"Please tell me all you remember": A comparison between British' and Arab'

interviewees' free narrative performance and its implications for lie detection

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Abstract

We examined how much information British and Arab truth tellers and lie tellers volunteer in an initial free narrative. Based on cultural differences in communication styles we predicted that British interviewees would report more details and more complications than Arab interviewees (Culture main effect). We further predicted that truth tellers would report more details and complications than lie tellers (Veracity main effect), particularly in the British sample (Veracity X Culture interaction effect).

A total of 78 British and 76 Israeli-Arab participants took part. The experiment was carried out at a British university and an Israeli university. Participants carried out a mission. Truth tellers were instructed to report the mission truthfully in a subsequent interview whereas lie tellers were asked to lie about certain aspects of the mission.

The three hypotheses were supported for details, whereas for complications only the predicted Veracity main effect occurred.

Please tell me all you remember: A comparison between British' and Arab'

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Guidelines about good interviewing practice recommend first asking an interviewee to recall everything s/he can remember followed by asking open-ended questions based on the initial free narrative (Fisher, 2010; Griffiths & Milne, 2006; Milne & Bull, 1999). The follow-up questioning part has proven to be difficult even for skilled interviewers. Often practitioners ask too many questions, which sometimes results in interviewers talking more than interviewees (Snook, Luther, Quinlan, & Milne, 2012); and the questions asked are often closed or leading questions (Oxburg, Ost, & Cherryman, 2012; Smith, Powell, & Lum, 2009; Snook & Keating, 2011).

Arguably, the follow-up part becomes easier if an interviewee spontaneously recalls a lot of information in the initial free narrative, because it creates more opportunities for the interviewer to ask adequate follow-up questions, thereby allowing interviewees to provide even more information. In addition, distinguishing truth tellers from lie tellers also becomes easier if the interviewee provides a lot of information, because verbal cues to deceit are more likely to occur when interviewees say more (Vrij, Mann, Kristen, & Fisher, 2007).

There are individual differences in how much information someone spontaneously recalls (Nahari & Pazuelo, 2015; Nahari & Vrij, 2014). For example, participants high on fantasy proneness produced accounts that were richer in detail than participants low on fantasy proneness (Merckelbach, 2004); and richness in detail was positively correlated with social adroitness and self-monitoring, and negatively correlated with social anxiety (Vrij, Akehurst, Soukara, & Bull, 2002). In this article we examined cultural differences in providing free narrative information (between British and Israeli-Arab interviewees) and its impact on lie detection. We

define culture as 'a set of meanings or information that is nongenetically transmitted from one individual to another, which is more or less shared within a population or a group and endures for some generations' (Kashima & Gelfand, 2012, p. 499).

Different theoretical perspectives exist regarding cultural differences in communication styles, but Hall's (1976) distinction between high-context and low-context communication is the most cited perspective (Liu, 2016). High and low context are terms used to describe cultures based on how explicitly they exchange messages and how much the context means in the exchange of information (Hall, 1976). High-context communication carries implicit meanings and relies heavily on context. In high-context cultures, many things are left unsaid, letting the culture explain. Words and word choice become important, since a few words can communicate a complex message very effectively to an in-group member. In contrast, low-context communication relies on explicit verbal communication. In low-context cultures, it is important for the communicator to be explicit in order to be fully understood. This suggests that interviewees in low-context cultures will provide more details (to make the message understood) than interviewees in high-context cultures. This was found in a deception experiment involving pairs of interviewees from Arab, Chinese and British origin (Leal et al., 2018). The British interviewees were more talkative than the Arabs and Chinese interviewees, who did not differ from each other. Memory researchers obtained similar findings. British interviewees reported more details than Arab interviewees from Lebanon (Hope, 2019), and Dutch interviewees reported more details than Ghanaian interviewees (Anakwah, Horselenberg, Hope, Amankwah-Poku, & van Koppen, 2020). Low and high contexts are ends on a continuum (Hall, 1976), but the Dutch (Hornikx & Le Pair) and British (Cho & Cheon, 2015) cultures are considered low-context cultures whereas the Arab

(Kalliny, Ghanem & Kalliny, 2014), Chinese (Kim, Pan, & Park, 1998) and Ghanaian cultures (Gervedink Nijhuis, Pieters, & Voogt (2013) are considered high-context cultures (see also Copeland & Griggs, 1986).

