Lie detection and children: Impact of the mode of presentation

By

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Abstract

Although a great deal of research has examined lie-detection among adults, little research has examined the differences between audio and visual mediums for deception among children. In the current study participants were presented (n = 42) with recordings of four children, each describing his/her experience of getting glasses. Two of the accounts were truthful, two were fabricated. Half of the participants were presented with videos, half were presented with audio-recordings. Following the presentation of each recording, participants responded to questions regarding the truthfulness of each child's account. Results showed that when evaluating truth-tellers, participants' lie-detection accuracy was significantly greater than chance. Within the video condition, non-parents were shown to report significantly more lie-related cues than parents. Several deception cues were shown to be related to lie-detection accuracy.

Lie detection and children: Impact of the mode of presentation

In North America, children are routinely called upon to provide testimony in a variety of legal proceedings (Bruck, Ceci, & Hembrooke, 1998; Ceci, & de Bruyn, 1993; Zajac, Gross, & Hayne, 2003). Consequently, the truthfulness of child testimony has become a fundamental concern in both civil and criminal domains. In many cases (e.g., sexual abuse trials), legal personnel and members of the general public are largely responsible for determining the truthfulness of children's testimonial statements (Green, 2012). Adults' failure to accurately differentiate between children's truthful statements and fabricated statements can lead to wrongful convictions as well as wrongful acquittals (Kassin, 2008). Therefore, it is important that any variables that could affect the perceived believability of children's statements (e.g., emotional displays during testimony) are fully understood and taken into account in legal practice (Cooper, 2014). One important factor which may account for some degree of variability in lie detection accuracy is the medium through which testimonies are presented (i.e., audiovisual versus audio-only recordings) (e.g., Davis, Markus, & Walters, 2006). While some adult-based literature along these lines already exists, it is important to see if similar effects hold for young children, so as to offer a developmentally-appropriate consideration of judicial procedures.

Deception Cues

In human deception detection, a deception cue refers broadly to any piece of information perceived as an indicator of deceit, sent by one person and received by another. People rely on a number of different cues when judging the truthfulness of another person's testimony (e.g., Granhag & Strömwall, 2002; Wright Whelan, Wagstaff,

& Wheatcroft, 2015). These cues are generally referred to as either verbal or non-verbal. Verbal cues refer to particular qualities of the testimonial statement itself. For example, verbal cues may include such phenomena as statement coherence and consistency, amount of detail, and contextual references (Vrij, 2008). In children, the differences between verbal cues of true and intentionally fabricated reports become less distinct across multiple interviews (Saykaly, Talwar, Lindsay, Bala, & Lee, 2013). On the other hand, non-verbal cues are largely behavioural. More specifically, non-verbal cues pertain to visual and vocal characteristics of the testimony, including features such as eye gaze, movement, posture, stutter, and tone of voice (Vrij, 2008). Cooper (2014) found that when people rate child eyewitnesses as more emotional they also perceive the child as more credible and are more likely to render guilty verdicts for the defendant. Thus, it is important to understand not only which cues are most commonly relied upon, but also which cues *should* be most relied upon, in order to improve people's ability to distinguish between what is true and what is not.

When systematic tools are used to analyze verbal cues/ speech content (e.g., through the use of Criteria-Based Content Analysis) veracity judgment accuracy rates are greater than those based on non-verbal cues (Vrij, 2008). However, such systematic analyses require extensive training and are often not used in practical settings (Vrij, 2008). When non-systematic, human veracity judgments are considered, differences in accuracy become far more nuanced. Specifically, when individuals attend to a person's vocal cues (i.e., pitch of voice), lie-detection accuracy increases, but when they attend to visual cues accuracy decreases (DePaulo, Lassiter, & Stone, 1982; Feeley & Young, 2000; Mann, Vrij, & Bull, 2004; Porter, McCabe, Woodworth, & Peace, 2007). This

may be attributable in part, to the poor predictive validity of many behavioural cues (DePaulo et al., 2003), and to the behavioural similarities between liars and non-liars (Sporer, Schwandt, & Penrod, 2007). Furthermore, human lie-detection ability remains consistent across motivational contexts (Hartwig & Bond, 2014) as well as cultural contexts (Bond, Omar, Mahmoud, & Bonser, 1990).

