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Interviewing young adolescent suspects: When to reveal incriminating information?

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ABSTRACT

Recent research has demonstrated that the way in which interviewers reveal information/evidence to interviewees/suspects can produce noticeable differences between truthful and deceptive verbal statements. However, very little of this research has involved adolescents. In the present study, 12 to 14 year old adolescents were asked to commit (n = 26) or not to commit (n = 26) a mock crime and at interview to deny involvement in this crime. Prior to interview some information about each adolescent's behaviour was made available to the interviewer but this was not enough to enable determination of whether he or she had committed the crime. The interviewer revealed such information either at the beginning of the interview (the 'traditional method'), at the end of the interview (as pioneered by the 'SUE' technique), or gradually. The interviews were analysed for interviewees' 'evidence omissions' and 'statement-evidence contradictions'. As predicted, liars omitted more crime-related information/details and their statements were significantly more inconsistent with the information/evidence known to/disclosed by the interviewer. The timing of the interviewer's evidence revelation had a significant effect on liars' mentioning during their free recall of some of this information and on the total number of details mentioned in free recall.

La entrevista a adolescentes sospechosos: ¿cuándo revelar información incriminatoria?

Palabras clave:
Entrevista
Sospechosos
Adolescentes
Información
Confesión

RESUMEN

Investigaciones recientes han demostrado que la forma en que los entrevistadores revelan información/pruebas a los entrevistados/sospechosos puede producir diferencias considerables entre declaraciones orales verdaderas y falsas. Sin embargo, muy poca investigación se ha centrado en adolescentes. En este estudio se pidió a adolescentes de 12 a 14 años que cometieran (n = 26) o no cometieran (n = 26) un delito en un contexto de simulación y que negaran en una entrevista la participación en dicho delito. Previamente a la entrevista se le proporcionó al entrevistador cierta información sobre la conducta de cada adolescente, pero no era suficiente para establecer si había cometido el delito. El entrevistador revelaba dicha información bien al inicio de la entrevista ('método tradicional'), bien al final (como establece la técnica SUE) o gradualmente. En las entrevistas se analizó la 'omisión de pruebas' y las 'contradicciones en la declaración'. En consonancia con las predicciones, los mentirosos omitían más información/detalles relacionados con el delito y sus declaraciones eran significativamente más incongruentes con la información/pruebas conocidas/reveladas por el entrevistador. La dosificación temporal con la que el entrevistador revelaba las pruebas tuvo un efecto significativo en la declaración de los mentirosos durante el recuerdo libre de la información y en el número total de detalles mencionados en el recuerdo libre.

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Liars and truth-tellers usually share the same goal of wanting to be perceived as a truth-teller. They engage in self-regulatory strategies whereby they attempt to control their behaviour to create an impression that they are telling the truth (Granhag & Hartwig, 2008). However, a recent evolving idea is that liars may differ from truth-tellers in the actual strategies they employ when attempting to be perceived as innocent (Clemens et al., 2010).

In an interrogative situation, guilty suspects must decide what information to avoid, deny and admit (Granhag & Hartwig, 2008). It is therefore likely that they may engage in a high level of 'decision control' (Fiske & Taylor, 2008) by planning plausible statements that illustrate their innocence. For example, in a situation whereby the suspect knows the interviewer has particular evidence against them, the suspect may admit to this but by giving an innocent explanation (e.g., "My fingerprints were on the knife because I picked it up to move it to see if she was still alive"). However, when the suspect is unaware of what evidence the interviewer has against him/her, he/she may merely deny or avoid involvement in the event (Granhag & Hartwig, 2008) because any information that they do provide might be inconsistent with the evidence the interviewer may have against them.

However, truth-tellers are less likely to perceive such 'interviewer-known' information as a threat. Indeed, it is this information that should correspond with their truthful account, thus revealing them to be telling the truth. In line with this, truth-tellers often voluntarily disclose such information (Hartwig, Granhag, & Strömwall, 2007), speak for longer (Hartwig, Granhag, Strömwall, & Kronkvist, 2006) and provide extensive details (Vrij, Mann, Leal, & Fisher, 2010). Given that innocent and guilty suspects experience these rather different psychological processes, it may be possible to amplify these differences to elicit cues to detect deceit.