Other characteristics may account for cultural differences in reporting details. To explain why Dutch interviewees reported more details than Ghanaian interviewees, Anakwah et al. (2020) used the collectivistic – individualistic cultures distinction, which is related to the high-context (collectivistic) – low context (individualistic) culture distinction (Hofstede, 1983; Liu, 2016). They argued that, in conversations, parents in individualistic cultures provide more feedback to their children than parents in collectivistic cultures and that these differences in linguistic elaborations are transferred to children and continue in adulthood.

Cultural differences in reporting information can also be predicted via Grice's (1975, 1989) Cooperation Principle. According to Grice, to communicating successfully requires speakers to follow various conversation rules. Grice developed four principles (maxims): 1) Quality (be truthful); 2) Quantity (make communication as informative as is required); 3) Relation (be relevant); and 4) Manner (be perspicuous). Grice's work was developed for the English language, but several studies have shown that these maxims are not universally applied. For 'reporting details' the Maxim of Quantity is particularly relevant. It refers to making in conversations the information provided as informative as required. That is, say not less or more than is required. Research has shown that it is often disregarded by non-English speakers, including Arabic (Al-Qaderi, 2015), Chinese (He, 2012) and Indonesian (Herawati, 2013) speakers who all say less than required according to the Maxim of Quantity.

The low context / individualistic and high context / collectivistic communication distinctions as well as research into Grice's Maxim of Quantity suggests that British interviewees would volunteer more details than Arab interviewees in an initial free narrative. This was not examined by Leal et al. (2018). They employed a standardized nine questions interview protocol and these questions were asked regardless of the interviewees' responses. It gave interviewees much opportunity to report their experiences, including those who initially did not say much. Also, results were reported for the entire interview rather for each question.

   If Arab interviewees volunteer fewer details than British interviewees in an initial free recall, it could have an impact on verbal cues to deceit. Truth tellers typically report more details than lie tellers (Amado, Arce, Fariña, & Vilarino, 2016). Lie tellers may be incapable to report many details that sound plausible (Köhnken, 2004) or may be unwilling to report many details out of fear that such details give possible leads to investigators that they are lying (Nahari, Vrij, & Fisher, 2014). However, if truth tellers report relative few words, differences between truth tellers and lie tellers may become less pronounced, because words are the carriers of verbal cues to deceit (Vrij et al., 2007). This was indeed found by Leal et al. (2018). In all three samples (British, Chinese and Arabs) truth tellers reported more details than did lie tellers, but the difference was more pronounced in the British sample ($d = 1.08$) than in the Chinese ($d = 0.61$) and Arab ($d = 0.59$) samples.

Deception researchers recently started to examine specific types of detail: Complications, common knowledge details and self-handicapping strategies. The research to date showed that, of these three variables, complications is the most diagnostic cue (Vrij & Vrij, 2020). A complication is an occurrence that affects the story-teller and makes a situation more difficult (e.g., "Initially we could not see each

other, each of us was waiting at a different entrance") (Vrij, Leal et al., 2020). Truth

tellers typically report more complications than lie tellers (Leal, Vrij, Deeb, &

Kamermans, 2019; Vrij et al., 2017, 2018a, b, 2019b, 2020a, b). Lie tellers tend to

keep their stories simple (Hartwig, Granhag, & Strömwall, 2007), whilst reporting

complications goes against simple story telling. For truth tellers, complications are

more likely to occur in longer than in shorter narratives, because the more details

someone recalls the more opportunities for complications to arise. Thus, if truth

tellers do not volunteer many details, complications are less likely to distinguish truth

tellers from lie tellers.