Worldwide, there exists a commonly held belief that non-verbal, behavioural cues such as gaze aversion, posture shifting, and self-touch (e.g., touching one's face) are indicative of deception (Global Deception Research Team, 2006). However, despite this popular stereotype such behavioural cues are largely unrelated to deceit (DePaulo et al., 2003). Instead, it seems that verbal/speech-related cues may be more reliably linked to deception (DePaulo et al., 2003). For example, in some cases liars tend to include fewer details, reproduce fewer conversations, and make fewer references to time and space than do truth-tellers (Vrij, 2008). There are a number of explanations for the tendency to over-rely on non-verbal behaviour. For instance, it may simply be due to the fact that people are largely accustomed to paying attention to nonverbal behaviour in countless other social domains, such as when communicating romantic interest (e.g., Place, Todd, Penke, & Asendorpf, 2009). Given the importance of deception cues, it may be possible to present these cues in a selective manner, so as to modulate deception detection accuracy. In other words, if some cues are more indicative of deceit than others, it is plausible that lie-detection accuracy can be significantly improved by regulating the deception cues to which people are exposed.

Mode of Deception Presentation

The mode of deception presentation can determine the types of cues a person is exposed to when assessing the truthfulness of a statement. Since the accuracy of veracity judgments can be affected by the types of cues that are attended to, the mode of presentation (i.e., audiovisual vs. audio-only recordings) will likely also impact accuracy levels. Past research strongly supports this assumption (e.g., Bond, & Depaulo, 2006). In general, people are worse at determining the truthfulness of statements presented via audiovisual recordings compared to audio-recordings or written transcripts (Bradford, Goodman-Delahunty, & Brooks, 2013; Bond, & Depaulo, 2006; Kassin, Meissner, Norwick, & Wiener, 2005). Additionally, Davis and colleagues (2006) found that when truth-lie judgments are based on audio-recordings, people do not show a response bias (i.e., truth-lie hit rates are unbiased). In summary, when visual cues are entirely unavailable, people tend to detect deception with less bias and with a greater degree of accuracy. However, at present there is a dearth of research along these lines dedicated specifically to deception among children.

Given that lie-detection ability is at least partly contingent upon the mode of presentation, it is important to determine how testimony is presented in real-world situations. In keeping with the aim of the current study it is necessary to consider this specifically within the context of *child*-testimony. Goodman et al. (1992) found that testifying is a stressful experience for children, as evidenced by the children's expressed negative affect and behavioural difficulties related to their involvement in judicial proceedings. Due to the high levels of distress that children typically experience in court while facing the defendant (Goodman et al., 1992), the Canadian justice system offers a

number of alternatives to in-court testimony for any person under the age of 18 (Bala, 1999). For example, children can testify from behind a one-way screen or from a separate location and have their testimony broadcast to the courtroom via a closed-circuit television monitor (Bala, 1999). Demonstrably, there is virtually no real-world analogue for an audio-only provision of child testimony in Canada. One goal of the current study was to determine whether or not there may indeed be a call for one.

Lie Detection and Children

Most children are capable of lying by age 4 and some as early as age 2 or 3 (Lewis, Stanger, & Sullivan, 1989; Ma, Evans, Liu, Luo, & Xu, 2015; Peskin, 1992). In general, children lie for the same reasons as adults. That is, to conceal transgressions (i.e., avoid punishment) and to gain rewards (Newton, Reddy, & Bull, 2000; Wilson, Smith, & Ross, 2003). By age 6 or 7, children's lie-telling ability becomes more sophisticated due to the development of second-order belief representation (i.e., the development of the ability to create a belief based on a false belief) (Sullivan, Winner, & Hopfield, 1995). This ability is facilitated as well by a continuously increasing faculty for controlling semantic leakage (Talwar, Gordon, & Lee, 2007). In other words, children begin to develop the ability to control their verbal cues. Successful lying also requires the control of non-verbal cues, a sort of non-verbal leakage control (Talwar & Crossman, 2012). While children do display some non-verbal cues (e.g., fidgeting), virtually none of the cues that have been studied serve as accurate predictors of deception (e.g., Lewis, Stanger, & Sullivan, 1989). Alternatively, when adults rely specifically on children's verbal cues, lie-detection accuracy increases (Talwar & Lee, 2002). Thus, while children under the age of 8 may have a limited capacity for verbal and non-verbal

