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Is the Behaviour Analysis Interview Just Common Sense?

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Summary: The Behaviour Analysis Interview (BAI) is an interview protocol developed by John E. Reid and Associates to generate different reactions in guilty and innocent suspects. Even though research has questioned the usefulness of the BAI protocol (Vrij et al., 2006), many law enforcement officials are trained in the BAI every year. Two studies were conducted to examine whether the BAI recommendations are in line with lay participants' beliefs about the correlates of guilt or innocence. In Study 1, the participants read the transcriptions of two BAIs and had to indicate which one corresponded to the guilty suspect. Virtually all the participants who were familiar with the BAI protocol were successful in this task; however, more naïve participants (69%) than expected by chance were also able to identify the guilty interview. In Study 2, a questionnaire was designed to examine whether those behaviours that the BAI proponents maintain are guilt indicators were judged by lay participants as more indicative of guilt than those behaviours that the BAI proponents maintain that are indicators of innocence. The results strongly supported this prediction. Not only are the BAI recommendations inaccurate, but they are also in line with what people already believe. Apparently, little new can be learned by attending training seminars on the BAI. Law enforcement personnel should be taught interview protocols grounded on sound science instead of unsupported common-sense beliefs. Copyright © 2010 John Wiley & Sons, Ltd.

IS THE BEHAVIOUR ANALYSIS INTERVIEW JUST COMMON SENSE?

Common sense was defined by Gregory (2004) as those 'practical attitudes and widely accepted beliefs which may be hard to justify, but which are generally assumed to be reliable' (p. 193). In a similar vein, Kelley (1992) defined commonsense psychology as 'common people's ideas about their own and other person's behaviour and about the antecedents and consequences of that behaviour' (p. 4).

The relationship between common-sense notions about psychological phenomena and scientific psychology has been the subject of much debate. Indeed, as Kelley (1992) convincingly argued, there is interplay between common-sense psychology and scientific psychology. However, this does not mean that common-sense notions and empirically-based psychological knowledge are the same. Kelley (1992) observed that while psychological science has often been criticized on the grounds of studying the 'obvious' (these common sense notions that all the members of a culture share), it is not clear what the 'obvious' is. For example, it has been observed that opposite findings can be equally judged to be 'the obvious' (see Farr, 1981; Kelley, 1992). This finding also serves to illustrate another fact underlined by Kelley—that common-sense beliefs are often self-contradictory (e.g., 'birds of a feather flock together' vs. 'opposites attract'). Finally, Kelley (1992) also notes that what is 'obvious' changes over time (for example, today it might be hard to believe that homosexuality was once considered a disease because today it is *obvious* that homosexuality is not a disease, but not many years ago it was *obvious* that homosexuality was a disease; see Szasz, 2007). In summary, common-sense notions often differ from empirically-based psychological knowledge.

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Some scholars have explored the differences between common-sense approaches to psychological phenomena and the empirically-based approaches of scientific psychology (e.g., Flagel & Gendreau, 2008; Lilienfeld and Landfield, 2008). These scholars assign more systematic and rigorous procedures to scientific inquiry than to everyday common-sense thinking during the gathering, the analysis and the interpretation of the evidence. Common-sense approaches are characterized by heuristic processing and defective strategies, and are prone to error. Scientific psychology is therefore superior to common-sense psychology, and decisions based on faulty common-sense notions are more likely to be wrong.

An area in which the over reliance on common-sense psychology to the detriment of scientific psychology is particularly upsetting is the legal context, since wrong decisions can result in severe miscarriages of justice. More than one century ago, both Stern (1902) in Germany and Münsterberg (1908) in the U.S. stressed the relevance of empirical psychological research for the judiciary. However, legal professionals are still reluctant to incorporate psychological knowledge, and continue being attached to their common sense beliefs about human behaviour. For instance, the Supreme Court of Canada considers that assessing credibility is a matter of common sense (Porter & ten Brinke, 2009), and there is a heated debate in the U.S. over the change in police identification procedures based on empirical psychological research (Spinney, 2008).

The police are by no means immune to faulty common-sense notions tinting their procedures. As Snook (2008) stated in the introduction to the special issue of *Criminal Justice and Behaviour* (vol. 35, issue 10, October 2008) devoted to pseudoscientific policing procedures and beliefs, 'within the police there is widespread promotion and use of questionable psychologically rooted practices as well as the acceptance of erroneous beliefs about police work' (p. 1211). Snook also observed that 'this is highly disconcerting because of the potential for severe consequences (e.g.,

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miscarriages of justice) when pseudoscientific practices are employed by the police or when erroneous beliefs guide the consequential decision making that is inherent in police work' (Snook, 2008, p. 1211). As stated by Aamodt (2008), it is disturbing 'that not only are many of these beliefs not based on an empirical source, but many are perpetuated in spite of evidence to the contrary' (p. 1231).

One police procedure not explicitly covered in the *Criminal Justice and Behaviour* special issue (but see Kassin's [2008] Myth 1 for a brief mention) is John E. Reid and Associates' Behaviour Analysis Interview (BAI; Inbau, Reid, Buckley, & Jane, 2004[1]). In this report we will show that the BAI is an example of common-sense beliefs that have pervaded the police. However, it is marketed as specialized and useful knowledge of a superior kind, despite empirical research showing that the BAI notions are contrary to scientific evidence (Vrij, Mann, & Fisher, 2006).

The Behaviour Analysis Interview (BAI)

The BAI is a kind of interview offered by the U.S. firm John E. Reid and Associates to differentiate between guilty (deceptive) and innocent (truthful) suspects during an initial interview. The potential for the BAI protocol is great because it could become a useful tool for police officers. Indeed, despite the importance of deception detection for police work (Bull, 1989; Garrido & Masip, 1999; Vrij & Mann, 2005), recent meta-analyses and reviews show that the accuracy of law enforcement personnel in identifying truths and lies is far from impressive. Police officers are not more accurate lie and truth detectors than lay observers, and their overall accuracy clusters around 55%, 50% being chance accuracy and 100% perfect accuracy (Aamodt & Custer, 2006; Alonso, Masip, & Garrido, 2009; Bond & DePaulo, 2006; Vrij, 2008). These findings suggest that scientifically-based standardized procedures to detect deception should be developed and taught to police officers and other professionals.

The BAI could become one such procedure, as it is an interview protocol aimed at generating observable differences between liars (guilty suspects) and truthtellers (innocent suspects). More specifically, the BAI contains a few *background questions* to collect biographical data from the suspect, a number *investigative questions*, which are specific for every case under investigation and are asked to collect information about the suspect's involvement in the crime, and 15 *behaviour-provoking questions*, which can be adapted to any case and are specifically designed to evoke distinct reactions in innocent and guilty individuals (see the Appendix). According to BAI proponents, the difference between guilty and innocent suspects' reactions in response to the behaviour-provoking questions would be a result of the former (liars) feeling less comfortable than innocent suspects during the interview, being less willing to help the police during the interview, and not showing an appropriate level of concern about being a suspect. Innocent suspects (truthtellers) are thought by Inbau et al. (2004) to be helpful and to have the expectation of being exonerated (see Vrij, 2008). Each specific BAI question has a specific label (e.g., purpose, history/you, and so forth; see the Appendix).