Hypotheses

The following hypotheses were tested:

- British interviewees will report more details and more complications than Arab

interviewees (Culture main effect, Hypothesis 1)

- Truth tellers will report more details and complications than lie tellers (Veracity

main effect, Hypothesis 2), particularly in the British sample (Veracity X Culture

interaction effect, Hypothesis 3).

Method

Participants

For the British sample, a total of 78 University students and staff members (21

males and 57 females) took part in the study. All identified themselves as being

British. Their average age was $M = 27.58$ years ($SD = 1.73$). For the Arab sample, a

total of 76[i] University students took part (21 males, 47 females, one non-binary

person and seven did not say). All of them were Israeli-Arabs. Their average age was

$M = 21.24$ years ($SD = 1.71$). The British participants were significantly older than

the Arab participants, $F(1, 152) = 23.87$, p < .001, $d = 3.69$ (3.12, 4.14), but the two

samples did not differ in gender distribution, X^2 (2, n = 147) = 1.42, p = .493. To control for age differences, we included Age as a covariate in the hypotheses-testing analyses.

Experimental conditions

Participants were allocated randomly to one of the Veracity conditions. Thirty-six British and 38 Arab participants were allocated to the truth condition and 42 British and 38 Arab participants were allocated to the lie condition.

Procedure

The study took place at two universities, a British university (where British participants took part) and an Israeli university (where Arab participants took part). It was our aim to replicate Vrij, Mann, Leal, Deeb, & Fisher (2020)[ii] with Arab participants, but due to a miscommunication, the two-question protocol used in the British sample became a three-question protocol in the Arab sample. Only the first question, the open invitation question, was the same in the British and Arab samples and that is the only question used in this article. Since the second question (British sample) and second and third questions (Arab sample) always came after the open invitation question, the different protocols used in the British and Arab sample cannot have influenced the answer to the open invitation question, the data we report here. The experiment was carried out in English for the British sample and in Arabic for the Arab sample. We report the English version below. It applied to both the British and Arab samples except the information about "the voucher" which was left out for the Arab sample by mistake.

Participants had responded to an advert entitled "Sketchy Stories: Whose side are you on?" The advert explained that the experiment would involve going on a short mission and being interviewed (which would be audio-recorded). They would be

asked to lie or tell the truth about the mission. Participation would take 45-60 minutes for which they would receive £10 (or the equivalent in shekels). At the UK university, participants were also promised entry into a draw for vouchers if they could successfully convince an interviewer. The draw information was left out in the Arab sample by mistake (for both truth tellers and lie tellers).

On arrival participants met the experimenter who gave them the Participant Information Sheet to read. Participants were then sent on a mission which involved going to a cafeteria within a nearby university building, meet an 'agent', exchange a code, receive a package, and return. The experimenter read out instructions which explained to the participant where to go, how to identify the agent and to confirm identification by asking the agent a code question to which the agent should reply a code response. After confirming the agent's identity, the participant was to take a seat and the agent would give them the package, a tracking device. The participant was then told to return to the experimenter with the device. The experimenter then explained that on return s/he would be interviewed by one of two agents, either one from the participant's team or from another, hostile, team. Further instructions about this interview would be given on their return. The experimenter then asked the participant to sign an Informed Consent Form. On return the participant gave the experimenter the device and received the following instructions depending on which group s/he had been assigned to:

Truth tellers: "You are now going to be interviewed. The interviewer is on your team. Therefore, tell the interviewer everything that you can remember about your mission in as much detail and as fully as you can. You need to convince the interviewer you are telling the truth *to be entered into the draw* (Italic part in the UK only).

Furthermore, if you do not convince the interviewer, you will be asked to write a statement about your mission. You may have some time to prepare if you wish."

Lie tellers: "You are now going to be interviewed. The interviewer is not on your team. Therefore, you need to mislead the interviewer about everything to do with the exchange. The interviewer knows you just went out on a mission locally, but you need to lie about the package, the agent you received it from, and the location where you met and received it – so you need to change these details of your mission. You need to convince the interviewer you are telling the truth *to be entered into the draw* (Italic part in the UK only). Furthermore, if you do not convince the interviewer, you will be asked to write a statement about your mission. You may have some time to prepare if you wish".