Evidence based approaches

Often, in an interrogative situation lie-catchers will have available to them items/pieces of information that incriminates a suspect. Traditional police interviews commonly involved presenting all such evidence at/near the beginning of the interview (Yeschke, 1997). However, disclosing all such evidence to a suspect before they have given their version of events allows the suspect to become aware of information that the lie-catcher has. On the other hand, disclosing the evidence after the suspect has given her/his version of events may well be a useful way to assess contradictions/inconsistencies between the suspect's statement and this evidence/information.

Strategic Use of Evidence

One approach, known as the strategic use of evidence (SUE) technique, initially attempted to do this by disclosing the relevant three pieces of information/evidence towards the very end of an interview (Hartwig et al., 2006). These authors conducted in Sweden a pioneering study in which (very new) police recruits were asked to interview (mock) suspects about an event that was not that complex. Those recruits who interviewed using the SUE approach produced an overall accuracy rate of 85.4% (truth accuracy 85%; lie accuracy 85.7%) compared to an overall accuracy rate of 56.1% (truth accuracy 57.1%; lie accuracy 55%) obtained by recruits who merely used their 'lay' skills of interviewing. When late disclosure was compared with early revelation, liars' verbal behaviour was found to be significantly more inconsistent with the evidence. Hartwig, Granhag, Strömwall, and Vrij (2005) found that video recordings of use of the SUE approach yielded above chance detection of liars (67.6%), but less so of truth-tellers (53.6%). More recently, Jordan, Hartwig, Wallace, Dawson, and Xhihani (2012) again found (with adults) that late disclosure resulted in more inconsistency from liars than did early revelation.

A third alternative way of revealing the (possibly) incriminating information/evidence is to do so gradually (i.e., one piece at a time). For example, two recent studies in England explored whether this could increase rates of deception/truth detection with regard to complex events that are typical of some types of crimes (e.g., terrorism). They created an interactive game whereby participants (four per game) were incentivised to complete a series of tasks before the other players did. The task of a builder was to build a section of the Olympic stadium, whereas the task of a terrorist was to build but also later blow up the stadium. Participants were subsequently interviewed and several pieces/items of information/evidence against them were disclosed early, late or gradually. In a study (Dando, Bull, Ormerod, and Sandham, in press), a random selection of these interviews was shown to experienced police officers who were asked to make veracity judgements about each of the interviewees. Gradual disclosure resulted in the best veracity judgements. Post interview questionnaires revealed that the terrorists reported gradual revelation to be the most cognitively demanding. Despite the promising advances of the evidence usage approaches very little is known about whether such strategies can be used with children. In another study (Dando & Bull, 2011) very experienced detectives were each trained to be able to reveal the several pieces of information/evidence early or late or gradually. Their accuracy in deciding at the end of the interview whether interviewees had been lying or truthful was significantly better in the gradual interviews.

Deception detection in children

Clemens et al. (2010) were the first to explore whether the late/SUE approach could facilitate lie detection regarding 12 to 14 year old children who participated in an event. The children were subsequently interviewed and some evidence against them was disclosed at the beginning or towards the end (SUE) of the interview. When the SUE approach was employed, guilty children were less likely to mention in their free recall the incriminating evidence. When asked questions about this, the liars' statements tended to be inconsistent with the evidence. When the evidence was disclosed at the beginning of the interview, observer accuracy rate was at chance level (55%), but when the SUE approach was used this exceeded chance level (63%). Observers were more accurate at detecting truths (70%) than lies (48%) when the SUE was employed.