John E. Reid and Associates are marketing expensive training seminars in the Reid technique of criminal investigation, which includes the BAI. In its website, the firm asserts that 'more than 500 000 professionals in the law enforcement and security fields have attended our interview and interrogation training programs since they were first offered in 1974' (http://www.reid.com/training_programs/interview_overview.html; last accessed: November 30, 2009). Colwell, Miller, Lyons, and Miller (2006) surveyed 109 law enforcement officers in Texas about their deception detection training; 9.7% of these officers said that they had received some initial training in the Reid technique. Among those who had received some subsequent training, 27.0% said that it had been in the Reid technique. However, these estimates might be conservative, because 35.5% of the officers could not recall in which particular technique they had been trained initially, and 21.6% could not recall the technique in which they had been trained subsequently. Presumably, some of these 'forgetful officers' had also been trained in the Reid technique. More recently, Kassin et al. (2007) surveyed 688 U.S. and Canadian police investigators. Among them, 517 said that they had been trained on how to conduct interviews or interrogations. Among these, 11% said that the training had been in the Reid technique, although Kassin et al. warned that 'it is important to note, however, that trained respondents may not have recalled the specific type of training they had received' (p. 388). In any case, the Reid technique is the most prevalent method of police interrogation training in the U.S. (Kassin et al., 2007). For this reason, it would be worrisome if the BAI could not accurately differentiate between guilty and innocent suspects.

Empirical research on the Reid technique

The BAI is also described in Inbau et al.'s (2004) book *Criminal Interrogation and Confessions*, which is currently in its fourth edition. The book is a manual for law enforcement or private security personnel that focuses mainly on three specific topics (which are also part of the Reid technique): (a) behavioural indicators of deception, (b) the BAI (which is also used to detect deception, as indicated earlier), and (c) the nine-step interrogation technique. These three topics are not independent. If, after observing Inbau et al.'s indicators of deception, or after observing the suspect's reactions to the BAI, the officer thinks that the suspect is lying, then he may decide to submit that suspect to the nine-step interrogation technique. The purpose of this kind of interrogation is to obtain a confession from the suspect, and has been severely criticized by social scientists on the grounds of being psychologically coercive, having the potential of yielding false confessions (see Kassin, 2005, 2008; Kassin & Gudjonsson, 2004; Masip & Garrido, 2006). Therefore, if Inbau et al.'s indicators of deception or the interviewee's reactions to the BAI questions are not good indicators of truthfulness (or innocence) and

[1]The fourth edition of this book was published in 2001 by Aspen (Gaithersberg, Maryland). However, we used the 2004 reprint by Jones and Bartlett Publishers (Sudbury, Massachusetts). The page numbers cited elsewhere in the text correspond to Jones and Bartlett reprint.

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deceptiveness (or guilt), then the risk of getting false confessions that can end up with innocent suspects being convicted is heightened.

However, Inbau et al.'s (2004) deception indicators and the BAI have been seriously questioned by deception scholars. Thus, for instance, Blair and Kooi (2004) compared Inbau et al.'s deception cues with the behaviours that do discriminate significantly between truths and lies according to DePaulo, Lindsay, Malone, Muhlenbruck, Charlton, and Cooper's (2003) exhaustive meta-analysis, and they hardly found any coincidence. Specifically, out of nine nonverbal indicators of deception of the Reid technique (posture changes, a decrease in illustrators, adaptors, feet/leg movements, decreased eye contact, short talking time, long response latency, slow speech rate, and low pitch), only three (illustrators, adaptors, and pitch) were actually associated with veracity in DePaulo et al.'s meta-analysis, and one of these (pitch) discriminated in the direction opposite to the Reid technique prediction (DePaulo et al. found that pitch increased during deception). DePaulo et al. (2003) also examined moderator variables such as motivation and transgression. Suspects in criminal cases are often very motivated to be successful with their lies and they lie to deny their involvement in a transgression. DePaulo et al. found that when the senders were highly motivated, only three (feet/leg movements, eye contact, and pitch) of seven (in these analyses DePaulo et al. did not report any data for posture changes or illustrators) Reid technique cues discriminated significantly between truths and lies, and for two of them (feet/leg movements, and pitch) the direction of the effect was opposite to the Reid technique predictions. A similar picture emerged for transgressions, out of six Reid technique behaviours (no data were reported for posture changes, illustrators, or pitch), only two (feet/leg movements and speech rate) showed significant effects, but these were both opposite in direction to the Reid technique predictions (see Blair & Kooi, 2004). In short, the behavioural indicators of deception espoused by Inbau et al. do not coincide with the scientific evidence accumulated over several decades of empirical research.

In view of this observation, findings such as those of Kassin and Fong (1999) can hardly be surprising. They found that observers' accuracy in judging the veracity of truthful and deceptive videotaped statements was *lower* if the observers had previously been trained to detect deception using Inbau et al.'s cues than if they had not been trained. Mann, Vrij, & Bull (2004) asked police officers to make veracity judgments and indicate the cues that they had used in making those judgments. They found that the more Inbau et al.'s cues the officers mentioned the lower their accuracy in judging truths (no effect was found for lies), i.e., using Inbau et al.'s cues resulted in the misclassification of truths as lies. In another study, Vrij (2005) found empirical evidence contrary to Inbau et al.'s prediction that innocent suspects are more cooperative with the police than guilty suspects. This is important, because this prediction is one of the foundations of the BAI (see Vrij, 2008).

