants found the interpreter annoying, distracting or disturbing (rejecting Hypothesis 2). Neither did they think that the interpreter made it more difficult for them to remember what had happened in the meeting. In fact, participants typically found the interpreter pleasant and relaxing and that the interpreter made it easier for them to remember what had happened in the meeting. However, almost a third of the interviewees indicated that they would have said more if they would have been given the opportunity to be interviewed in their own language without an interpreter. A possible explanation as to why interviewees are reluctant to say much through an interpreter is the additional time required to communicate through an interpreter. The mean length of the three interpreter condition interviews was close to twice as long as the length of the native English interviews.

The interviewees did not demonstrate a negative attitude towards the use of interpreters. Research has shown that interviewers can have differing views on the use of interpreters. Some interviewers suggest interpreters have a negative effect on rapport and, subsequently, the elicitation of information (Soufan, 2011, Russano, Narchet, Kleinman & Meissner, 2014), a view echoed in the US Department of Defence field manual on intelligence collection (Driskell, Blickensderfer, and Salas et al., 2013). Other interviewers believe that understanding the language, which is only possible through an interpreter, can have a positive effect (Russano, Narchet, Kleinman & Meissner, 2014). This view is shared by interpreters themselves who also believe that they can give insight into the culture of the interviewee (Russano, Narchet & Kleinman, 2014). From an interviewee's perspective, to have someone in the room who speaks their language may feel like an ally to them or be of some reassurance. In other words, the view that an interpreter in the room has a negative

effect is not shared by all interviewers, and may not be shared by interpreters and interviewees.

Future research could further examine the important issue of how interviewees evaluate interpreters, ideally with taking the context into account. For example, interviewees could perceive interpreters depending on how they perceive their identity. If an interviewee believes that the interviewer and interpreter are against them and that the interpreter is tasked to 'catch' the interviewee, the interviewee may significantly minimise the information s/he provides; but if the interviewee thinks that the interpreter is on his/her side and could help to provide solutions, s/he may be willing to provide more information.

In the present experiment, no difference was found in the amount of detail provided between the three interpreter conditions, therefore rejecting Hypothesis 3. Since visual contact increases interaction rates between people (Hearn, 1957), we predicted that interviewees would provide less detail if they could not see the interpreter (in the 'behind' and 'telephone' conditions). However, the interviewees could still see the *interviewer* in all three interpreter conditions, which might partly explain why the lack of visual contact with the interpreter did not affect the amount of detail they provided.

Verbal Cue to Deceit: The Amount of Detail

Truth tellers were more detailed than liars in all five interview conditions (both when using the interpreter's and interviewee's text), which does not support Hypothesis 4 where it was predicted that cues to deceit were more likely to occur in interviews without an interpreter than in interviews with an interpreter. The strong Veracity effect found in this experiment (Cohen's $d = .95$), may have masked more subtle differences in the elicitation of cues to deceit. However, in Ewens et al. (2014) where truth tellers and liars differed from each other in detail in the non-interpreter conditions only the effect was also substantial

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(Cohen's d = .75). The fact that interviews with interpreters revealed cues to deceit is good news for interviewers who use interpreters in their investigations.

In the present study 'amount of detail' did discriminate truth tellers from liars, as it did in many previous studies. However, someone could argue that the cue 'amount of detail' does not reflect the full potential of 'detail' as a diagnostic cue to deceit. 'Amount of detail' could mask differences between truth tellers and liars if liars avoid mentioning certain type of details but compensate this with reporting other types of detail. They could do this in an attempt to sound convincing. For example, liars tend to avoid mentioning details that someone can check (because that would incriminate them) but could compensate this with providing detail that someone cannot check (Vrij, Nahari, Isitt, & Leal, 2016). In addition, liars could avoid reporting detail about the core event but could compensate this with reporting detail about peripheral events. Also, liars may choose to avoid information on topics that could generate shame or guilt but could compensate this with providing information that enhances their self-esteem. Current deception research does not examine detail in this manner, but it could be useful to do so in future research. Research could also examine cultural differences in the type of detail people provide. For example, compensatory self-enhancement (bolster self-assessments in one domain if a weakness in another domain is discovered) is more prominent in American than in East Asian samples (Heine, Kitayama, & Lehman, 2001).

