

**RESEARCH ARTICLE**

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# An examination of the Self-Administered Interview as a verbal veracity assessment tool

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Email: charlotte.hudson@port.ac.uk**Summary**

The self-administered interview (SAI) is a written eyewitness recall tool that elicits more information from cooperative witnesses than written free recall (WFR) formats. To date, SAI research has examined the accounts of cooperative people providing honest reports. In the current experiment, truthful and fabricating participants ( $N = 128$ ) either completed a WFR or a SAI after witnessing a crime (initial account). After a 1-week delay, participants were interviewed verbally (subsequent interview). Truth tellers reported significantly more detail than liars in both the initial account and subsequent interview, and participants who completed the SAI reported more detail than those completing the WFR. Truth tellers repeated and omitted more information in the subsequent interview than liars; however, there was no significant difference in the number of reminiscent details reported. Although the SAI is effective in eliciting information as an initial eyewitness reporting tool, no benefits for the detection of deception were demonstrated.

**KEYWORDS**

deception, self-administered interview, consistency, witness

## 1 | INTRODUCTION

Eyewitness evidence is often crucial for police investigations. In the case of serious events, the number of eyewitnesses can outstrip the level of police resources available at the scene. Ideally, eyewitness testimony should be gathered as soon as possible after an event to reduce memory decay and exposure to post-event misinformation, which may compromise the quality and quantity of later recall (Hope, Gabbert, & Fisher, 2011). Although investigators try to prioritise managing witnesses at the scene, there are often factors, such as a large volume of witnesses to deal with, that restrict comprehensive eyewitness interviews from taking place for days, or even weeks, after the event (Hope, Gabbert, Fisher, & Jamieson, 2014). Post-event misinformation in high-stress environments can spread especially quickly through modern social networks such as Twitter (Huang, Starbird, Orand, Stanek, & Pedersen, 2015), a site heavily used during

high-profile incidents (Saleem, Xu, & Ruths, 2014), which increases the need for authorities to gather comprehensive witness reports as soon as possible.

The majority of research into eyewitness testimony has been conducted in the context that, on the whole, witnesses try to provide genuine reports, and that any inaccuracies that may arise in their statements are the result of honest mistakes. Yet, in some circumstances, hostile or uncooperative individuals may deliberately provide misleading reports to derail investigations. Law enforcement professionals often try to discern the accuracy of witness' statements to help direct the investigation (Desmarais & Yarmey, 2004; Masip & Herrero, 2015). While many witnesses are cooperative and can be trusted to provide credible and reliable accounts, in certain contexts or circumstances, witnesses who are hostile to the aims of the police or investigation may intentionally mislead investigators. They may do this for a variety of reasons including attempts to protect the

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perpetrator, fear of retribution from the perpetrator, or even distrust of the authorities (Parliament & Yarmey, 2002; Yarmey, 2004).

It has been shown across a variety of modalities that truth tellers often report more information than liars (Amado, Arce, Fariña, & Vilarino, 2016; DePaulo et al., 2003). Liars may lack the creativity or imagination to fabricate details to an equivalent level to that provided by truth tellers (Vrij, Hope, & Fisher, 2014), or may intentionally minimize the amount of detail reported out of fear that additional detail may provide leads for investigators (Vrij, Granhag, Mann & Leal, 2011). Liars may also decide to report as little information as possible, to reduce the opportunity to contradict themselves in subsequent interviews (Vredevelde, van Koppen & Granhag, 2014). Thus, liars' accounts are often shorter and less detailed than those typically provided by truth tellers.

In repeated interviews, details can be compared and classified into four categories to discern consistency: repetition, reminiscences (sometimes referred to as commissions in deception research), omissions and contradictions (Fisher, Vrij, & Leins, 2013). The occurrence of repetitions (information that is reported during both interviews) increases consistency, and the occurrence of reminiscences (information that is reported in a subsequent interview, but not reported in the primary interview), omissions (information that is provided during an initial interview, but not reported in a subsequent interview) and contradictions (information provided in the subsequent interview that directly opposes what was reported in the primary interview) decrease consistency.