leakage control (Talwar & Lee, 2002), the ability to distinguish truths from lies may be more closely linked to verbal cues than to non-verbal cues.

Adults' ability to detect deception among children is generally the same as the detection of deception among other adults (e.g., Hartwig, Bond, & Hinshaw, Stephen, 2011; Talwar, Lee, Bala, & Lindsay, 2006). Additionally, Talwar et al. (2006) found that adult laypersons demonstrate a truth-bias when evaluating children's statements and that those adults' judgments were predicted by their perceptions of the children's maturity, integrity, and suggestibility. However, it has also been hypothesized that lying requires more cognitive resources than truth-telling (Vrij, Edward, Roberts, & Bull, 2000). This increased cognitive load during deception may be exacerbated in younger children. For example, Feldman and White (1980) found that older children were generally better at concealing lies than were younger children. This coincides with the aforementioned course of cognitive development that underscores successful lie-telling behaviour in children.

Additional complexities arise when parents' lie-detection ability is compared with that of non-parents. Parents tend to be more accurate than non-parents at assessing the truthfulness of children's statements (Chahal & Cassidy, 1994). Yet, it has also been documented that parents are less likely to accuse their *own* children of deceit (Talwar & Renaud, 2010). Of course, Canadian juries consist of a number of adults, each of whom may or may not be a parent. This can have serious consequences given that children are demonstrably capable of responding to court competency questions dishonestly, which in turn, may negatively impact juror perceptions of the child in question (Evans & Lyon, 2012).

The Current Study

The purpose of the current study was to determine whether or not the mode of presentation influenced the detection of children's lies as it does for the detection of adults' lies (e.g., Davis, Markus, & Walters, 2006). The narrative used in the current study centered on a trip to an optometrist and getting eyeglasses. This story was selected based on its plausibility and simplicity. In reality, only half of the children featured in the recordings had received eyeglasses. In the present study the presentation of audiovisual recordings and audio-only recordings were compared, four recordings of each type were used. Undergraduate students as well as members of the general public were randomly assigned to either the audio-only condition or the audiovisual condition and were sequentially presented with each of the four recordings. Following the presentation of each recording, the participant determined whether or not the child was telling the truth.

The current hypothesis was formulated in conjunction with previous research. That is, adults were expected to judge the veracity of the children's stories with a greater degree of accuracy when presented with the audio-only recordings and a lower degree of accuracy when presented with the audiovisual recordings. However, it is important to acknowledge that this hypothesis was informed by research that was primarily focused on adult-detection of adult-deception (e.g., Bond & Depaulo, 2006). Thus, the current study sought to fill in this gap and so the investigation remained somewhat exploratory. Audiovisual recordings were compared with audio-only recordings rather than written transcripts in light of past findings that have emphasized the predictive validity of not just verbal cues (e.g., narrative consistency) but of vocal/auditory cues (e.g., tone of voice) that transcripts inherently lack (DePaulo et al., 2003). Additionally, it was hypothesized

that veracity judgment accuracy would be negatively correlated with the number of behavioural cues reported. In other words, it was expected that as the number of reported visual cues increased, accuracy ratings would decrease.