Correct and Incorrect Information

For truth tellers, a difference emerged in the proportion of correct detail provided with native-English participants providing a higher proportion of correct detail than the non-native participants who were interviewed in English or through an interpreter (with the telephone condition as an exception). Perhaps non-native English speakers interviewed in English provided a higher proportion of incorrect detail than native English participants because

people who do not speak a language well do make mistakes resulting in incorrect detail. And perhaps the interpreter made some mistakes. The participants in the 'next to the interviewer' and 'behind the interviewee' interpreter conditions provided a higher proportion of incorrect information than the native English participants, but the effect for 'next to the interviewer' was no longer significant when we analysed the interviewee's spoken words rather than the interpreters' translation of these words (endnote 1). This suggests that the interpreters also made mistakes when translating the interviewees' text. This, of course, is understandable as humans make mistakes.

For liars, we reasoned that non-native examinees who speak in English would stay closer to the truth due to the high demands imposed on them during the interview, but Hypothesis 5 was not supported. We can only speculate why this hypothesis was not supported. We believe that the task may not have been difficult enough for liars to reveal differences. Changing some elements in a otherwise truthful story is less demanding than, for example, fabricating an entire story. Yet, whether imposing cognitive load will result in interviewees' staying closer to the truth is an important question to examine because if investigators can design interview protocols that make liars less likely to provide deliberate inaccurate information, much would be gained.

Seating Position Comparison

We found no meaningful differences between the three seating positions examined in the experiment ('next to the interviewer', 'behind the interviewee' or outside the room by using a telephone) in the elicitation of information and cues to deceit and in interviewees' self-reported experiences with the interpreter. Null-findings can be the result of lack of statistical power but this was not the case in our experiment. The number of participants in each seating position cell was sufficient enough (varied between 49 and 52, truth tellers and liars combined) to detect small effect sizes at an alpha of .05. The effect of the interpreter's

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seating position on the elicitation of information (and cues to deceit) is an important applied

question to which practitioners and policy makers would like to know the answer. For them a

null-finding can be informative, particularly if it is replicated in future research.

Methodological Considerations

We decided upon using native English speakers, speaking in English as a control

group. We did so because this is the interesting comparison from an applied perspective.

English speaking interviewers are interested in how the English speech delivered by non-

native speakers, who either speak in English or in their native language through an English

speaking interpreter, compares to when they interview native English speakers. The

limitation of this control group is that we cannot rule out that cultural differences may have

affected the results. Perhaps British speakers are just more talkative than Chinese, Korean or

Hispanic speakers.

Alternatively, there are cultural differences in using Grice's (1975; 1989) cooperative

principle, which describes how effective communication in conversation is achieved. In

English speakers effective communication follows four Maxims: *Quantity* (be as informative

as required); *Quality* (be truthful); *Relation* (be relevant) and *Manner* (be clear, brief,

orderly and unambiguous), but this is not the case in East Asians, who only conform to the

Maxim of Relation (He, 2012). This may have caused the effect.

It is also possible that British speakers said more because the interviewers were

British. This means that British participants were interviewed by someone from their own

culture, unlike the Chinese, Korean and Hispanic participants. And we cannot rule out that

the Chinese participants recruited in the UK may have somewhat acculturated. In other

words, our experimental design allows us to conclude that non-native English speakers

interviewed through an interpreter give the same amount of information as non-native

English speakers interviewed in English. Our design, however, does not allow us to conclude

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that native speakers say less with an interpreter than without an interpreter. To test that hypothesis a control group should be included in which participants living in their own country are interviewed in their own language by interviewers from their own country.

In the 'next to the interviewer' and 'behind the interviewee' conditions two non-interviewees (interviewer and the interpreter) were present in the interview room, whereas in the other condition only one non-interviewee (the interviewer) was present. We do not think that this has affected the findings. First, our results for the 'next to the interviewer' and 'behind the interviewee' interpreter conditions were similar to those for the telephone interpreter condition in which the interpreter was outside the room (and not visible). Second, the interpreters displayed a neutral demeanour and research has shown that a second interviewer in the room who displayed a neutral demeanour had no effect on eliciting information and cues to deceit (Mann et al., 2012).

Research has shown that non-native speakers' level of proficiency has a significant impact on the ability to deceive and behaviours displayed when lying (DaSilva & Leach, 2013; Evans & Michael, 2014; Evans et al., 2013). It was not the aim of this article to test whether language proficiency has an effect on deception. Replicating this finding implies that we had to recruit many more participants than we did. We recruited non-native English participants with varying levels of English proficiency, as this reflects real life, and randomly distributed them across all non-native English conditions. Thus, level of proficiency could not have affected the findings.

Practical Implications

Those who spoke in their native language through an interpreter gave significantly less detail than the native-English speakers and an equal amount of detail as the participants speaking in a non-native language without an interpreter. This means that interviewees do not

elicit the amount of information they potentially could when interviewed through an interpreter. Interviewers should be aware of this.