Perceptions of consistency can influence credibility judgements (Reinhard & Sporer, 2008), with 8 out of 10 police officers reporting that they believe consecutive statements given by the same individual will be more consistent if the individual is telling the truth as opposed to telling a lie (Strömwall & Granhag, 2003). In fact, when more than one statement is available, judges rely on the perceptions of consistency as a cue to veracity more than any other cue (Strömwall, Granhag & Jonsson, 2003), despite research frequently finding there is very little difference between truth teller and liar consistency (Granhag & Strömwall, 2002; Granhag, Strömwall, & Jonsson, 2003; Granhag, Mac Giolla, Sooniste, Strömwall, & Liu-Jonsson, 2016). For instance, Granhag and Strömwall (2002) found that over three interrogations truth tellers repeated more details and omitted more information that liars did, and that there was no difference in the amount of reminiscent detail reported by truth tellers and liars. As such, truth tellers' and liars' statements were about equally consistent over time, which was corroborated by the consistency ratings that the truth tellers' and liars' provided about their own statements. Conversely, Granhag et al. (2003) found that there was no difference between the number of repetitions or omissions given by truth tellers and liars over two interrogations, and that truth tellers provided more reminiscent detail in the second interrogation than liars did. Furthermore, when the statements were subjectively rated for consistency, liars' and truth tellers' statements were perceived equally consistent. Granhag et al. (2016) also found that the consistency of truth tellers and liars was similar when examining repetitions, reminiscences and omissions. Yet when Masip et al. (2018) asked uninformed laypeople to make

veracity judgements on a series of written statements, they found that 90% of the laypeople reported using consistency/inconsistency to assist in making their judgement. This is incongruous with research examining truth tellers' and liars' consistency, as well as memory research, which suggests that some types of inconsistencies, such as omissions and reminiscence, are commonly found in memory accounts (Fisher, Brewer & Mitchell, 2009; Gilbert & Fisher, 2006; Strange, Dysart, & Loftus, 2014).

When individuals were interviewed about witnessing a videotaped mock crime, 98% of truthful participants included reminiscence in their second recall (Gilbert & Fisher, 2006). Liars, however, may be less likely to include new details in subsequent statements, in order to maintain a greater level of consistency, or due to an unfamiliarity with natural memory phenomena (Harvey, Vrij, Hope, Leal, & Mann, 2017). The repeat versus reconstruct hypothesis (Granhag & Strömwall, 1999) suggests that liars have the aim of being consistent across interviews to present themselves as being honest, and therefore avoid introducing reminiscent detail. However, truth tellers are less concerned with appearing consistent, and therefore reconstruct the event from memory, thereby introducing reminiscent detail.

## 2 | THE SELF-ADMINISTERED INTERVIEW

The self-administered interview (SAI<sup>®</sup>; Gabbert, Hope & Fisher, 2009) was initially developed as a tool to enable investigators to gather an extensive initial report from cooperative eyewitnesses, either at the scene of an event, or shortly after, without placing any additional strain on available resources. The SAI is a reporting tool that draws on memory theory and empirical research to promote a comprehensive free recall, from witnesses, in their own words. The SAI has been shown to facilitate the reporting of more correct details, compared to a written Free Recall (WFR) statement collection method (Gabbert et al., 2009), and greater consistency (e.g., participants completing the SAI included proportionally more repetitions and fewer reminiscences during a second recall after a 1-week delay than those completing a WFR; Hope et al., 2014), which is beneficial in legal settings where consistency is valued (Fisher et al., 2009). It has been found that completing a SAI shortly after witnessing an event leads witnesses to recall more correct information in a delayed recall test, to report less misleading post-event information, and to be more resistant to misleading questions (Gabbert, Hope, Fisher, & Jamieson, 2012). Research suggests that the SAI should be administered as soon as possible, as recall accuracy decreases and post-event misinformation susceptibility increases when the SAI is administered more than 24 hr after an event (Paterson, Eijkemans, & Kemp, 2015).

Due to the greater amount of detail prompted with the SAI (Gabbert et al., 2009), we predicted that in the initial account all participants completing the SAI would include significantly more details than those completing a WFR (Hypothesis 1), and that statements provided by truth tellers completing the SAI would have significantly higher accuracy rates than statements provided by truth tellers completing the WFR (Hypothesis 2). With research indicating that truth

tellers report more details than liars (Amado et al., 2016; DePaulo et al., 2003), it was predicted that truth tellers would include significantly more repetitions in their subsequent interview than liars, particularly if they initially completed the SAI, as they would have initially reported more details which they could repeat (Hypothesis 3). It was also predicted that as reminiscences are commonly found in repeated honest recalls (Fisher et al., 2009; Gilbert & Fisher, 2018; Strange et al., 2014), truth tellers will include significantly more reminiscences in their subsequent interview than liars, who may avoid including new information, as they wish to be perceived as consistent (Granhag & Strömwall, 1999), particularly if they initially completed the SAI (Hypothesis 4). Liars may feel that by completing the SAI, they have already provided an adequately detailed account and be reluctant to expand their statement further, in an effort to keep their story simple (Granhag & Strömwall, 2002; Hartwig, Granhag & Strömwall, 2007).