Cognitive development

In order to deceive, one must have insight into mental states. This involves recognising that others have knowledge, beliefs and intentions that may differ from one's own. This 'Theory of Mind' typically develops around the age of three and by beginning of adolescence most children have a firm grasp of other people's mental states. For example, Talwar, Gordon, and Lee (2007) gave 6 to 12 year old children the opportunity to cheat in a trivia game where the answers to each question were written on the back of each card. The researchers anticipated that when asked if they cheated, older children who had cheated would give an answer similar to a 'non-peeker', and purposely get the question wrong in order to appear as a truth-teller. Indeed, older children were more likely to show knowledge of such second-order beliefs. Furthermore, older children maintained consistency in their verbal deception. Executive functioning skills such as resisting automatic responses (inhibitory control) and maintaining rules in working memory are also strongly related to deception (Carlson, Moses, & Hix, 1998).

Shing, Lindenberger, Diamond, Li, and Davidson (2010) explored the executive functioning ability of a group of 4 to 15 year olds. Children took part in various tasks designed to assess inhibitory control and working memory. Older children (9.5 to 15 year olds)

were better at holding information in their mind whilst being able to suppress irrelevant or automatic behaviours, than younger children.

Collectively these findings suggest that by the age of 12 children clearly know that others' beliefs and intentions differ from their own. Furthermore, given their well-developed executive functioning skills, they appear to have the cognitive ability when required to successfully deceive others.

The current research

The current research attempts to explore whether gradual and late disclosure of evidence could produce differences in young adolescents' truthful and deceptive statements. No study has yet directly compared such approaches regarding children. This current study will partly replicate the method of Clemens et al. (2010). Based on the theory and research outlined above, it is possible to make a number of predictions:

(i) liars' free recall will consist of fewer details about the event compared with truth-tellers;
(ii) liars will omit more incriminating evidence compared with truth-tellers;
(iii) liars' statements will be more inconsistent with the evidence;
(iv) late and gradual revelation will increase such differences between liars and truth-tellers, compared to early.

Method

Participants

The participants were 54 children from a school (26 boys and 28 girls), whose mean age was 13.2 years (range = 12.0 to 14.9, SEM = 0.12). A one-way analysis of variance (ANOVA) found that the ages of the three experimental groups were not significantly different, $F(2, 51) = 2.00$, $p = .15$.

Design

Participants were randomly assigned either to the early disclosure, late disclosure, or gradual disclosure interview. The dependent variables were (i) the extent to which the child mentioned the incriminating evidence during the *free recall* phase, (ii) whether the child's statement was consistent with this incriminating evidence during the *questioning* phase, (iii) the amount of detail provided by participants in the *free recall* phase, and (iv) the amount of planning for the interview that the participants reported.

Materials and Procedure

The children were informed they would be taking part in a psychological study. Each child was randomly allocated to one of two levels of the independent variable (liar or truth-teller). Those allocated to the truth-teller condition were given a piece of paper with the letter 'A' on it, and those allocated to the liar condition were given a piece of paper with the letter 'B' on it. All children were instructed to write their initials on this piece of paper.

Children allocated to the truth-teller condition ($n = 27$) were asked to each post their piece of paper into the box marked 'A', which was a short distance away from their classroom in the school's reception area. The top of this box was covered by a briefcase, and so all of the children had to move this in order to be able to post their piece of paper into the box. The briefcase which was placed on top of the box marked 'A' was locked, and so it was not possible for children to look inside the briefcase. This ensured that children in the truthful condition would not look inside the briefcase.

The children allocated to the deceptive condition ($n = 27$) were asked to each post their piece of paper into a similar box marked 'B'. The top of this box was also covered by a briefcase, and so all of these children had to move this in order to post their piece of paper into the box. Additionally, these children were also asked to look inside the briefcase, which was not locked and could be opened.

Labelling each piece of paper as A or B allowed us to know for sure whether each child had posted their piece of paper into the correct box, which they all did.

The participants were 12 to 14 year olds and therefore consent had to be given by parents. After the school had given permission for the study to be conducted, parents/guardians were given consent forms, asking permission for their child to participate in the study. Only those children who had been given permission from their parent/guardian to participate were invited to participate in the study, and only those children who consented took part. Given that the parent or guardian consented to their child participating in the study, debrief forms were sent to the parent/guardian. Nonetheless, the children were still debriefed after the study by informing them what the study was about.