The finding that telephone interpreting worked equally well as the other seating positions is important, as telephone interpreting has substantial advantages. The interpreter does not have to be in the room or even in the country where the interview takes place. This facilitates the recruitment of top quality interpreters (it increases the pool of interpreters that can be recruited), reduces the costs (no travel costs are needed), and reduces waiting time for interpreters to arrive. Intriguingly, as outlined in the Introduction, although telephone interpreting is used in several countries, the US AFM 2-22.3 does not mention it (U.S. Department of the Army, 2006). If the results of this experiment could be replicated in future studies, those who are not using telephone interpreting may wish to consider introducing it.

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Appendix 1: Video content

The meeting contained three members, one of which did all the talking and led the meeting. He spoke firstly about the spy device and its technical features. This was followed by the possible locations to host the device, which included the name of the building, location, where specifically the device would be planted and why it was a suitable location. Two locations were discussed in full but before the third location could be discussed the leading member had to leave. The only information given about the third location was the name of the building. This resulted in all members taking a vote on which of the two locations was best to hide the device. The first location was always chosen as the selected site.

Three variations of the video were used for counterbalancing. This was achieved by switching the order in which the three possible locations were presented, meaning that the selected site changed. Additionally, the device was physically different in all three videos. The technical features, however, stayed the same. No differences emerged in total detail and proportion correct detail as a function of video (both $F's < 1.33$, both $p's > .26$).

Appendix 2: Instructions given to truth tellers and liars

Prior to being interviewed, *truth tellers* were informed that the footage they had just watched had disappeared and that the agency had launched an investigation. The agency believed they had a mole working for them and it was of the upmost importance that the investigator knew as much detail about the video as they could. Truth tellers were told to fully cooperate with the investigator, to be completely truthful and to answer the questions to the best of their knowledge.

Prior to being interviewed, *liars* were informed that the footage they had just viewed had disappeared. The agency had launched an investigation and needed to know in as much detail as possible what happened in the video. Liars were told it was their responsibility to recall that information in an interview. The intelligence agency believed they have a mole working for them, which could be the investigator the liars were going to talk to. This means that liars could not disclose all the information truthfully to the investigator. Liars were told the investigator knew the device would be placed somewhere, but that they did not know where. So, above all, liars must *not* reveal the location that was selected to hide the spy device and their objective was to mislead the investigator by using the third location mentioned in the video as the location that was selected to plant the device. The name of the building was presented in the video but nothing else so that liars needed to invent these details. Liars were also told that they needed to mislead the investigator about the device. The investigator knew something about the device but they did not have all the details, and it is not clear what they knew. Because of this, liars needed to provide *some truthful* and *some false* information about the device, which would help them to appear cooperative without having to tell the investigator everything. It was up to the participants to decide how much truthful and false information they would give. Both liars and truth tellers were given as

much time as they needed before the interview to invent their stories and/or think about what

they had seen in the meeting.

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Appendix 3: The interview protocol

Question 1: "I'd like to start with you recalling what happened during the meeting. That is, starting from the moment the video started; please describe to me what happened from that point onwards until the end of the meeting?": Question 2: "I would like you to describe what it looked like from the inside, including the exact location where the device would be planted?"; Question 3: "Why was this site thought to be suitable?"; Question 4: "Moving on to the device, first I would like you to describe for me what the device looked like, that is, all of its physical features?"; Question 5: "Now, please can you tell what the device can do, that is, all of its technical features?"

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Table 1. Participant's age and gender as a function of Interview Condition

	Age				Gender	
	M	*SD*	Median	CI	Male	Female
Native English	28.70	11.69	22.00	27.17,30.23	28%	72%
Non-native English	21.84	2.43	22.00	20.16,23.52	28%	72%
Interpreter: Next to	21.52	2.26	21.00	19.88,23.16	35%	65%
Interpreter: Behind	21.80	2.59	21.00	20.10,23.49	37%	63%
Interpreter: Telephone	21.78	2.49	22.00	20.08,23.47	29%	71%

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Table 2.