The BAI itself has also been criticized (Vrij, 2008). To our knowledge, only three BAI studies have been published to date (Blair & McCamey, 2002; Horvath, Jayne, & Buckley, 1994; Vrij et al., 2006), although the first two are fraught with serious methodological problems. In Horvath et al.'s (1994) field study, 60 video recorded BAI interviews (30 showing suspects thought to be truthful [innocent] and 30 showing suspects thought to be deceptive [guilty]) collected by five experienced BAI interviewers were shown to four observers who were also BAI experts. The observers had to judge whether each suspect was truthful or deceptive. Across all four evaluators, 78% of the truthful suspects were correctly judged as truthful, 8% as deceptive and 14% as inconclusive. As for the deceptive suspects, 66% of them were correctly judged as deceptive, 17% as truthful and 17% as inconclusive. Unfortunately, the methodological limitations of this study are so serious that they cast doubt on the results. The small number of both interviewers and observers questions the representativeness of these samples and hence the generalizability of the findings. In addition, the interviewers and observers were all BAI experts, and it is uncertain how the observers would have performed had they been shown the interviews of less experienced BAI interviewers, or had they themselves been somewhat less knowledgeable about the BAI interview (Horvath et al., 1994; Vrij, 2008). But the most serious problem of this study is that the suspects' guilt or innocence could not be established with certainty. To establish the ground truth, the authors used confessions or 'systematic factual analysis', which consisted of asking two separate evaluators to watch the videotaped interviews and to evaluate, for each suspect, his or her probability of 'guilt' or 'innocence' in five separate areas: biography, opportunity/access, personal activities, motivation/propensity and evidence. An overall probability of guilt or innocence was calculated for each suspect from the two evaluators' ratings in each of these areas. The problem is that neither confessions (see Vrij, 2008, pp. 318–320 for a thorough discussion), nor the systematic factual analysis are valid indicators of guilt or innocence (Vrij, 2008). In addition, as Horvath et al. (1994) themselves acknowledged, the original interviewers who conducted the BAI in the confession-verified cases and the observers who had to judge the veracity of the suspects all had access to the same data (the interviews), therefore, there is no wonder that, in most cases, they all reached the same conclusion about the suspect's truthfulness. In a similar way, in the cases that had been verified through systematic factual analysis the observers' decision was based on the same information (the interviews) as the evaluators' assessments of guilt or innocence. In this regard, it should be noted that two of the four systematic factual analysis areas (opportunity and motivation) are also taken into consideration in the BAI interview (Questions 7 and 10; see the Appendix). This might have artificially increased the observers' accuracy. These limitations seriously question the validity of Horvath et al's findings.

Blair and McCamey (2002) conducted an experiment with ten of the interviews previously used in Horvath et al.'s (1994) study. The interviews were watched by two groups of students whose ability to detect deception was tested on two occasions. The experimental group ($n = 27$) was trained in the BAI just before the second test, whereas the control group ($n = 25$) was not. The results showed that a mean of seven suspects were

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correctly classified as truthful or deceptive by the control group in both tests and by the experimental group in the first test. After having been trained in the BAI, the experimental group was able to classify correctly an average of eight suspects. This increase, albeit small, was significant. However, Blair and McCamey's study also suffers from a number of weaknesses. It is unclear from the report how many truthful vs. deceptive interviews were shown to the observers. Thus, it is unknown whether the classification rates reflect accuracy or bias (e.g., if all the interviews were deceptive and the BAI biased the judgments towards deception, the heightened classification rate would not reflect accuracy, but bias). The time between the first test and the second test was shorter for the control group (one day) than for the experimental group (1 week). The same tape was shown in both tests; thus, although no increase in accuracy was found for the control group, it is unknown whether the slight increase for the experimental group was actually caused not by the BAI training alone, but by the BAI training *in addition to* the re-assessment of the same tape. As the interviews were a subset of the ones used by Horvath et al. (1994), the uncertainty about the ground truth of the suspects persists, as does the likely artificial increase in accuracy caused by observers' decision being based on the same information as the assessments of the evaluators who conducted the systematic factual analysis. Once again, these findings cannot be trusted.

In view of the weaknesses of published BAI research (in particular of the uncertainty about the ground truth of the suspects), as well as of the fact that Inbau et al.'s (2004) notions about guilty and innocent suspects' reactions to the BAI questions are at odds with the findings of the deception detection literature, Vrij et al. (2006) conducted a laboratory study in which 'guilty' participants ($n = 20$) committed a mock crime whereas 'innocent' participants ($n = 20$) did not. The truthfulness of the suspects was therefore firmly established. All the participants were interviewed using the BAI protocol. Rather than looking at the classification rates of trained BAI evaluators watching the interviews, Vrij et al. directly examined whether the mock suspects' reactions matched those described by Inbau et al. for guilty and innocent suspects. It was found that for most questions no significant difference was apparent between the reactions of guilty and innocent participants. For the four instances in which significant differences were found, these differences were *opposite* to Inbau et al.'s assertions, i.e., those reactions that Inbau et al. maintained that were indicators of deception were actually indicators of truthfulness. This well-conducted study seriously questions the usefulness of the BAI as a lie-detection protocol.

The present study was designed as an extension of those summarized above. Vrij et al. (2006) convincingly demonstrated that the BAI indicators of guilt and innocence are wrong. The question is where these indicators come from. A possible answer is that they are only common sense, that they reflect the 'folk wisdom' not only of police officers, but also of lay persons. The BAI proponents can question Vrij et al.'s study on the grounds that in laboratory studies conducted with undergraduate students the stakes are substantially lower than in real-life criminal cases. This may have an influence on the reactions to the BAI questions. However, the BAI proponents will have to accept that if carefully conducted empirical research shows that the BAI notions reflect 'what people already know (or believe)', then there is no need to take expensive seminars to 'learn' what one already 'knows', regardless of whether this knowledge is correct or (as Vrij et al.'s laboratory study shows) not.

Two studies were therefore conducted to examine whether participants who knew nothing about the BAI attributed the same meaning to the suspects' reactions as Inbau et al. (2004). Study 1 was a preliminary accuracy study. Participants unfamiliar with the BAI read two interviews from Inbau et al.'s manual and had to indicate which one corresponded to the guilty suspect. It was expected that accuracy would be above chance. Study 2 was a cues study in which we examined whether those behaviours thought to be guilt indicators by Inbau et al. were judged by lay participants as more indicative of guilt than those behaviours thought to be innocence indicators by Inbau et al.

STUDY 1: ACCURACY

Study 1 was designed as a first, tentative exploration of the notion that the BAI recommendations are just common sense. The participants would read two BAIs from the same case, one with a guilty suspect and the other one with an innocent suspect. Our prediction was that those participants who knew nothing about the BAI would be capable of indicating with accuracy which was the interview with the guilty suspect.

Method

Participants

The participants were 85 freshman criminology students (46 females and 37 males, M age = 19.72 years, $SD = 2.16$, age range: 18–32 years) at the University of Salamanca (Spain) who were taking a psychology of crime course. The task was performed as a practical in-class exercise.

Procedure

The two interviews on pp. 184–189 of Inbau et al.'s (2004) manual were used in this study. These interviews are transcribed in the manual to provide examples of an entire BAI with a guilty and an innocent suspect. Both interviews concern the same case (the theft of money from a bank teller's drawer by one of the employees). Two suspects were interviewed, one of which (Kathy) was guilty whereas the other one (Keith) was innocent. The two interviews were carefully translated into Spanish. The names of the interviewees were substituted by Spanish names taking care not to change their gender (Kathy became Ana, and Keith became Álvaro). The question labels ('purpose', 'history/you', etc.) were omitted from the translation. Instead, the questions were numbered consecutively.

One week before the day on which the experimental session was scheduled, the participants were randomly allocated to the informed group or to the naïve group. The experimental task was performed in the classroom of the Faculty of Law where the students normally attended their

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lectures. The informed and the naïve group were scheduled at different times. At the beginning of the session, the participants in the *informed group* ($n = 48$) were asked to read carefully a booklet with some detailed information on the BAI. Specifically, they learned what the BAI is and read examples of each question as well as of typical (according to the BAI proponents) guilty and innocent reactions to these questions. The participants allocated to the *naïve group* ($n = 35$, a number of participants initially allocated to this group did not show up) did not receive any specific information about the BAI.