Pre-interview instructions

After taking part in the above event, all children were told that the experimenters knew that some of the children had opened the briefcase and looked inside it. However, the children were told that the researchers did not know whether each child was guilty or innocent. Children were told that they would now be interviewed about their behaviour in the event. The children were told that their answers would be audio-recorded so that their responses could be analysed afterwards. All children were given three minutes to prepare for the interview.

The interviews

Each interview was conducted by the same interviewer who followed a predetermined interview script. The interviewer did not know which children were truth-tellers and which were liars. Three different types of interviews were conducted (see below for further details): early, late, and gradual disclosure. All of the interviews comprised the same five phases, as recommended by the 'PEACE approach' used nationally by the police in England (Milne & Bull, 1999): *introduction, explain, free recall, questioning,* and *closure.*

Early disclosure

All interviews began with an *introduction* phase, whereby the interviewer introduced himself. He then asked the child whether she/he confessed to opening the briefcase and looking inside it (none did so). Next, in the *explain* phase, the interviewer disclosed early two pieces of information. Firstly, the child was told that a witness had seen her/him in the reception area of the school, the same time that the briefcase had been there. Secondly, the interviewee was told that their fingerprints had been found on the briefcase. For the truth-tellers (who could not open the briefcase) these two pieces would not be considered by them to be problematic because they had been asked to touch the briefcase. However, the liars might consider them to be problematic/incriminating. Then, in the *free recall* phase, the child was asked to give her/his own version of what happened in as much detail as possible. After this phase, the interviewer once again mentioned to the child the two pieces of incriminating evidence and asked separate *specific questions* whereby the interviewee was asked to make a comment regarding each piece of evidence. Then the child was once again asked whether she/he admitted to opening up the briefcase and looking inside it. The interview finished with a *closure* phase, whereby the interviewee was thanked for their participation in the interview.

Late disclosure

The *introduction* and *explain* phases were the same as described above for the early condition. However, these interviewees gave their *free recall* of what happened before the incriminating evidence was revealed to them. Subsequently, during the *questioning* phase, both pieces of evidence were together disclosed for the first time, and the child was then asked to make a comment regarding each piece of evidence. The child was once again asked whether they admitted to opening up the briefcase and looking inside it. The interview then finished with the *closure* phase.

Gradual disclosure

The *introduction* and *explain* and *free recall* phases were the same as described for the late condition. However during the *questioning* phase, each piece of evidence was disclosed separately. After the first piece of evidence was revealed to the interviewee, they were asked to make a comment regarding this. Subsequently, the second piece of evidence was revealed and they were asked to make a comment regarding this. The interviewee was once again asked whether they admitted to opening up the briefcase and looking inside it. The interview then finished with the *closure* phase.

The consistency of the interviewer was assessed by randomly dividing the interviews for each condition into two groups and finding no significant differences for statement-evidence consistency score, omission of evidence or details.

Post-interview questionnaire

After each child was interviewed, they were asked to fill out a questionnaire regarding their age and gender. Each child was also asked to indicate whether they were given a piece of paper with an 'A' or a 'B' written on it. (This ensured that the researchers were aware of the veracity of the child. This was verified against their initials that were written on the piece of paper that they posted.) After the child completed the questionnaire they were fully debriefed and thanked for their participation.

Coding of the interviews

In the *free recall* phase, the extent to which the child failed to mention the two pieces of evidence was recorded. Interviewee's scores could range from 0 to 2, thus a score of 2 indicated that the child failed to mention both pieces of evidence. For the *questioning* phase, the extent to which the child's statement was inconsistent with each piece of evidence was coded. Scores could range from 1 to 3. Thus, if the child's statement was perfectly consistent with a piece of evidence, the score was 1. If the child's statement was neither consistent nor inconsistent with a piece of evidence, the score was 2. If the child's statement was inconsistent with a piece of evidence, the score was 3. After giving the child a score for each piece of evidence, the average of these two scores provided her/his statement-evidence inconsistency score. (This is similar to the procedure used by Clemens et al., 2010).