Participants were then given as much preparation time as they wanted. When ready for the interview the experimenter gave the participant a brief pre-interview questionnaire. In the pre-interview questionnaire, the truth tellers and lie tellers rated their thoroughness of preparation via three items: (1) shallow to (7) thorough; (1) insufficient to (7) sufficient; and (1) poor to (7) good. The answers to the three questions were averaged (Cronbach's alpha = .84) and the variable is called 'preparation thoroughness'. They were also asked whether they thought they were given enough time to prepare themselves with the following item: 'Do you think the amount of time you were given to prepare was: (1) insufficient to (7) sufficient. This variable is called 'preparation time'. Finally, they were asked how motivated they were to perform well during the interview: (1) not at all motivated to (5) very motivated. After completing the pre-interview questionnaire, participants were taken into the interview room and introduced to the interviewer.

The interview.

The interviewer (British in the UK and Arab in Israel) explained that the interview would be audio-recorded and then switched on the recorder. The interviewer started by saying "I will interview you about the mission you just completed. Depending on your answers, we may decide to interview you a second time". This was followed by the following free narrative request: "Please tell me in as much detail as possible everything you did from the moment you left this building to the moment you came back".

After the interview the participant was taken back to the experimenter who gave him/her a post-interview questionnaire to complete.

Post-interview questionnaire.

Participants were asked to complete the post-interview questionnaire truthfully in their own native language. The questionnaire measured post-interview motivation, truthfulness and rapport. Participants were first asked to indicate how motivated they were to perform well during the interview: (1) not at all motivated to (5) very motivated. They were then asked to indicate the extent to which they told the truth during the interview on an 11-point Likert scale ranging from 0% to 100%. Rapport with the interviewer was measured via the nine-item Interaction Questionnaire (Vallano & Schreiber Compo, 2011). Participants rated the interviewer on 7-point Likert scales ranging from [1] not at all to [7] extremely on nine characteristics such as *smooth*, *bored*, *engrossed*, and *involved* (Cronbach's alpha = .82). On completion of the post-interview questionnaire, the participant was thanked, fully debriefed and given £10 (or equivalent in shekels) for taking part. All participants were told that they had convinced the interviewer and that they did not have to write a statement. Only the British participants were told that they were entered into the draw for the vouchers.

Coding.

Detail. The UK interviews were transcribed; the Israeli interviews were translated into English and transcribed. Coding occurred from the English transcripts. A coder, who was blind to the Veracity condition, coded each detail in the interview. A detail is defined as a unit of information about the mission the interviewee allegedly had undertaken. For example, the following sentence has seven details: "<u>I</u> <u>left</u> the <u>building</u>, I went <u>behind </u>this building to the <u>traffic lights</u>, I <u>waited</u> first because they were <u>red</u>" and the following sentence has five details: "<u>I</u> <u>walked</u> <u>towards</u> <u>him</u> and found out he was really the one who had the <u>bag</u>." A second coder, who was also blind to the Veracity condition, coded a random sample of 40 transcripts. Inter-rater reliability between the two coders, using the two-way random effects model measuring consistency, was good, ICC = .84.

One coder, who was blind to the Veracity condition, coded the number of complications in all transcripts. Repeated complications were not coded. Example of complications are (a) "At first I thought it was a cafeteria but then it turned out that it wasn't", (b) "I came out the building the wrong way" and (c) "Then I realised that I was waiting at the wrong place".

A second coder, who was also blind to the Veracity condition, coded a random sample of 39 transcripts. Inter-rater reliability between the two coders, using the two-way random effects model measuring consistency, was very good (Single Measures, Intraclass correlation coefficient, ICC = .91).