The participants in both groups received the Spanish translation of the BAIs with Ana (Kathy) and Álvaro (Keith), as well as a response sheet. The informed group participants only received this material after they had almost finished reading the specific information about the BAI. The participants had to write their gender and age on the top of the response sheet. The following information was given on the response sheet:

> When a crime has been committed, both innocent and guilty individuals deny their involvement. This makes it difficult to solve the case, in particular when physical evidence is lacking. In order to make the task easier for the investigators, Inbau, Reid, Buckley, and Jayne (2004) designed the Behaviour Analysis Interview (BAI). The BAI is a kind of interview with a number of *Investigative Questions*, which are specific for every case under investigation, and a number of *Behaviour-Provoking Questions*, which can be adapted to any case. The purpose of the Behaviour-Provoking Questions is to generate different reactions in innocent and guilty individuals.
>
> In this exercise, two interviews are presented, each one with a different person (Álvaro or Ana), with the BAI Behaviour-Provoking Questions. Both interviews concern the same case—the shortage of $1,000 from a bank teller's drawer. Please read carefully both of the interviews and, after having read them, answer the following questions.

The first question was 'Who do you think the guilty person is?' The participants had to check either 'Álvaro' or 'Ana'. The second question was 'How confident are you that your decision is correct?' The answers were collected on a 1 (*very little*) to 5 (*completely*) scale.

After the participants had answered the questions, the experimenter collected the response sheets, the interviews and (for the informed group) the booklet with the BAI information, and thanked the participants. One week later, during a regular lecture, the participants were debriefed.

Results

The percentage of respondents in the naïve group who correctly said that Ana was the guilty person (68.6%) was significantly above chance, χ^2 (1, $N = 35$) = 4.83, $p = 0.028$. Less than one-third of the participants in this group (31.4%) incorrectly said that Álvaro was the guilty person. Almost all the participants in the informed group (97.9%) correctly said that Ana was the guilty person, χ^2 (1, $N = 48$) = 44.08, $p < 0.001$. Only one participant incorrectly said that Álvaro was the guilty person. Although the difference between the two conditions was significant, χ^2 (1, $N = 83$) = 14.09, $p < 0.001$, it is remarkable that seven out of every ten participants in the naïve group (who knew nothing about the BAI beyond the information given in the response sheet) were able to point their finger at the guilty person.

The informed group was more confident in their decision ($M = 4.28$, $SD = 0.52$) than the naïve group ($M = 3.46$, $SD = 0.83$), *Mann-Whitney's* $U = 380.50$, $p < 0.001$, although both groups were quite confident. Only one individual made an incorrect decision in the informed group, but the participants in the naïve group did not have any more confidence in correct decisions (M Ana = 3.38, $SD = 0.88$) than in incorrect decisions (M Álvaro = 3.64, $SD = 0.71$), *Mann-Whitney's* $U = 109.50$, $p = 0.385$.

Discussion

Partial support was found for the general hypothesis that the BAI indications are just common sense. In line with the hypothesis, almost seven out of every ten naïve individuals were able to identify the guilty interview. This was significantly above chance probability, and indicates that training in the BAI is not necessary to finger the right suspect as the guilty individual. However, the guidance provided to the informed group increased accuracy to almost 100%, and it also increased confidence. Therefore, the BAI training might have some effect. Although most people seem to share Inbau et al.'s (2004) views about the indicators of guilt and innocence, some do not, and the BAI training might serve to change those individuals' minds. Also, the BAI training might reassure the raters in their beliefs, increasing confidence scores.

This study, however, has a number of limitations. First, only two interviews were used. This might not be representative of the whole range of guilty and innocent BAIs. In this regard, the fact that Inbau et al. (2004) included these interviews in their manual suggests that these interviews provide good examples of guilty and innocent reactions to the BAI questions. From this point of view, there is nothing wrong in having used them in the present study. However, these interviews might be *prototypical* rather than *typical*. That is to say, unlike the average BAI, these interviews may contain most or all of the cues to guilt or innocence, the cues may be unusually clear and unambiguous, etc. This might have artificially increased accuracy, particularly for the informed group, which was aware of the BAI indicators of guilt and innocence.

Second, the interviews were presented as written text, but BAI experts have to evaluate live or videotaped interviews. The cognitive processes involved in deciphering and assessing written texts might be very different from those involved in watching and assessing live or videotaped interactions. Also, a number of meaningful nonverbal reactions are expected from the interviewees in response to Questions 2, 3 and 10 of the BAI (see Appendix). These reactions cannot be *seen* in a written text. In the transcriptions of the interviews, Inbau et al. mention (in

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brackets) some of the suspects' nonverbal reactions (e.g., 'direct eye contact', or 'forward lean'), but they are not very exhaustive, and it would be better to consider these nonverbal reactions within the context of the suspects' overall nonverbal behaviour. In addition, along with some straightforward nonverbal reactions (forward lean, illustrators, laughs, leg crossing, or eye contact) Inbau et al. also mention some other 'nonverbal' cues that are ambiguous or vague, such as 'comfortable', 'direct', 'inattentive', 'sincere', or 'thoughtful'. These seem to be subjective inferences rather than direct observations of objective behaviour.

Third, in addition to the BAI indicators of guilt or innocence, the transcriptions of the interviews may also contain additional irrelevant information that may nevertheless have an effect on the participants' judgments. Finally, looking at accuracy (correct classifications of suspects judged to be guilty or innocent by Inbau et al.) is only an indirect way of examining whether the BAI indicators of guilt and innocence are common sense. The most straightforward way is directly assessing whether naïve participants judge those behaviours that Inbau et al. maintain are guilt indicators as more indicative of guilt than those behaviours that Inbau et al. maintain are indicators of innocence. This strategy overcomes all of the Study 1 limitations. For this reason, it was adopted in Study 2.

STUDY 2: CUES

This study was designed to assess lay participants' beliefs about the verbal and nonverbal correlates of guilt and innocence during an interview. It was predicted that these beliefs would coincide with Inbau et al.'s (2004) cues. To test this hypothesis, a questionnaire was designed in which the participants had to rate on a scale the degree to which each of the reactions to the BAI questions listed in Inbau et al.'s manual was a guilt or an innocence indicator.

Method

Participants

The participants were 83 undergraduate students of psychology (77 females and 6 males; average age: $M = 21.06$, $SD = 1.63$, age range: 20–31 years) who were taking a social psychology course at the University of Salamanca (Spain). They did not know anything about the BAI or forensic interviewing, and had not been in the eyewitness psychology course, which was an optional course that could be taken 1 or 2 years later.