Also the number of event-relevant details mentioned by interviewees in their *free recall* was coded as being either visual, auditory, spatial or location details. This is similar to the procedure used by Vrij et al. (2010).

Results

First, the findings will be presented with regard to the differences between liars and truth-tellers after which the effects of interview type will be presented.

Liars versus truth-tellers

In the free recall phase of the interviews the omission of crime related information made by liars and truth-tellers was compared using an independent samples *t*-test (a Levene's test showed that equal variances could be assumed, $F = 0.03$, $p = .88$) which revealed that liars ($M = 1.00$, $SD = 0.73$) omitted significantly, and with moderate effect size, more crime-related information than did truth-tellers ($M = 0.56$, $SD = 0.58$), $t(52) = 2.47$, $p < .05$, Cohen's $d = 0.67$. For the liars' and truth-tellers' statement-evidence consistency scores in the questioning phase another *t*-test (Levene's test showed that equal variances could be assumed, $F = 0.17$, $p = .20$) found that liars' statements ($M = 2.11$, $SD = 0.47$) were significantly, and with a large effect size, more inconsistent with the evidence than were truth-tellers' statements ($M = 1.63$, $SD = 0.51$), $t(52) = 3.61$, $p < .001$, Cohen's $d = 0.98$.

In the light of these significant differences, to determine whether it was possible to predict veracity on the basis of the number of evidence related omissions and statement-evidence inconsistencies, a logistic regression was performed (see Table 1 below). The outcome variable was the veracity of the child (liar/truth-teller), and the predictor variables were the free recall omission of evidence item 1 (i.e., not mentioning the witness), the free recall omission of evidence item 2 (i.e., not mentioning touching/fingerprints on the briefcase), and the questioning phase evidence-statement inconsistency score for evidence item 1 and for item 2. These variables were entered into the regression using a stepwise approach. The omission of evidence 1 and evidence-statement inconsistency score for evidence 1 were jointly entered at the first stage, producing a good model of fit as assessed by the Hosmer and Lemeshow test, $\chi^2(3, N = 54) = 2.86$, $p = .42$. This model was significantly better than a constant-model containing only the intercept, but no other predictor variables, $\chi^2(1, N = 54) = 8.93$, $p < .01$. The omission of evidence 1 and evidence-statement inconsistency score for evidence 1 lead to 59.3% correct classifications of liars, and 77.8% correct classifications of truth-tellers (68.5% classification overall). In the second step of the logistic regression, the omission of evidence 2 and evidence-statement inconsistency score for evidence 2 were jointly entered, producing a good model of fit as assessed by the Hosmer and Lemeshow test, $\chi^2(8, N = 54) = 7.97$, $p = .44$. This model was significantly better than a constant-model containing only the intercept, but no other predictor variables, $\chi^2(1, N = 54) = 26.41$, $p < .01$. The omission of evidence 2 and evidence-statement inconsistency score for evidence 2 lead to 88.9% correct classifications of liars, and 74.1% correct classifications of truth-tellers (81.5% overall classification).

Interview type

The omission of evidence 1 and 2 and the statement evidence inconsistency scores for evidence 1 and 2 were then used as

Table 1
Logistic regression as function of not mentioning the evidence and being inconsistent with the evidence in the child suspects' statements in predicting veracity (liar or truth-teller)

Variable	B	*SE* of B	Wald	Exp (B)	95% CI (*z*-ratio) for Exp (B)
SpecificQ_1	-1.34	702	3.639	0.26	0.66-1.04
FreeR_1	1.04	0.85	1.503	2.83	0.53-14.95
FreeR_2	-1.61	0.73	4.88*	0.20	0.05-0.83
SpecificQ_2	-1.63	0.68	5.70*	0.20	0.05-0.74

Note. SpecificQ_1 = questioning phase evidence-statement inconsistency for evidence item 1, SpecificQ_2 = questioning phase evidence-statement inconsistency for evidence item 2, FreeR_1 = mentioning in free recall evidence item 1, FreeR_2 = mentioning in free recall evidence item 2; *$p < .05$.