Participant's motivation and estimated likelihood of receiving an incentive and interview length as a function of

Interview Condition

	M	*SD*	CI
Motivation			
Native English	4.22	.69	4.04,4.40
Non-native English	3.60	.67	3.40,3.80
Interpreter: Next to	3.88	.76	2.69,4.08
Interpreter: Behind	3.78	.74	3,58,3.99
Interpreter: Telephone	3.96	.71	3.70,4.11
Likelihood of receiving an incentive			
Native English	4.02	1.30	3.67,4.37
Non-native English	4.16	1.36	3.75,4.51
Interpreter: Next to	4.52	1.51	4.15,4.89
Interpreter: Behind	4.90	1.37	4.55,5.32
Interpreter: Telephone	4.69	1.57	4.30,5.07
Interview length			
Native English	9 min, 2.60s	172.39	475.05,610.15
Non-native English	12min, 40.56s	299.39	684.60,833.06
Interpreter: Next to	16min, 4.48s	313.07	891.92,1037.04
Interpreter: Behind	16min, 30.90s	319.17	923.63,1073.40
Interpreter: Telephone	16min, 40.76s	314.54	919.72,1069.49

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Table 3.

Detail spoken through the interpreter findings as a function of veracity and interview condition

	Truth			Lie			Total		
	M	*SD*	CI	*M*	*SD*	CI	*M*	*SD*	*CI*
Total detail through the interpreter									
Native English	62.67	18.01	56.48,68.86	41.30	15.79	35.11,47.49	51.98	19.95	48.43,55.54
Non-native English	40.88	15.22	35.31,46.97	29.83	13.42	23.78,35.87	35.80	15.32	31.45,39.26
Interpreter: Next to	40.34	11.92	36.87,44.52	23.58	9.08	19.40,27.75	31.96	13.48	28.15,35.78
Interpreter: Behind	42.70	16.07	37.30,48.09	26.14	9.18	21.06,31.22	33.91	15.23	30.49,38.35
Interpreter :Telephone	35.80	15.11	33.16,43.84	29.43	11.47	23.76,35.11	34.24	14.15	30.03,37.91
Proportion correct detail through the interpreter									
Native English	.94	.04	.91,.98	.51	.16	.69,.76	.73	.25	.67,.78
Non-native English	.84	.15	.81,.88	.52	.20	.64,.72	.69	.24	.63,.76
Interpreter: Next to	.85	.07	.82,.89	.58	.16	.68,.76	.72	.19	.66,.78
Interpreter: Behind	.87	.11	.83,.90	.56	.18	.68,.76	.71	.21	.65,.77
Interpreter: Telephone	.89	.06	.86,.93	.58	.19	.70,.78	.75	.21	.69,.81

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Table 4.

Participants' impressions of the interpreter (all three interpreter conditions and two veracity conditions combined).

Variable	*M*	*SD*	1-3 (disagree)	5-7 (agree)	*r* with total detail
I found the interpreter interrupting my speech:					
Annoying (1 [no] – 7 [yes])	1.65	.96	93%	1%	-.072
Pleasant (1 [no] – 7 [yes])	3.79	1.67	39%	25%	.092
Distracting (1 [no] – 7 [yes])	2.09	1.27	83%	5%	.065
Disturbing (1 [no] – 7 [yes])	2.07	1.30	82%	4%	.079
Relaxing (1 [no] – 7 [yes])	4.31	1.84	33%	39%	.075
The interruptions by the interpreter made the interview:					
Easier (1 [no] – 7 [yes])	4.09	1.85	29%	35%	-.023
More difficult (1 [no] – 7 [yes])	2.35	1.48	77%	9%	-.050
The interruptions by the interpreter made it:					
Easier for me to remember what happened in the meeting (1 [no] – 7 [yes])	3.57	1.74	45%	25%	.060
More difficult for me to remember what happened in the meeting (1 [no] – 7 [yes])	2.39	1.40	75%	6%	-.140
Whilst the interpreter spoke I was:					
Thinking about what to say next (1 [no] – 7 [yes])	3.54	2.08	50%	29%	-.271*
Thinking about what happened in the meeting (1 [no] – 7 [yes])	4.63	1.79	21%	51%	-.056
Answering the questions in your own language without an interpreter, would affect what you say by saying?					
(1 [less] – 7 [more]	4.40	1. 52	13%	32%	.016

Note * *p* = .001

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[1] The 2 X 5 analysis with the *interviewee's text* revealed almost the same effects as the analysis with the interpreter's text. The only difference was that in this analysis truth tellers in the native-English condition provided a higher proportion of correct detail than truth tellers in the non-native English condition and the 'behind the interviewee' condition, with no other effects emerging. In other words, the difference between the native-English condition and the 'next to the interviewer' condition, significant in the correct detail analysis reported above when using the interpreter text, was no longer significant when we used the interviewee's own text. This suggests that differences in correct information provided by native speakers and those interviewed with an interpreter are, in part, caused by the mistakes made by the interpreters.