The BAI questionnaire

A questionnaire was created to measure the extent to which the participants' views about the typical behaviour of guilty and innocent suspects coincided with those of the BAI proponents. The first page of the questionnaire had two main sections. The first section contained the paragraph with some general information about the BAI that had already been included in the response sheet of Study 1 (first paragraph; see above). It was also stated that the purpose of the study was to measure the degree to which they (the participants) could predict the reactions that the BAI proponents expected from guilty and innocent suspects in response to each of the behaviour-provoking questions, and that this would be measured within the context of a hypothetical case. The second section in the first page contained the Spanish translation of the following description of the case, which was taken from Inbau et al. (2004):

> Assume that a fire was started in a warehouse that destroyed most of the inventory. Entry was gained to the warehouse by prying open a side door. The security system indicated that this occurred at 9:40 p.m. on September 12. By the time the police arrived, at 9:50 p.m., the warehouse was engulfed in flames. Subsequent investigation revealed that an accelerant, probably gasoline, was used to start the fire and that the source of origin was the inventory boxes themselves. A review of personnel records revealed that the two warehouse employees may have had a motive for starting the fire (p. 174).

This was immediately followed by this text: 'One of them is called Javier. In the following pages, you will find the behaviour provoking questions that Javier was asked. After each question there is a list of answers that Javier could have given. Some are typical of a guilty person, whereas some others are typical of an innocent person. Your task will be to indicate the degree to which Javier would be guilty or innocent if he gave each of these answers. Please make your ratings by circling a number (from 1 to 6) on the scale after each possible answer by Javier'.

The following pages in the questionnaire contained the 15 behaviour-provoking questions of the BAI. After each question there were all of the possible suspect's answers expected by the BAI proponents (Inbau et al., 2004; see also the Appendix), and after each answer there was the phrase 'If Javier gives this answer, then he is…' followed by a scale ranging from 1 (labelled *innocent*) to 6 (*guilty*). The participants had to indicate how guilty/innocent would Javier be if he had given each particular answer. For example, Inbau et al. (2004) expect the following answers in response to the *credibility question* ('Do you really think that someone did purposefully start the fire?'):

> A truthful suspect will generally agree that a crime was committed, for example, 'Yes I do. The fire started in the middle of the aisle. There's no electrical wires around there or anything else that might have accidentally caused the fire'.

> The credibility question offers the deceptive subject an opportunity to confuse the investigation. He may suggest unrealistic possibilities, such as an electrical cause for the fire or careless use of smoking material (p. 178).

We included the credibility question in the questionnaire ('Javier, do you really think that someone did purposefully

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Table 1. Mean ratings of guilt and univariate ANOVAs

BAI Question	Ratings of guilt		Univariate ANOVAs	
	Guilty answers	Innocent answers	F (1, 82)	η^2
1. Purpose	3.54	3.24	4.43**	0.051
2. History/You	4.01	3.00	205.86****	0.715
3. Knowledge	3.45	2.92	27.07****	0.248
4. Suspicion	3.65	3.33	7.40***	0.083
5. Vouch	3.40	2.23	99.27****	0.548
6. Credibility	4.20	2.78	41.91****	0.338
7. Opportunity	3.42	2.43	49.21****	0.375
8. Attitude	3.13	3.05	0.12	0.002
9. Think	3.13	3.77	23.03****	0.219
10. Motive	3.90	2.91	53.53****	0.395
11. Punishment	3.30	2.99	2.87*	0.034
12. Second chance	3.37	2.77	13.17****	0.139
13. Objection	3.24	2.76	32.97****	0.287
14. Results	3.53	3.07	12.88****	0.136
15. Tell loved ones	3.48	2.33	95.74****	0.539

Note.
*$p < 0.10$. **$p < 0.05$. ***$p < 0.01$. ****$p < 0.001$.

start the fire?') followed by these two possible answers (each followed by the rating scale described above):

a. Javier acknowledges that the crime has happened. For example, 'Yes I do. The fire started in the middle of the aisle and there are no electrical wires or anything else around there that might have caused the fire by accident'.
b. Javier suggests unrealistic possibilities (such as an electrical origin for the fire or careless use of smoking material).[2]

The number of answers per question ranged from two (for the *credibility* and *attitude* questions) to 11 (five verbal plus six nonverbal answers for the *history/you* question), with a mean of 4.53 answers (SD = 2.39). 'Guilty' and 'innocent' answers were not in correlative order after each question in the questionnaire.[3]

Procedure

The participants completed the BAI questionnaire as part of a practical social psychology lecture. After entering the classroom, they were given the questionnaire and were asked to write their gender and age on the top of the first page. The experimenter read the first page aloud, asked the participants whether they had any questions about the task (no one did) and invited them to fill in the questionnaire. The task was completed in about 20 min. The next week, the same experimenter debriefed the participants during a lecture in which Inbau et al.'s approach to interviewing and detecting deception was described, the relevant empirical research was summarized (with a strong emphasis on Vrij et al.'s, 2006, experiment), and the purpose and predictions of the present study were explained.

Results

Some of the answers to the BAI questions contained in the questionnaire are described by Inbau et al. (2004) as typical of guilty suspects (guilty answers), whereas some others are described as typical of innocent suspects (innocent answers). For each of the 15 BAI questions, the participants' scores were averaged separately for the guilty and innocent answers. Thus, two mean scores were obtained for each question (see Table 1). It was stated earlier that higher ratings in the scales indicated higher guilt attributed to the reactions of the suspect. Therefore, if the participants' views coincide with Inbau et al.'s notions, the scores should be significantly higher for the guilty answers than for the innocent answers.

A multivariate analysis of variance (MANOVA) was conducted with Inbau et al.'s guilt status (guilty vs. innocent answers) as the repeated-measures factor and the 15 BAI questions as the dependent variables. At the multivariate level, the effect was significant, Wilks $\lambda = 0.19$, F (15, 68) = 19.65, $p < 0.001$, $\eta^2 = 0.813$. The univariate analyses revealed that for all the questions except number 8 (Q8: *attitude*; no significant difference found), number 9 (Q9: *think*; significant reverse discrimination) and number 11 (Q11: *punishment*; marginal signification), the participants' ratings of guilt were significantly higher for Inbau et al.'s guilty answers than for Inbau et al.'s innocent answers (Table 1). These results strongly supported our prediction.[4]

Not only were the participants' scores in line with Inbau et al.'s (2004) predictions, but they were also contrary to

[2]We illustrated most of the answers with examples derived from Inbau et al.'s (2004) manual. More generally, in building the questionnaire we were very careful in following Inbau et al.'s text closely. The reason for this was that our purpose was to test Inbau et al.'s assumptions, not our interpretations of them. Presumably, many law enforcement officers have not attended John E. Reid and Associates' training seminars but have instead read Inbau et al.'s book and have extracted some recommendations from the book. We wanted to test the recommendations that can be derived from the book (or that are part of the Reid technique), not those that can be gleaned from our inferences, assumptions, or interpretations of the book contents. This is also the reason why in Study 1 we used only two interviews (the only ones provided by Inbau et al.).