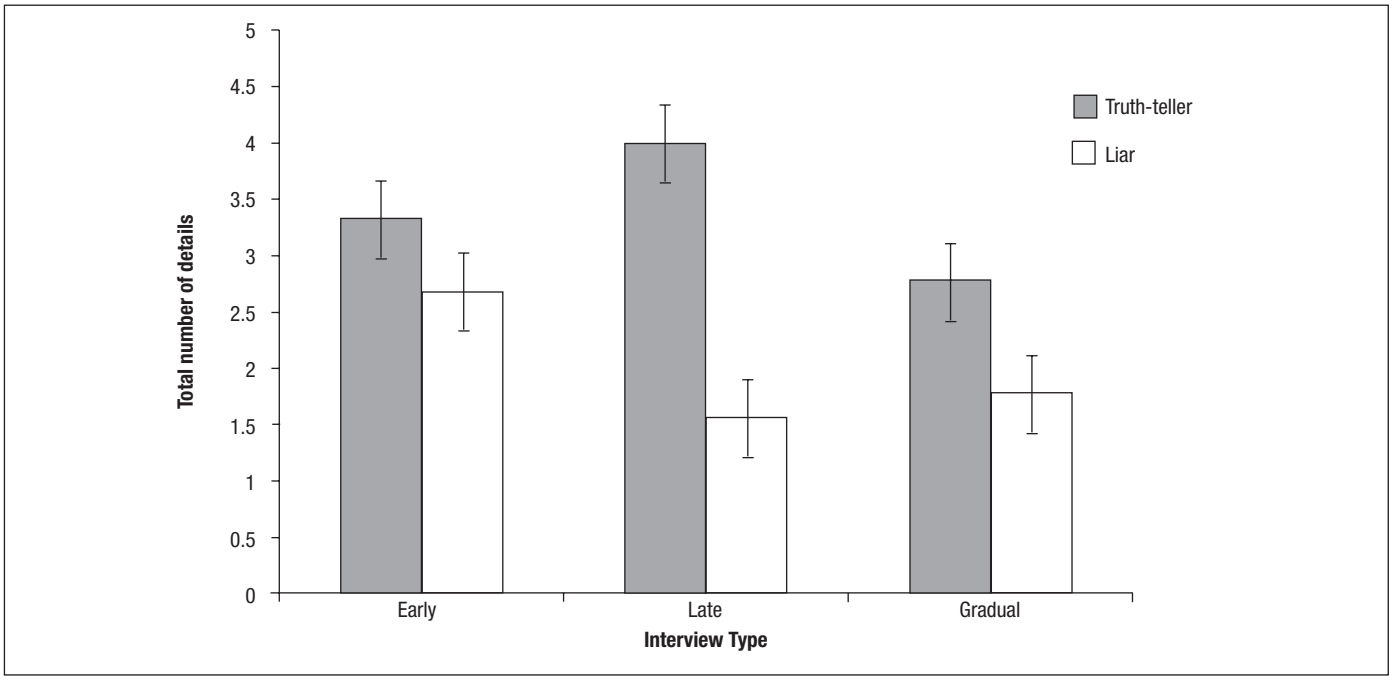

Figure 1. Total number of details included in the free recall phase as a function of Veracity X Interview Type.

dependent variables in a 2 x 3 Multivariate Analysis of Variance (MANOVA) with Veracity (liar or truth-teller) and Interview Type (early, late, gradual) as independent variables. The Veracity main effect was significant, Pillai's Trace = 0.47, $F(45) = 10.14$, $p < .001$, $n_p^2 = .474$. At a univariate level, the Veracity main effect revealed three significant findings (see Table 2). Liars more often excluded evidence 2 in the free recall phase of the interview than truth-tellers. In addition, liars' statements were more inconsistent with both evidence 1 and evidence 2 during the questioning phase, than were truth-tellers'.