### 3 | METHOD

#### 3.1 | Participants

A total of 128 participants (45 male, 83 female, with ages ranging from 18 to 74 years,  $M = 26.92$  years,  $SD = 9.84$  years) were recruited from a British university using opportunity sampling. Participants received a £10 honorarium on completion of the research session. A total of 46 participants were undergraduate students, with the remaining 82 being local community members.

#### 3.2 | Design

This study used a 2 (Veracity: truth teller vs. liar)  $\times$  2 (Initial account type: SAI vs. WFR)  $\times$  2 (Time of interview: initial account vs. subsequent interview) mixed design. Veracity and Initial account type were between-subjects measures, and time of interview was a within-subjects measure as all participants provided both an initial account and subsequent interview. Participants were randomly allocated to either the truth teller or liar condition before being asked to watch the stimulus video, and were then randomly allocated to either the SAI or WFR condition to give their initial account of what they had witnessed. Following a delay of 1 week, all participants returned to be interviewed. This study was preregistered on the Open Science Framework (OSF), and all of the materials and datasets can be found at [osf.io/fjuzm/](https://osf.io/fjuzm/). The preregistration can be found at [osf.io/y4hfw/](https://osf.io/y4hfw/).

### 3.3 | Materials

#### 3.3.1 | Stimulus materials

A film was shot in first-person perspective and featured the view of an individual who walks down a footpath in a park, checks a wristwatch for the time, accidentally bumps into another person, receives a

phone call, and then witnesses a car hitting a pedestrian in a car park. The viewer then sees the driver exit the car, stab the pedestrian who had been hit by the car, and then shout, wave a knife, and chase other witnesses. The perpetrator comes toward the viewer and speaks directly to them before continuing past. A man dressed in military uniform then approaches the viewer and informs the viewer that this was a terrorist attack, and that they need to complete a written report about what they had witnessed. The event lasted 1 minute 55 seconds.

#### 3.3.2 | Initial accounts

Participants in the SAI condition were provided with a copy of the SAI to complete. The SAI contains several sections (as described in Gabbert et al., 2009), and asks for descriptions of: what happened, the scene, people present at the scene, the perpetrator, any vehicles involved, how well participants could see the incident, and any other information about the event. The first section promotes the importance of following the instructions, highlighting the requirement to complete the sections in sequential order. In the second section, witnesses are requested to complete a free recall, drawing in the Context Reinstatement and Report Everything components of the Cognitive Interview. The next section focuses on details regarding the perpetrators while in the following section witnesses are instructed to provide a sketch the scene. In the final section, witnesses are asked to report aspects they may have not previously considered, such as viewing conditions at the scene (e.g., distance from incident, weather, etc.). Participants completed the SAI in an average of 25 minutes 18 seconds ( $SD = 9$  minutes 24 seconds).

Participants in the WFR condition were provided with instructions for completing the WFR and were given a blank sheet of paper for their statement. Participants were instructed that they should report all of the details about the incident and the people involved that they could remember, and to avoid making guesses about things they were unable to remember. They were advised that they could report the event in whatever manner they preferred (e.g., paragraphs, bullet points, etc.) and that the information that they provided should be as detailed and accurate as possible. Participants completed the WFR in an average of 13 minutes 24 seconds ( $SD = 7$  minutes 44 seconds).

#### 3.3.3 | Post-report questionnaires

A 17-item post-report questionnaire was administered after participants had provided their initial account to gather information about their motivation, comprehension of the task, perceived interview performance and memory of the video (rated on 10-point scales). Five questions concerned comprehension of the task (e.g., "I found the instructions easy to understand"), five questions concerned perceived interview performance (e.g., "I was very detailed in my account"), and five questions concerned memory for the video (e.g., "My memory of

the video is very clear"). The questionnaire also included an open-ended question about strategies used by truth tellers and liars.