[3]See Vrij et al. (2006) for a similar questionnaire.

[4]Univariate analyses were also conducted separately for the verbal and nonverbal responses to the BAI Questions 2 (*History/You*) and 10 (*Motive*). The effects for Q2-verbal, F (1, 82) = 4.70, $p < 0.033$, $\eta^2 = 0.054$, Q2-nonverbal, F (1, 82) = 261.68, $p < 0.001$, $\eta^2 = 0.761$, and Q10-verbal, F (1, 82) = 29.93, $p < 0.001$, $\eta^2 = 0.267$, were all significant. The test could not be conducted for Q10-nonverbal because both of the nonverbal reactions to this question listed by Inbau et al. (posture shift and anxiety-reducing behaviours) are considered by the authors as guilt indicators. Also, only one nonverbal behaviour (sincerity) is expected in response to Q3 (Inbau et al., 2004); therefore, for this question analyses for verbal and nonverbal indicators could not be performed separately. However, we did calculate the effect for Q3 without the nonverbal behaviour (i.e., the effect for Q3-verbal), which was also significant, F (1, 82) = 6.11, $p = 0.015$, $\eta^2 = 0.069$.

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empirical findings about actual indicators of guilt and innocence. In examining the verbal responses to the behaviour-provoking questions of the BAI, Vrij et al. found: (a) significant differences between the responses of liars and truth tellers to Q1 (*purpose*) and Q5 (*vouch*); however, these differences were opposite in direction to Inbau et al.'s predictions; and (b) no significant differences between the verbal responses of liars and truth tellers for any other of the BAI questions. In the present study, (a) the participants' scores to Q1 and Q5 were in line with Inbau et al.'s assumptions (see Table 1), and hence were different from Vrij et al.'s empirical findings; and (b) significant differences between the participants' scores to Inbau et al.'s indicators of guilt and innocence emerged for all questions except Q8 and Q11; this is also at odds with Vrij et al.'s null findings for all questions except Q1 and Q5. To sum up, in the present study the participants' view about the verbal responses of liars and truth tellers only coincided with Vrij et al.'s empirical findings for two (Q8 and Q11) out of 15 questions, but they coincided with Inbau et al.'s views for 12 of these 15 questions.

Vrij et al. (2006) examined separately the nonverbal behaviours listed by Inbau et al. (2004) as indicators of guilt (delayed response, crossed legs, posture shift, grooming behaviour, and anxiety-reduction behaviours) or innocence (forward lean, eye contact, illustrators, and sincerity) and only found significant differences for crossed legs and shift posture. However, these differences were again opposite to Inbau et al.'s assumptions (truth tellers, not liars, were found to cross their legs and shift posture most often). In the present study, the participants rated the nonverbal behaviours in line with Inbau et al.'s notions and differently from Vrij et al.'s empirical findings.[5]

Discussion

As expected, the participants, who knew nothing about the BAI, gave significantly higher ratings of deceptiveness to Inbau et al.'s (2004) guilt indicators than to their innocence indicators. This shows that Inbau et al.'s recommendations are just common sense. There were only three BAI questions for which the prediction was not supported. The means were in the expected direction for Q8 (*attitude*) and Q11 (*punishment*), but the effect failed to reach significance. Apparently, the respondents did not expect guilty suspects to express more negative attitudes than innocent suspects (Q8), or to be less likely to suggest harsh punishments for the guilty person (Q11; although this effect reached marginal significance, $p = 0.094$). Interestingly, the participants' views for these two questions were in line with Vrij et al.'s (2006) findings, which indicated that guilty and innocent suspects do not differ in terms of the reactions to Q8 and Q11. For all of the other questions, the participants' scores were at odds with Vrij et al.'s findings; this means that the participants' beliefs were wrong.

For Q9 (*think*), we found a significant effect that was contrary to our hypothesis. According to Inbau et al. (2004), guilty suspects answering Q9 acknowledge having thought about committing the crime under investigation, whereas innocent suspects deny those thoughts. The rationale is that guilty suspects need to relieve the anxiety associated with their feelings of guilt. They are aware that thoughts and fantasies cannot be used as evidence in the courtroom, thus they can safely express these thoughts as a way of relieving their guilty feelings (Inbau et al., 2004). This rationale is certainly more sophisticated than those behind most of the other indicators, and seems to contradict the expectations for Q6 (*credibility*), Q7 (*opportunity*) and Q10 (*motive*). According to Inbau et al. (2004), innocent suspects are more likely than guilty suspects to acknowledge that a crime has been committed (Q6), to acknowledge that they have had an opportunity to commit the crime (Q7) and to provide reasonable motives for the crime (Q10). By the same token, innocent suspects should also be more likely than guilty ones to acknowledge having thought about committing the crime. But, surprisingly, Inbau et al. reverse the prediction. This might explain why the participants, who correctly inferred Inbau et al.'s views concerning Q6, Q7, and Q10, did not do so when rating Q9. It might be relevant to note that none of these four questions were useful in identifying guilty and innocent suspects in Vrij et al.'s (2006) experiment.

The findings for the other 12 questions coincided with Inbau et al.'s (2004) notions. Therefore, little new can be learned about the BAI indicators of guilt and innocence by attending John E. Reid and Associates' seminars.

FINAL DISCUSSION

Common-sense notions about psychological phenomena are not equal to scientific knowledge. Both legal professionals and police personnel often show a strong over reliance on common-sense procedures and beliefs, coupled with a certain degree of disdain towards empirically-based psychological findings. This might have severe consequences in view of the fallibility of common sense beliefs and procedures. The BAI is an interview protocol to differentiate between guilty and innocent suspects that has been taught to thousands of law-enforcement and security professionals. However, not only do the BAI indicators of guilt and innocence differ from the empirical evidence (Vrij et al., 2006), but they also coincide with lay participants' beliefs about guilt and innocence indicators. Therefore, they are just common-sense beliefs.

[5]As explained in note 4, the difference between the scores for truthful and deceptive responses to Q2 differed significantly in the expected direction not only when collapsing the data across both verbal and nonverbal responses, but also when considering only the verbal responses and when considering only the nonverbal responses. In addition, we averaged the participants' scores for all of the nonverbal guilty answers and for all of the nonverbal innocent answers. A repeated measures *t* test revealed that the guilty answers ($M = 4.20$) were perceived as more indicative of guilt than the innocent answers ($M = 2.78$), $t\ (82) = 19.08$, $p < 0.001$. Finally, we conducted *t* tests to compare the scores for each of Inbau et al.'s (2004) nonverbal reactions with 3.5, which was the middle point on the innocent-to-guilty scale. We expected the scores for Inbau et al.'s nonverbal indicators of innocence (immediate denial, forward lean, eye contact, illustrators and sincerity) to be significantly below 3.5, and the scores for Inbau et al.'s nonverbal indicators of guilt (delayed response, crossed legs, posture shift, grooming behaviour and anxiety-reduction behaviours) to be significantly above 3.5. The results supported these predictions (all $ps < 0.001$) except for immediate denial and forward lean, for which the means were in the expected direction but the effect did not reach significance. These analyses are available from the first author on request.