Results

Questionnaire Variables

Preparation thoroughness, preparation time, pre-interview motivation and post-interview motivation

Four 2 (Culture) X 2 (Veracity) ANOVAs were carried out with preparation thoroughness, preparation time, pre-interview motivation and post-interview motivation as dependent variables. A significant Culture main effect emerged for pre-interview motivation, $F(1, 150) = 9.75$, $p = .002$, $d = 0.50$ (0.17,0.82). The British participants were more motivated ($M = 4.45$, $SD = 0.65$, 95% CI[4.26, 4.65]) than the Arab participants ($M = 4.01$, $SD = 1.06$, 95% CI [3.83, 4.20]). We included pre-interview motivation as a covariate in the hypotheses-testing analyses to control for these differences in motivation. A significant Culture main effect also emerged for post-interview motivation, $F(1, 150) = 5.88$, $p = .017$, $d = 0.40$ (0.07,0.71). The British participants were more motivated ($M = 4.17$, $SD = 0.74$, 95% CI[3.96, 4.36]) than the Arab participants ($M = 3.82$, $SD = 1.00$, 95% CI [3.62, 4.02]). We included post-interview motivation as a covariate in the hypotheses-testing analyses to control for these differences in motivation. None of the other main or interaction effects were significant, all $F's < 2.42$, all $p's > .121$.

Preparation thoroughness and preparation time were measured on 7-point Likert scales and the two motivation scores on 5-point Likert scales. The total mean for preparation thoroughness was $M = 4.95$ ($SD = 1.39$), suggesting that participants assessed their preparation thoroughness as reasonably good. The total mean for preparation time was $M = 4.99$ ($SD = 1.72$), indicating that participants thought they were given reasonable time to prepare themselves. The total means for pre-interview motivation ($M = 4.23$, $SD = 0.90$) and post-interview motivation ($M = 3.99$, $SD = 0.89$) showed that participants were motivated.

Percentage of truth telling

An ANOVA utilising a 2 (Culture) X 2 (Veracity) between-subjects design was carried out with percentage of truth telling as dependent variable. A main effect

for Veracity occurred, $F(1, 150) = 332.20$, $p < .001$, $d = 2.90$ (2.41,3.31), with truth tellers ($M = 96.08$, $SD = 15.24$, 95% CI [90.89.,101.43]) reported to have been more truthful than lie tellers ($M = 29.38$, $SD = 28.34$, 95% CI [24.44,34.60]). The Culture main effect, $F(1, 150) = 0.002$, $p = .967$, $d = 0.06$ (-0.25,0.38), and Culture X Veracity interaction effect, $F(1, 194) = 5.01$, $p = .026$, $\eta_p^2 = .03$, were not significant. Note that truth tellers reported to have been considerably more truthful than lie tellers which shows that the manipulation was successful.

Rapport with the interviewer

An ANOVA was carried out with Culture as the only factor and rapport as dependent variable. The effect was not significant, $F(1, 152) = 0.06$, $p = .803$, $d = 0.04$ (-.27,.36). The total mean score for Rapport, measured on a 7-point Likert scale, was $M = 5.45$ ($SD = 0.93$), indicating that the participants thought they had good rapport with the interviewer.

Correlations between the variables

The two dependent variables, complications and details, showed a positive and reasonably strong correlation, $r(154) = .626$, $p < .001$. The correlations between these two dependent variables and the questionnaire measures are reported in Table 1. The positive correlation between Age and details was moderate ($r = .41$); all other correlations were low ($r = < .20$).

Table 1 here

Hypothesis Testing

The total sample of participants reported on average $M = 20.03$ ($SD = 15.34$) details and $M = 0.97$ ($SD = 1.79$) complications. A MANCOVA utilising a 2 (Culture) x 2 (Veracity) between-subjects design was carried out with details and complications as dependent variables. Age, Pre-interview motivation and Post-interview motivation

were the covariates. At a multivariate level, significant main effects occurred for

Culture, $F(2, 146) = 19.05$, $p < .001$, $\eta_p^2 = .21$, and Veracity, $F(2, 146) = 20.45$, $p <$

.001, $\eta_p^2 = .22$. The Culture x Veracity interaction effect was also significant, $F(2,$