### 3.4 | Procedure

Participants were randomly allocated to act as a truth teller or a liar in the study, and briefed accordingly. Truth tellers were informed that they were going to watch a video of a short fictional attack being conducted by enemy forces, and that they were to treat it as an event that they were witnessing live. They were told to be completely truthful in their written report to help their team catch the perpetrator. Liars were also informed that they were going to watch a video of a short fictional attack, and to treat it as an event that they were witnessing live. However, they were told that they were an undercover colleague of the perpetrator, and that their role was to protect this colleague by misleading the enemy forces who would investigate the incident. Therefore, they were informed that they should lie about the perpetrator when writing their report, so both they (the participant) and their colleague (the perpetrator) could evade detection by the enemy forces.

Participants were then invited to put on the virtual reality headset and a set of headphones to watch the video. Virtual reality presentation was used to increase immersion in the event (Bowman & McMahan, 2007). After watching the stimulus film, all participants removed the headset and headphones, and were asked to complete either the SAI or WFR initial account regarding what they had witnessed. Regardless of interview condition, all participants were instructed to complete their account in their own time, using their own words, whilst bearing in mind their objective as either a truth teller or liar. They were shown to a quiet room where they completed the report independently. Upon completing their report, they were asked to complete the demographic and post-report questionnaires. Descriptive statistics and group comparisons for these questionnaires are provided in Appendix S1.

Participants returned to the laboratory 7 days later for their subsequent interview. On arrival they were asked if they remembered their veracity condition (all participants did), and were reminded of their objective. Truth tellers were informed that the person who was going to interview them was on the same team as they were, and consequently they were instructed to provide a completely honest report about what they saw. Liars were informed that the person who was going to interview them was working for enemy forces, and that they should deceive the interviewer to protect the colleague who conducted the attack. Participants were then introduced to the interviewer and informed that the interview would be audio recorded. All participants were interviewed individually. The interviewer, who had not read the participants' previous accounts, was instructed to elicit as much information as possible using a modified Structured Interview Protocol (SIP; Gabbert et al., 2016). The SIP is a flexible interview protocol derived from best practice policy (e.g., PEACE). It opens with rapport building behaviours (the engage and explain phase of PEACE interviewing) and starts with an open-ended request for interviewees

to provide a detailed free narrative. Interviewers are instructed to prioritise the use of open questions throughout the interview to maximise information gathering. In each interview conducted for the current research, the interviewer asked for an open-ended free recall, and two open-ended prompt questions regarding the critical incident. Interviews took on average 7 minutes 39 seconds ( $SD = 1$  minute 1 second). After the interview, participants were asked to complete the same post-report questionnaire that they had completed after their initial account. They were then fully debriefed, provided with another opportunity to ask any questions, and paid a £10 honorarium.

### 3.5 | Coding and analysis

The transcripts were first coded for detail (specified as "person," "object," "action" and "location," following the coding protocol used by Gabbert et al., 2009). For example, "a man got out of the car, he was a skinny man" would contain two person details ("man" and "skinny"), one action detail (got out) and one object detail (car). Details were only counted the first time they were mentioned in each account. A total detail score for each account was computed by adding the number of person, object, action and location details provided. The details found in truth tellers' statements were further coded for accuracy (specified as "correct detail," "incorrect detail" and "confabulation," as used in Vredeveltdt, Baddeley & Hitch, 2014). With respect to liars' statements,<sup>1</sup> as liars were required to embed their lies in an account of the same incident (i.e., acknowledge they were there but misrepresent what happened and who was involved), we coded for "truthful" details (i.e., details that were accurate), as well as "fabricated" details (i.e., details that were completely fabricated and of which there was no evidence in the film, such as mention of additional witnesses), and "distorted" details (i.e., amending details in the video, such as altering the description of the perpetrators' clothes, so they were a distorted version of actual details).

For both truth tellers and liars, the details provided in their subsequent interviews were compared to those provided in their initial accounts, and categorised as the four elements of consistency (specified as "repetition," "omission," "reminiscent" and "contradiction"<sup>2</sup>, as described by Fisher et al., 2013). A subset of 26 interviews (20%) was coded by a second researcher, who was blind to the experimental conditions. Any disagreements between the two raters were discussed and resolved. The inter-rater reliability between the coders was high for detail in the initial accounts (intra-class correlation coefficient [ICC] = .94) and detail in the subsequent interviews (ICC = .91). Satisfactory reliability was also found across the two coders for repetitions (ICC = .86), reminiscences (ICC = .73), contradictions (ICC = .77) and acceptable for omissions (ICC = .51). Truth tellers' accounts were also coded for accuracy, and inter-rater reliability was found to be good for the initial accounts (ICC = .91), and the subsequent interviews (ICC = .86). Liars' initial accounts coded for truthful (ICC = .96), fabricated (ICC = .97) and distorted details (ICC = .95) were also found to have high inter-rater reliability, as were their subsequent interviews (truthful ICC = .88, fabricated ICC = .92, and

distorted ICC = .94). For each of the analyses, parametric assumptions were checked and met, all  $p$ s > .05.