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The BAI Indicators and Global Stereotypes of Deceptive Behaviour

Deception research has revealed that people from all over the World, both lay people and presumed lie detection experts (e.g., police officers, judges, attorneys and the like), believe that certain observable behaviours are useful cues to deception (e.g., Global Deception Research Team, 2006; Strömwall, Granhag, & Hartwig, 2004; Vrij, 2008). However, only a few observable behaviours have been found to discriminate accurately between truths and lies, and their usefulness depends on a number of variables such as the content of the lie, the sender's motivation, preparation and so forth (DePaulo et al., 2003; Sporer & Schwandt, 2006, 2007). In addition, there is a mismatch between peoples' beliefs about deception cues and the actual indicators of deception (e.g., Sporer & Schwandt, 2007). As Vrij (2008) put it, 'people typically have incorrect beliefs about cues to deception . . . on the one hand people associate several cues with deception that are in fact unrelated to deception, but, on the other hand, are unaware of several cues that are to some extent related to deception' (pp. 125-126). This might be one of the reasons behind people's poor accuracy in judging veracity (for recent reviews and meta-analyses on people's accuracy in detecting truths and lies, see Bond & DePaulo, 2006, 2008; Aamodt & Custer, 2006; Vrij, 2008). The present results suggest that the BAI indicators of guilt or innocence are just a corporate version of these global myths about deceptive demeanor. Inbau et al.'s (2004) behaviours are useless indicators of guilt or innocence, yet people believe that they can discriminate truth from deception.

After finding evidence of pan-cultural stereotypes of lying behaviour (liars are thought worldwide to avoid eye contact, to shift their posture, to touch and scratch themselves and to show signs of nervousness; Global Deception Research Team, 2006), Charles Bond (who led the Global Deception Research Team) speculated that stereotypes about the behaviour of liars are prescriptive rather than descriptive, that is, they are designed to discourage lies: children *should* be ashamed when they lie, liars *should* feel bad and so their lies *would* be transparent and they *would* be caught (Global Deception Research Team, 2006). As children grow up, they are expected to internalize these ideas—to become convinced that lying does not pay because liars feel bad and ashamed, that this is visible in their behaviour, and that, therefore, liars are caught and severely punished—and hence to become honest adults. Bond notes that 'because liars should feel ashamed, they should show signs of hiding, withdrawal and submission' (Global Deception Research Team, 2006, p. 70). It is amazing how many signs of shame, nervousness, hiding, withdrawal and submission are among Inbau et al.'s (2004) guilt indicators: uncertainty, naïve or evasive replies, noncommittal responses, delayed responses, vague comments, third-person responses, lack of confidence, reluctance to name anyone in response to Q4, crossing of the legs, decreased eye contact, anxiety-reducing behaviours or posture shifts in the chair[6] (see Appendix). The opposite behaviours (feeling comfortable, direct responses, realistic language, immediate denial, forward lean, eye contact, etc.) are believed by Inbau et al. to be indicators of innocence. In short, the reactions expected by Inbau et al. in response to the behaviour-provoking questions of the BAI seem to be linked to worldwide held stereotypes about the behaviour of the liar.

[6]The reader should also notice that decreased eye contact, nervousness and posture shifts, which are some of Inbau et al.'s (2004) guilt indicators, were among the most prevalent global beliefs about lying behaviour in the Global Deception Research Team's (2006) surveys.

Implications of the present findings

That the BAI indicators are just shared common-sense beliefs has a number of implications. First, it makes no sense teaching people what they already 'know' (or believe). Since the BAI notions are widely held common-sense beliefs, there is no reason to include the BAI protocol in John E. Reid and Associates' seminars on the Reid technique. The training can only strengthen the participants' previous mistaken beliefs and increase the participants' confidence. Instead, the seminars should focus on debunking these common-sense notions and substitute them with scientifically-based psychological knowledge about interviewing, interrogation and deception detection. There is a large corpus of scientific literature in the deception detection field that has systematically been neglected by John E. Reid and Associates (see Vrj, 2008, for an overview).

Second, if the BAI indicators of guilt and innocence are only common-sense beliefs, then the actual suspects might also have those beliefs and might try to avoid displaying the guilty reactions. This might place innocent suspects at risk. Those who are wrongly accused of a crime tend to believe that 'the truth will shine through' and often think there is no need to take protective measures. For example, Kassin and Norwick (2004) found that innocent suspects were more likely to waive their *Miranda* rights than guilty suspects because they were innocent and had nothing to hide. In a similar way, innocent suspects might be less likely than the guilty to manipulate their behaviour in order to appear truthful. Indeed, this is exactly what Hartwig, Granhag, and Strömwall (2007) found when they asked suspects of a mock crime to report the strategies they used to give a credible impression during the interview: guilty suspects reported more strategies than innocent suspects, and the most prevalent strategy of innocent suspects was simply 'to tell the truth as it had happened'. Therefore, it is reasonable to expect guilty suspects knowledgeable of the BAI indicators of guilt and innocence to manipulate their behaviour to a greater extent than innocent suspects. As a result, more innocent than guilty interviewees may end up displaying the BAI indicators of guilt, and more guilty than innocent interviewees may end up displaying the BAI indicators of innocence. In this regard, it is important that the few significant differences between guilty and innocent suspects found by Vrij et al. (2006) were contrary to Inbau et al.'s expectations. Additional studies should be conducted to test these hypotheses under high-stakes situations. In these studies, variables likely to influence the suspects' ability to manipulate their behaviour (such as the suspects' self-monitoring scores or their acting ability scores) should be entered in the design. The consequences of innocent suspects being judged guilty more often than guilty suspects might have severe consequences, as the officers conducting the BAI

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might decide to arrest those judged to be guilty and to extract a confession via the psychologically coercive nine-step interrogation technique. This might lead innocent suspects to confess.