$146) = 7.29$, $p = .001$, $\eta_p^2 = .09$. At a multivariate level the Age covariate was

significant, $F(2, 146) = 5.38$, $p = .006$, $\eta_p^2 = .07$, but the Pre-interview motivation,

$F(2, 146) = 1.95$, $p = .146$, $\eta_p^2 = .03$ and Post-interview motivation, $F(2, 146) = 1.58$,

$p = .209$, $\eta_p^2 = .02$, covariates were not.[iii]

At a univariate level, a significant Culture effect occurred for details, $F(1,$

$147) = 21.76$, $p < .001$, $d = 0.85$ (0.50,1.16) but not for complications, $F(1, 147) =$

0.15, $p = .703$, $d = 0.05$ (-.27,0.37). British interviewees ($M = 25.94$, $SD = 18.62$, 95%

CI [22.42,27.92]) reported more details than Arab interviewees ($M = 13.96$, $SD =$

7.11, 95% CI [12.73,18.28]). This supports Hypothesis 1 for details.

At a univariate level, significant Veracity effects occurred for details, $F(1,$

$147) = 41.16$, $p < .001$, $d = 0.88$ (0.53,1.20) and complications, $F(1, 147) = 16.42$, $p <$

.001, $d = 0.65$ (0.31,0.96). Truth tellers ($M = 26.45$, $SD = 18.64$., 95% CI

[23.75,29.13]) reported more details than lie tellers ($M = 14.09$, $SD = 7.77$, 95% CI

[11.65,16.83]). Truth tellers ($M = 1.54$, $SD = 2.21$, 95% CI [1.17,1.95]) also reported

more complications than lie tellers ($M = 0.44$, $SD = 1.04$, 95% CI [0.07,0.82]). This

supports Hypothesis 2.

At a univariate level, the Culture X Veracity interaction effect was significant

for details, $F(1, 147) = 13.88$, $p = < .001$, $\eta_p^2 = .09$, but not for complications, $F(1,$

$147) = 2.45$, $p = .119$, $\eta_p^2 = .02$. The simple Veracity details effects for the British and

Arab participants separately are reported in Table 2. We report in Table 2 the results

for complications for information only.

Truth tellers reported significantly more details than lie tellers in both the British and Arab samples, but the difference was more pronounced in the British sample. This supports Hypothesis 3. Table 2 shows that the difference is caused by the truth tellers. The British truth tellers reported considerably more details than the Arab truth tellers, $F(1, 72) = 32.26$, $p < .001$, $d = 1.32$ (0.80, 1.80); the difference between British and Arab lie tellers was less pronounced, $F(1, 78) = 8.80$, $p = .004$, $d = 0.66$ (0.20, 1.10)

Table 2 about here

Discussion

British interviewees reported more details than Arab interviewees, replicating Leal et al. (2018) and Hope (2019). It was also in alignment with cross-cultural research into Grice's (1975, 1989) Maxim of Quantity principle. We predicted this result based on cultural differences in communication styles and we introduced the low-high context cultures and individualistic – collectivistic cultures distinctions. Since these theoretical approaches converge to the same hypothesis that British participants will provide more details than Arab participants, our experiment does not allow us to conclude which approach best accounts for the effect. However, this was not the purpose of the experiment, which examined the implications of underreporting on the ability to detect deceit.

Regardless of the reason for the underreporting of Arab interviewees compared to British interviewees, we think it is important that interviewers are aware that cultural differences in reporting details seem to exist. This becomes particularly important when interviewing interviewees who come from a cultural background where underreporting exists, because interviewers typically believe that lack of details is an indicator of deceit (Strömwall, Granhag, & Hartwig, 2004). In other words, if

truth tellers do not volunteer many details (such as the Arab interviewees in the present experiment), many of them may be incorrectly classified as lie tellers.