## 4 | RESULTS

### 4.1 | Analyses relating to the hypotheses<sup>3</sup>

#### 4.1.1 | Initial account

A 2 (Veracity: truth teller vs. liar)  $\times$  2 (Initial account type: SAI vs. WFR) analysis of variance (ANOVA) revealed a main effect for Veracity,  $F(1, 124) = 12.99$ ,  $p < .001$ ,  $f = .30$ ,  $BF_{(10)} = 13.43$ , with truth tellers reporting more details than liars (Table 1). As was predicted in Hypothesis 1, there was also a significant effect of the Initial account type on the number of details provided,  $F(1, 124) = 46.04$ ,  $p < .001$ ,  $f = .61$ ,  $BF_{(10)} = 5.33 \times 10^6$ , with those completing the SAI providing significantly more details than those who completed a WFR (see Table 1). No significant interaction effect was found,  $F(1, 124) = .35$ ,  $p = .55$ ,  $BF_{(01)} = 2.28$ .

An independent samples  $t$ -test found no significant difference in the accuracy of the initial accounts given by truth tellers completing the SAI or a WFR,  $t(62) = 1.46$ ,  $p = .55$ ,  $BF_{(01)} = 3.37$ . Therefore, no support was found for Hypothesis 2. Furthermore, there was no significant difference in the accuracy of the subsequent interviews given by truth tellers completing the SAI compared to truth tellers completing a WFR,  $t(62) = .65$ ,  $p = .52$ ,  $BF_{(01)} = 3.28$ .

#### 4.1.2 | Repetitions

We ran a 2 (Veracity: truth teller vs. liar)  $\times$  2 (Initial account type: SAI vs. WFR) ANOVA, to examine the number of repetitions provided by truth tellers and liars. There was a main effect of Veracity on the

number of details that were repeated,  $F(1, 124) = 10.64$ ,  $p = .001$ ,  $f = .29$ ,  $BF_{(10)} = 11.23$ , with truth tellers providing significantly more repetitions ( $M = 30.27$ ,  $SD = 10.87$ , 95% CI [27.61, 32.93]) than liars ( $M = 24.22$ ,  $SD = 10.81$ , 95% CI [21.57, 26.87]). We also found a main effect of Initial account type,  $F(1, 124) = 9.89$ ,  $p = .002$ ,  $f = .28$ ,  $BF_{(10)} = 15.60$ , with those who initially provided a SAI including more repetitions in their second account ( $M = 30.16$ ,  $SD = 11.77$ , 95% CI [27.28, 33.04]) than those who used the WFR ( $M = 24.33$ ,  $SD = 9.89$ , 95% CI [21.01, 26.75]). There was no significant interaction between Veracity and Initial account,  $F(1, 124) = .81$ ,  $p = .37$ ,  $BF_{(10)} = .36$ , and, consequentially, no support was found for Hypothesis 3.

#### 4.1.3 | Reminiscences

We ran a 2 (Veracity: truth teller vs. liar)  $\times$  2 (Initial account: SAI vs. WFR) ANOVA to examine the number of reminiscences provided by truth tellers and liars. All participants provided at least one reminiscence detail in their subsequent interview, though there were no significant main or interaction effects revealed by this analysis, all  $F$ 's < 3.07, all  $p$ s > .08,  $BF_{(10)} > .76$ . Therefore, no support was found for Hypothesis 4.

## 4.2 | Additional analyses

### 4.2.1 | Details provided in subsequent interview

A 2 (Veracity: truth teller vs. liar)  $\times$  2 (Initial account: SAI vs. WFR) ANOVA revealed a main effect for Veracity,  $F(1, 124) = 12.67$ ,  $p = .001$ ,  $f = .32$ , with truth tellers reporting more details in their subsequent interview than liars (Table 1). There were no significant Initial account type main effects or interaction effects, all  $F$ 's < 1.96, all  $p$ s > .16.