Scientifically-based alternatives to the BAI

Law-enforcement and security professionals are in need of interview protocols to detect deception. However, these protocols must be grounded in sound science instead of common sense beliefs. The BAI falls short of this criterion. More promising approaches have been proposed by Hartwig, Granhag, and their colleagues (Granhag & Hartwig, 2008; Granhag, Strömwall, & Hartwig, 2007; Hartwig, Granhag, Strömwall, & Kronkvist, 2006) and by Vrij and his colleagues (Vrij, Mann, Fisher, Leal, Milne, & Bull, 2008). Granhag et al. (2007) focus on the moment at which the information the interviewer has about the crime is disclosed to the suspect. They argue that if this information is not disclosed until the end of the interview, then the liars will provide information that is inconsistent with the evidence that the interviewer is holding back. Indeed, Hartwig et al. (2006) found that police officers trained not to disclose the evidence until the end were successful in eliciting inconsistencies from liars, made more deception judgments the more inconsistencies the interviewees displayed, and were substantially more accurate in judging lies and truths than a sample of untrained officers (see also Hartwig, Granhag, Strömwall, & Vrij, 2005, for a related study). Vrij, Fisher, Mann, and Leal (2006) argued that lying is cognitively more taxing than telling the truth. Therefore, if additional cognitive demands are placed upon the suspects during the interview, this will be more detrimental to liars than to truthtellers. As a result, liars will show behavioural signs of cognitive load. This hypothesis has received empirical support. Vrij et al. (2008) asked mock suspects to lie or tell the truth about a staged event in reverse order (which is more taxing than telling the event in chronological order). The liars in this condition showed many more cognitive cues to deception than those in a chronological-order control condition. In addition, a sample of police officers who watched the reverse-order interviews was more accurate in judging truths and lies than a control group of officers who watched the interviews in chronological order. More recently, Vrij et al. (2009) have presented a third novel approach. They have shown that asking unanticipated questions to pairs of suspects about their alibi yields consistent answers (i.e., both suspects give the same answer) if the suspects are innocent and are telling the truth, but may yield inconsistent answers if they are lying.

These approaches are good examples of interview protocols that, like the BAI, are aimed at creating the conditions under which deception cues appear but that, unlike the BAI, are grounded in sound science instead of common-sense beliefs. They are based on strongly supported psychological theories, are easy to teach to law enforcement and security personnel, and seem to work. Indeed, more research is needed before recommending their widespread use. However, these protocols are good examples of what should be taught to police officers instead of unsupported common-sense faulty notions. They are good examples of procedures that may help reduce miscarriages of justice.

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APPENDIX

BAI behaviour-provoking questions (adapted to a murder case) and typical guilty and innocent reactions (information based on Inbau et al., 2004):

Question 1: Purpose. 'What is your understanding of the purpose for this interview?'

Guilty suspect: Naïve or evasive reply, vague comment.

Innocent suspect: Direct response, realistic language.

Question 2: History/You. 'As you know, Alice Smith was murdered a couple of days ago in her house at Hill Avenue. If you killed Alice Smith, we will find it out. If you were not involved, we will show this as well. Before we proceed with the interview, let me tell you that if you had anything to do with Alice Smith's murder you should tell me now' (A direct question can also be used: 'Did you kill Alice Smith?').

Guilty suspect: Bolstered response, delayed response, evasive response. Crossing of the legs, shifting in the chair, grooming behaviour.

Innocent suspect: Emphatic denial, immediate denial. Forward lean, direct eye contact, use of illustrators.

Question 3: Knowledge. 'Do you know who killed Alice Smith?'

Guilty suspect: The guilty suspect distances himself or herself geographically and emotionally from the crime, or denies without much thought any knowledge of whom the guilty person might be, or gives an evasive answer.

Innocent suspect: The innocent suspect intimates a suspicion, or gives an apology for his or her denial, or states that he or she has been thinking about who the culprit might be, and sounds sincere.

Question 4: Suspicion. 'Who do you suspect might have killed Alice Smith? A suspicion may be just a feeling and you might be wrong. Any name you give will not get back to that person. Who do you suspect may have killed her?'

Guilty suspect: Unlikely to name anyone, or tendency to name the other suspect (if there are only two suspects) and difficulty in giving reasons for fingering the other suspect.

Innocent suspect: Likely to name someone and to give credible reasons for fingering that person.

Question 5: Vouch. 'Is there anyone you could vouch for, anyone you could say for sure didn't kill Alice Smith?'

Guilty suspect: Noncommittal response, or evasive response.

Innocent suspect: Willing to name specific individuals.

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Question 6: Credibility. 'Do you think Alice Smith was really murdered? Or do you think she fell down the stairs just by accident?'

Guilty suspect: Suggestion of unrealistic possibilities that exclude that the event was a crime.

Innocent suspect: Agreement that a crime was committed.

Question 7: Opportunity. 'Who would have had the best opportunity to kill Alice Smith? I am not suggesting that this person is the murderer, but who do you think would have had the best opportunity?'

Guilty suspect: Naming of unrealistic suspects, or claim that no one had any opportunity to commit the crime.

Innocent suspect: Acknowledgement of one's own opportunity to commit the crime.

Question 8: Attitude. 'How do you feel about being interviewed about Alice Smith's murder?'

Guilty suspect: Negative attitude (voicing negative feelings).

Innocent suspect: Positive attitude ('I'm happy to help').

Question 9: Think. 'Have you ever thought about killing Alice Smith? I am not suggesting you killed her, but did you ever have that thought?'

Guilty suspect: Acknowledgement of these thoughts, use of qualifications (e.g., 'Not *really*').

Innocent suspect: Denial of these thoughts.

Question 10: Motive. 'Why do you think someone killed Alice Smith?'

Guilty suspect: Reluctance to speculate about the motives for the crime, or very specific answer. Posture shifts in the chair or anxiety-reducing behaviours.

Innocent suspect: Reasonable motives for the crime, appearing comfortable while discussing the motives.

Question 11: Punishment. 'What do you think should happen to the individual who murdered Alice Smith?'

Guilty suspect: Suggestions of indulgent treatment, or evasive response not to suggest any specific punishment (e.g., 'It's not me who has to decide about the punishment').

Innocent suspect: Suggestions of reasonably harsh punishments.

Question 12: Second chance. 'Under any circumstances would you give a second chance to the person who killed Alice Smith?'

Guilty suspect: Willingness to give the guilty person a second chance, evasive response ('It's hard to say') or reference to conditions or circumstances.

Innocent suspect: Unwillingness to give a second chance.

Question 13: Objection. 'Why would you have never killed Alice Smith?'

Guilty suspect: Third-person response ('That's illegal'), references to future negative consequences, or reference to external factors (e.g., security cameras).

Innocent suspect: First-person response in which a personal trait is mentioned (e.g., 'Because I am not a killer'), or reference to present responsibilities or past accomplishments (not risking everything one has worked for during one's entire life).

Question 14: Results. 'What do you think the results of our investigation will be concerning your involvement in Alice Smith's murder?'

Guilty suspect: One-word responses (e.g., 'Innocent'), or uncertainty, or evasive responses, or suspicion that the investigation will show negative results coupled with accusations against someone else.

Innocent suspect: Confidence in being found innocent.

Question 15: Tell Loved Ones. 'Did you tell anyone about this interview?'

Guilty suspect: Denial of having told any loved one about the interview, or having played down the interview when speaking with a loved one. If asked about the reaction of the loved person, the guilty suspect would respond something like 'Well, she was curious ... but had no real reaction one way or another' (Inbau et al., 2004, p. 183), or would acknowledge that the loved one asked whether s/he [the suspect] had committed the crime.

Innocent suspect: Acknowledgement of having told loved ones about the investigation or about the interview.

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