No difference between British and Arab interviewees emerged in reporting complications. This was unexpected and may have been caused by the low occurrence of complications overall ($M = 0.97$, $SD = 1.79$), resulting in a floor effect. The low occurrence of complications may have been the result of the limited number of details in the free narratives overall ($M = 20.03$, $SD = 15.34$). In other words, if the trend of British interviewees reporting more details than Arab interviewees continues in a follow-up questioning phase, differences in complications may eventually emerge.

Truth tellers reported more details and complications than lie tellers, but the former effect was qualified by the interaction between Culture and Veracity. The effect was more pronounced in the British sample than in the Arab sample. This finding replicated Leal et al.'s (2018) findings. We think that the Veracity difference in details was most pronounced in the British sample because the British truth tellers in particular reported more details than the Arab interviewees. More cues to deceit emerge in longer than in shorter interviews (DePaulo et al., 2003), in part because words are the carriers of verbal cues to deceit (Vrij et al., 2017). Of course, we should take into account that there are individual differences between interviewees from the same background, but, as a general rule, it may be desirable to encourage Arab interviewees in particular to say more, because it would facilitate distinguishing between truth tellers and lie tellers and also would make the follow-up part of the interview easier.

Methods to encourage interviewees to report more details that also facilitate truth/lie distinctions (Vrij, Fisher, & Blank, 2017), include the use of a Model Statement (Leal, Vrij, Warmelink, Vernham, & Fisher, 2015; Vrij, Leal, & Fisher,

2018), the Ghostwriter method (Leal et al., 2019) and the use of drawings (Vrij et al., 2018a; Vrij, Mann et al., 2020). However, these are all introduced and tested in low-context cultures. Whether they are equally effective cross-culturally is an empirical question worth investigating. The same point applies to the verbal cues details and complications, which are also all introduced and tested in low-context cultures. It is worth investigating whether different verbal cues emerge in different cultures (Taylor, Larner, Conchie, & Menacere, 2017; Taylor, Larner, Conchie, & van der Zee, 2014).

Some methodological issues related to cross-cultural research are worth mentioning. Carrying out cross-cultural experimental research is challenging, because it is impossible to keep all factors under control. For example, details of the British and Arab missions (route taken, cafeteria used, agent used) differed somewhat from each other. We could not avoid this because the study was carried out in two different countries. The interviewers (British or Arab) also differed, the result of interviewing someone in his/her native language. We think that these differences have not affected the results. The missions in both countries were similar to each other; and British and Arab interviewees reported a similar level of rapport with their interviewers. Although the motivation levels differed between British and Arab interviewees, this has not affected the hypotheses-testing because we included motivation as a covariate in the analyses. Also, the motivation levels itself were not predictive of participants' verbal responses.

Coding took place on the English transcripts which means that an extra step was required for the Arab interviews: Translation and transcribing (Arabic interviews) versus just transcribing (English interviews). The extra step may have resulted in loss of information which may have affected the results. To avoid this, we have taken great care in selecting a professional who is experienced in translating into English

and transcribing. We asked an Arab colleague to listen to a random interview and translation of that interview. The colleague was very satisfied with the professional's work.

Our attempt to replicate the UK study in Israel was not flawless. To motivate the British participants to be convincing they were told that they would be entered in a prize draw if they appeared convincing in the interview. Due to an oversight from us, the prize draw did not take place for Arab participants. This could be the reason why the British participants reported to have been more motivated than the Arab participants. In addition, the British sample was somewhat older than the Arab sample, perhaps because the British sample included a mixture of students and staff members whereas the Arab sample only included students. Although Age was positively correlated with reporting details, we controlled for this effect when testing the hypotheses by including Age as a covariate in the analysis. The interview protocols for the British and Arab interviewees differed as well, which is why we could only analyse the data for the first question, which was identical for both samples. These differences in Procedures between the British and Arab parts of the experiment are unfortunate and reflect the challenging nature of carrying out cross-cultural research. There were two main problems. First, there were too many layers involved. The British researchers instructed the (Jewish) Israeli researchers who instructed the Arab experimenters who instructed the Arab interviewers. Second, the British and Israeli researchers do not speak or read Arabic and therefore could not check how the Arab part of the experiment was carried out during data collection.