**TABLE 1** Number of details reported in the initial account and subsequent interview (SD)

	Truth teller	Liar	Total
Initial account			
SAI	48.75 (14.14) 95% CI [43.65, 53.84]	42.09 (12.20) 95% CI [37.69, 46.49]	45.42 (13.52) * 95% CI [42.33, 48.52]
WFR	35.06 (12.87) 95% CI [30.41, 39.70]	25.78 (10.55) 95% CI [21.98, 29.58]	30.42 (12.57) * 95% CI [27.33, 33.52]
Total	41.91 (15.08) * 95% CI [38.81, 45.00]	33.93 (13.98) * 95% CI [30.84, 37.03]	
Subsequent interview			
SAI	50.38 (13.79) 95% CI [45.82, 54.93]	43.88 (12.24) 95% CI [39.32, 48.43]	47.13 (13.34) 95% CI [43.91, 50.34]
WFR	48.84 (14.54) 95% CI [44.29, 53.40]	38.97 (11.21) 95% CI [34.42, 43.52]	43.91 (13.81) 95% CI [40.69, 47.13]
Total	49.61 (14.08) ** 95% CI [46.39, 52.82]	41.42 (11.90) ** 95% CI [38.20, 44.64]	

Abbreviations: SAI, self-administered interview; WFR, written free recall.

Notes: \*  $p < .001$ , \*\*  $p = .001$ .

#### 4.2.2 | Comparison of detail across accounts

We conducted a 2 (Veracity: truth teller vs. liar)  $\times$  2 (Initial account: SAI vs. WFR)  $\times$  2 (Time: initial account vs. subsequent interview) repeated measures ANOVA, with time as a within subjects factor, on the amount of detail provided in the initial account and subsequent interview. Findings indicated a main effect of time, with significantly more detail reported in the subsequent interview ( $M = 45.52$ ,  $SD = 13.62$ , 95% CI [43.24, 47.79]) than the initial account ( $M = 37.92$ ,  $SD = 15.03$ , 95% CI [35.73, 40.11]),  $F(1, 124) = 101.75$ ,  $p < .001$ ,  $f = .91$ .

There was also an interaction effect of time and initial account type,  $F(1, 124) = 61.23$ ,  $p < .001$ ,  $f = .70$ , such that there was a significant main effect of time (initial account vs. subsequent interview) for those in the WFR condition,  $F(1, 124) = 160.42$ ,  $p < .001$ ,  $f = 1.14$ , but not those in the SAI condition,  $F(1, 124) = 2.56$ ,  $p = .11$ . To further explore the effect of time on those in the WFR condition, we broke the interaction down into the amount of detail reported in each account. Statistical significance of a simple main effect was accepted at a Bonferroni-adjusted alpha level of .025, in order to not capitalise on probabilities (Cramer et al., 2016). For those in the WFR condition, there were significantly fewer details reported in the initial account ( $M = 30.42$ ,  $SD = 8.84$ , 95% CI [27.33, 33.52]) than in the subsequent interview ( $M = 43.91$ ,  $SD = 9.20$ , 95% CI [40.69, 47.13]). There was no significant difference between the amount of details reported in the initial account ( $M = 45.42$ ,  $SD = 13.52$ , 95% CI [42.33, 48.52]) and the subsequent interview ( $M = 47.13$ ,  $SD = 13.34$ , 95% CI [43.91, 50.34]) for those in the SAI condition. The interaction effect of time and veracity was not significant,  $F(1, 124) = .02$ ,  $p = .89$ , nor was the interaction of time, veracity and initial account,  $F(1, 124) = .06$ ,  $p = .80$ .

#### 4.2.3 | Omissions

To explore the amount of detail that liars and truth tellers omitted from their initial accounts, we conducted a 2 (Veracity: truth teller vs. liar)  $\times$  2 (Initial account: SAI vs. WFR) ANOVA on the number of omitted details. There was a main effect of Initial account,  $F(1, 123) = 142.77$ ,  $p < .001$ ,  $f = 1.06$ , with those completing the SAI in their initial account omitting more details in their subsequent interview ( $M = 15.05$ ,  $SD = 5.30$ , 95% CI [13.76, 16.36]) than those who initially completed a WFR ( $M = 5.33$ ,  $SD = 3.83$ , 95% CI [4.39, 6.27]). There was also a main effect for veracity,  $F(1, 123) = 4.24$ ,  $p = .042$ ,  $f = .18$ , with truth tellers omitting more details ( $M = 11.02$ ,  $SD = 6.88$ , 95% CI [9.33, 12.71]) than liars ( $M = 9.27$ ,  $SD = 6.46$ , 95% CI [7.69, 10.85]). No significant interaction was found,  $F(1, 124) = .16$ ,  $p = .69$ .