Then, for liars a MANOVA was performed with the three interview types as the independent variable and the dependent variables of omission of evidence 2, inconsistency evidence 1, and inconsistency evidence 2. The effect of interview type was significant, Pillai's Trace = 0.51, $F(6, 46) = 2.62$, $p < .05$. $n_p^2 = .255$. At the univariate level this was only significant regarding the omission of evidence 2, $F(2, 24) = 7.00$, $p < .01$, $n_p^2 = .368$. As for counterbalancing type I and II errors, least significant difference (LSD) post-hoc tests were performed, showing that liars less often omitted evidence 2 (during the free recall phase of the interview) in the early revelation interviews than in the late ($p < .05$) or gradual revelation interviews ($p < .001$).

For truth-tellers a MANOVA showed no effects of interview type on evidence omission or on inconsistency, which is similar to the findings of Hartwig et al. (2006).

Table 2
Omission of evidence and statement-evidence inconsistency as a function of Veracity: significant findings

	Liar		Truth-teller			
	M	*SE*	*M*	*SE*	$F(5, 48)$	n_p^2
Omission of evidence 1	0.37	0.10	0.33	0.10	0.08	.002
Omission of evidence 2	0.70	0.80	0.22	0.80	18.27**	.276
Inconsistency evidence 1	1.96	0.12	1.48	0.12	8.35*	.148
Inconsistency evidence 2	2.33	0.11	1.63	0.11	19.78**	.276

Note. * $p < .05$; ** $p < .01$.

Details mentioned by interviewees

In order to examine the number of details interviewees mentioned during the free recall phase, a 2 (Veracity: liar vs. truth-teller) x 3 (Interview Type: early, late, gradual) ANOVA was conducted. The veracity main effect was significant, $F(1, 48) = 24.67$, $p < .001$, $n_p^2 = .339$. The interaction also was significant, $F(1, 48) = 3.91$, $p < .05$, $n_p^2 = .140$, indicating that whereas there was very little difference between liars and truth-tellers in the early revelation interviews and a somewhat larger such difference in the gradual interviews, it was the late interviews that produced the largest difference in total details between truth-tellers and liars (see Figure 1).

Discussion

The first prediction that liars' free recall would consist of fewer event details was supported, as was the hypothesis that liars would omit more incriminating evidence than truth-tellers. Furthermore, it was also found, as predicted, that liars' statements were more inconsistent with the evidence. This omission of crime-relevant information and statement-evidence inconsistency was found to be diagnostic of deception. One's fingerprints being on the briefcase (evidence 2) may be more incriminating than merely being seen at the location by a witness at the time the event occurred (evidence 1). Whether or not guilty suspects utilise self-regulatory strategies such as decision control (Fiske & Taylor, 2008) may well depend on how incriminating they view the pieces of information/evidence to be.

It was also hypothesised that both the late and gradual revelation by the interviewer compared to the early could create difficulties for the liars. This hypothesis was also supported in that for liars late and gradual revelation were associated with more statement-evidence inconsistency for evidence items 1 and 2, and a more omission of evidence 2, though at the univariate level this effect remained significant only for the omission of evidence 2 (which the regression analysis found predictive of lying). Presenting the evidence/information to interviewees after they have given their account limits the opportunity for liars to incorporate such information into their account. The two studies

by Dando and colleagues (Dando & Bull, 2011; Dando et al., in press) found that gradual revelation was particularly cognitively taxing for the liars and significantly enhanced interviewers' and observers' veracity judgments in comparison with early or late disclosure. In their studies the interviewers revealed several pieces of evidence (five in total) rather than just two as in the current study, which may not have been a sufficient amount of evidence to fully reap the benefits of gradual revelation. However, and understandably, the school did not want each child's interview to be long –in the present study most interviews did not last longer than the anticipated ten minutes. Future research with child participants would probably benefit from having more than two items of information/evidence to reveal, which not only might increase ecological validity but also may enhance the effect of gradual revelation. Nevertheless, the present study evidenced that (whenever circumstances allow) the traditional method of early revelation should be avoided.

Conflicts of interest

The authors of this article declare no conflicts of interest.

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