These limitations make it worthwhile to relate our findings to other findings in this research area, because replications of findings could be an indicator of robustness. Although the number of studies is limited, all available studies led to the

same outcome: Arab interviewees seem to underreport compared to British interviewees (see also Hope [2019] and Leal et al. [2018]); perhaps as a result of that, verbal cues to deceit seem to be less diagnostic in Arab interviewees than in British interviewees (see also Leal et al. [2018]).

In conclusion, verbal cues that emerge as veracity indicators in Western interviewees (details and complications) may not work as well in Arab interviewees. Practitioners should be made aware of this. We suggested that this is due to Arab interviewees' tendency to underreport and researchers should concentrate on developing methods that elicit more details and verbal cues to deceit in Arab participants.

Availability of data

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Declaration of conflicts of interest

Aldert Vrij has declared no conflicts of interest

Sharon Leal has declared no conflicts of interest

Samantha Mann has declared no conflicts of interest

Zarah Vernham has declared no conflicts of interest

Gary Dalton has declared no conflicts of interest

Ethical approval

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee [insert as appropriate] and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed consent

Informed consent was obtained from all individual participants included in the study

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[i] Originally 107 participants took part. Two lie tellers did not describe a mission and were therefore deleted from the sample. In 29 interviews the three questions were not asked one by one but were asked as one question. We could not use these interviews either.

[ii] This is a subsample of the dataset presented in Vrij, Mann et al. (2020). We only included the British citizens (and left out the participants from African, Arab, Asian

and European origins). The details and complications are from the initial phase in that article, 'description of route to and from the location' and 'total details of experiences at the location' combined.

[iii] At a univariate level the Age covariate effect was significant for details, $F(1, 147) = 9.47$, $p = .002$, $\eta_p^2 = .06$, but not for complications, $F(1, 147) = 0.90$, $p = .344$, $\eta_p^2 = .01$. For the Pre-motivation covariate, the details effect, $F(1, 147) = 0.00$, $p = .991$, $\eta_p^2 = .00$, and the complications effect, $F(1, 147) = 2.45$, $p = .120$, $\eta_p^2 = .02$ were not significant. For the Post-motivation covariate, the details effect, $F(1, 147) = 3.01$, $p = .085$, $\eta_p^2 = .02$, and the complications effect, $F(1, 147) = 0.53$, $p = .468$, $\eta_p^2 = .004$, were not significant.

Table 1. *Correlations between the Dependent Variables Details and Complications and*

   Questionnaire Measures

	Details		Complications	
	r	*p*	*r*	*p*
Age	.41	< .001	.150	.064
Gender	-.02	.791	-.04	.667
Preparation thoroughness	-.02	.885	.11	.186
Preparation time	.08	.348	.14	.088
Pre-interview motivation	.16	.045	.16	.049
Post-interview motivation	.19	.020	.11	.192
Rapport	.19	.017	.17	.034

Note. All correlations are Pearson correlations, except the Gender correlations which are
Spearman correlations.

Table 2. *Statistical Results as a Function of Veracity*

	Truth		Lie		F	p	Cohen's d	
	M (*SD*)	95% CI	*M* (*SD*)	95% CI	*F*	*p*	*d*	95%CI
British participants								
Details	37.03 (20.82)	[30.77, 38.88]	16.43 (08.98)	[11.94, 19.10]	33.83	< .001	1.32	[0.81, 1.79]
Complications	01.89 (02.52)	[01.13, 02.30]	00.26 (00.63)	[-0.35, 00.69]	16.41	< .001	0.92	[0.44, 1.37]
Arab participants								
Details	16.42 (07.97)	[14.17, 21.93]	11.50 (05.16)	[09.15, 16.77]	10.21	.002	0.73	[0.26, 1.19]
Complications	01.21 (01.86)	[00.84, 01.96]	00.63 (01.34)	[00.16, 01.26]	02.42	.124	0.36	[-0.10, 0.81]