#### 4.2.4 | Details provided in deceptive accounts

To compare the types of details that liars provided in their accounts, we conducted a series of independent samples *t*-tests. Statistical significance of the six *t*-tests was accepted at a Bonferroni-adjusted

alpha level of .008, in order to not capitalise on probabilities. In the initial account, liars who completed the SAI provided more truthful details ( $M = 23.00$ ,  $SD = 10.19$ , 95% CI [19.26, 26.74]) than liars who completed the WFR ( $M = 15.94$ ,  $SD = 9.20$ , 95% CI [12.62, 19.26]),  $t(61) = 2.89$ ,  $p = .005$ ,  $d = .73$ . Liars completing the SAI provided more distorted detail in the initial account ( $M = 11.68$ ,  $SD = 5.86$ , 95% CI [9.53, 13.83]) than liars completing the WFR ( $M = 5.22$ ,  $SD = 3.80$ , 95% CI [3.85, 6.59]),  $t(61) = 5.20$ ,  $p < .001$ ,  $d = 1.31$ . There was no significant difference in the initial account between the number of fabrications reported by liars who completed the WFR ( $M = 4.69$ ,  $SD = 4.22$ , 95% CI [3.23, 6.15]) and liars who completed the SAI ( $M = 7.26$ ,  $SD = 8.00$ , 95% CI [4.49, 10.03]),  $t(61) = 1.60$ ,  $p = .11$ . In the subsequent interview, we found no significant difference between the amount of distorted detail reported by liars who had previously completed the SAI ( $M = 9.84$ ,  $SD = 5.09$ , 95% CI [7.97, 11.71]) and liars who had previously completed the WFR ( $M = 7.38$ ,  $SD = 4.62$ , 95% CI [5.71, 9.05]),  $t(61) = 2.01$ ,  $p = .048$ . We also found no significant difference between liars who completed the WFR ( $M = 7.69$ ,  $SD = 8.40$ , 95% CI [4.78, 10.60]) or SAI ( $M = 7.90$ ,  $SD = 8.35$ , 95% CI [5.01, 10.79]) for the amount of fabricated details provided in the subsequent interview,  $t(61) = 0.10$ ,  $p = .92$ . There was also no significant difference for the amount of truthful information provided by liars who completed the SAI ( $M = 26.48$ ,  $SD = 8.67$ , 95% CI [23.47, 29.48]) and the WFR ( $M = 24.53$ ,  $SD = 9.22$ , 95% CI [21.34, 27.72]) in the subsequent interview,  $t(61) = .87$ ,  $p = .39$ .

## 5 | DISCUSSION

Replicating previous findings in deception literature (DePaulo et al., 2003), truth tellers provided significantly more details than liars in their initial accounts and subsequent interviews. Truth tellers also repeated more and omitted more details in the subsequent interview than liars did. As truth tellers reported a greater amount of detail in the initial account than liars, this provided a greater opportunity for more details to be repeated and omitted.

Contrary to the repeat versus reconstruct hypothesis (Granhag & Strömwall, 1999), no difference emerged between truth tellers and liars in the number of reminiscent details introduced in the subsequent interview. This may be due to the extensive nature of the subsequent interview, which may have exhausted the memory of all interviewees. The overall pattern, truth tellers repeated and omitted more details than liars did but no difference in reminiscences, replicates Granhag and Strömwall (2002).

Consistent with previous research (Gabbert et al., 2009; Hope et al., 2014), participants who completed the SAI reported more details in their initial account than participants who completed the WFR (supporting Hypothesis 1). However, unlike Hope et al. (2014), no difference was found in the amount of detail reported in the subsequent interview by participants who had previously completed the SAI compared to those who had completed the WFR. In the subsequent interview, Hope et al. (2014) used the Cognitive Interview (CI) technique (which the SAI is based upon) resulting in overlap

between the two interviews. This overlap may have allowed SAI participants to use similar processing across both retrieval tasks. As we did not use CI in the current experiment, it is possible that the questions in the subsequent interview did not facilitate SAI participants' retrieval in the same way.

Consistent with Gilbert and Fisher (2006), all participants provided some reminiscent details during their subsequent interviews, and in both the SAI and WFR conditions, significantly more detail was provided in the subsequent interviews than in the initial accounts. These findings may be due to the change in modality from a written to a verbal account, as people tend to report more information when they speak than when they write (Elntib, Wagstaff, & Wheatcroft, 2015; Sauerland & Sporer, 2011).

It was found that participants who initially completed a SAI repeated more details and omitted more details in their subsequent interviews than those completing the WFR. This is likely due to the greater amount of detail reported in the initial accounts prompted by the SAI, which gave participants more opportunity to repeat and omit details in the subsequent interview.

We did not find any difference in accuracy rates during the initial account or subsequent interviews for truth tellers completing the SAI compared to those completing a WFR, and therefore no support was found for Hypothesis 2. This could be due to participants being informed that they needed to provide a truthful report about the event before witnessing it. They may have thus paid close attention to the event.

When examining the types of detail constituting the initial deceptive accounts, it was found that liars completing the SAI provided more truthful details and more distorted details than liars completing the WFR. The current study required liars to embed their deception within truthful peripheral detail, as oppose to fabricate an entire scenario. This reflects real life better, where deceptive individuals are likely to embed their fabrications within truthful details (Leins, Fisher, & Ross, 2013; Vrij, 2008).

In real-life interviews, interviewers would have access to the initial account to assist in developing an interview plan. Since SAI has been developed for, and is recommended for use in, incidents involving multiple witnesses, statements can be compared with other witnesses' accounts (or physical evidence if available). Such comparisons would give investigators an idea which details reported in the SAI are truthful and which are deceptive. This knowledge could be used in the subsequent interview where investigators could test liars' commitment to deceptive details through further questioning. In the current study, the interviewer had not read any of the initial accounts provided by participants, and followed an interview script which did not permit strategic questioning in the subsequent interview.

We did not find any Veracity  $\times$  Initial account type interaction effects. The SAI interview resulted in more details in the initial account than the WFR, regardless of Veracity. This may be due to the prompts within the SAI, which provides participants with a framework to expand the number of reported details, resulting in a more comprehensive report being provided than in the WFR by both truth tellers and liars.

In the present experiment we used the coding scheme that is typically operationalised for SAI research (and memory/investigative interviewing research more generally). It is possible that the SAI condition would have had a beneficial effect on cues to deception (cf. WFR) if coding schemes typically used in deception research had been used, such as Reality Monitoring (Sporer, 2004) or Content-Based Criteria Analysis (Köhnken, 1996). We think this is unlikely, because the current coding system provided differences between truth tellers and liars overall, which means it was sensitive enough to detect such differences.

We did not find any significant interactions for any of the components of consistency, and therefore no support was found for Hypothesis 3 or Hypothesis 4. It appears that the SAI (cf. WFR) affects truth tellers' and liars' consistency equally, as by providing the framework for both truth tellers and liars to commit more detail, it also provides the opportunity for these details to be repeated, omitted and expanded upon, regardless of veracity.

## 6 | CONCLUSIONS

In conclusion, the SAI proved to be an effective information-gathering tool but did not appear to facilitate deception detection any better than the WFR. With respect to a Veracity effect related to consistency, there was no significant difference in the number of reminiscences provided in the subsequent accounts of truth tellers and liars (contradicting the repeat versus reconstruct hypothesis); however, truth tellers were found to repeat more and omit more information than liars.

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### CONFLICT OF INTERESTS

The authors have no conflicts of interests to declare.

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### ENDNOTES

<sup>1</sup> This coding scheme is exploratory and was developed after collecting the data to identify the types of details liars used to build their narrative. Given it is exploratory nature, this coding and subsequent analyses were not included in the pre-registration.

<sup>2</sup> Contradictory details were relatively infrequent within the subsequent interviews (as has previously been found by Granhag and Strömwall, 2000, 2001) and were not suitable for meaningful statistical analysis. When contradictions did occur, there was only one contradictory detail in 18.9% of statements, and two contradictory details in 11.8% of statements, with the data being skewed towards absence.

<sup>3</sup> While our preregistration stated the data would be analysed with analysis of covariance, it became clear that, as we had manipulated one group to provide more information (i.e., complete the SAI), it did not make sense to control for the greater amount of information subsequently. Therefore, we report the results of ANOVAs for repetitions, reminiscences and omissions.

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