Method

Participants

A sample of 42 adults, consisting of members of the general public as well as undergraduate students, volunteered to take part in the current study. There were 13 men and 28 women, and 1 participant who did not specify gender. The mean age of participants was 30.1 years (ages ranged from 18-83 years). Undergraduate students were recruited at Grenfell Campus, Memorial University from a number of introductory psychology classes. Those students who were a part of the psychology research subject pool (established at Grenfell Campus) received 1% (in addition to their final grade in intro psychology) for every 20 minutes they spent participating in research. In this case, these students received a bonus of 0.5% as the project took approximately 10 minutes to complete. Students who chose not to participate were given the option to complete an assignment for the same bonus. The study was also advertised online, through various forms of social media (i.e., Facebook), and through convenience sampling (i.e., word of mouth).

Materials

Videos. The current study included four different videos (with sound). Each video showed a child between the ages of 5-7 years facing the camera, responding to an interviewer who was positioned behind the camera. Two of the children featured in the recordings were male, two were female. One male and one female told the truth, while one male and one female did not. The interviewer was heard in the videos, but not seen. The interview was scripted (see Appendix) whereby all children were questioned about a trip to the optometrist to get eyeglasses. The running time of the videos ranged from

approximately 1 minute to approximately 2 minutes. The parents of the children were informed of the nature and purpose of the study and each consented to have their child appear in the videos, as well as to have the videos used strictly for the purposes of the study.

Audio. The current study included four different audio recordings. These recordings consisted of the audio from the aforementioned videos.

Questionnaire. Participants were asked to complete a questionnaire as part of the current study (see Appendix A). The questionnaire asked participants to judge whether or not the story told by the child was true, and to rate how confident they were in their decision on a likert-style scale ranging from 1 "not at all" to 5 "very confident". Participants were then asked to report what factors they considered when making their decision. Finally, demographic information was obtained.

Procedure

Participants were told that the purpose of the study was to assess the public's ability to detect deceit in children. Participants were then told that they would be presented with a short sequence of recordings, each depicting a child discussing a trip to the optometrist to get eyeglasses. Participants were reminded that the events being discussed by each child may or may not be true. Participants were instructed that following the presentation of each recording they would respond to questions related to the truthfulness of the account they had just been presented with.

Participants were randomly assigned to one of two experimental conditions. Half of the participants were presented with the four audiovisual recordings, while the other half were presented with the four audio-only recordings. Immediately after viewing/

listening to the child's story, participants were asked to complete a short questionnaire regarding whether or not they perceived the child's story as truthful and to list the factors which led them to their decision. Lastly, participants were asked to provide demographic information and were informed of the purpose of the study.

Results

Veracity Judgments

Descriptive statistics for the accuracy of veracity judgments per condition are displayed in Table 1 of Appendix B. One-sample *t*-tests were conducted to determine whether or not participants' accuracy ratings were significantly different from chance-level accuracy (i.e., 50%). When participants' ability to detect the truth was examined across conditions, participants' accuracy rate was found to be 67.9%, which was significantly greater than chance, $t(41) = 3.75$, $p = 0.01$, $r^2 = .26$. No differences were observed in participants' ability to judge the truthfulness of boys versus girls. When participants' ability to detect deceit was examined across conditions, the accuracy rate was found to be 47.6%, which was not significantly different than chance, $t(41) = -0.53$, $p = 0.60$, $r^2 = .01$. Similarly, participants' overall truth-lie detection accuracy across conditions was 56.6%, which was not significantly different than chance, $t(41) = 1.98$, $p = 0.05$, $r^2 = .09$.

A 2 (recording type) x 2 (parent or not) between subjects ANOVA was conducted in order to examine lie detection ability between those participants that were parents and those that were not. It was found that non-parents ($M = 54.5\%$, $SD = 4.8\%$) were significantly more accurate than parents ($M = 30.4\%$, $SD = 8.3\%$) at detecting children's fabricated accounts of getting glasses, $F(1, 37) = 6.31$, $p = .017$, partial $\eta^2 = .15$. Fifteen percent of the variability in the accuracy of participants' judgements about fabricated accounts could be accounted for by knowing if the participant was a parent or not. There was no significant difference found between the accuracy rates among parents ($M =$

82.1%, *SD* = 9.4%) and non-parents (*M* = 63.4%, *SD* = 5.5%) when detecting truthful accounts of getting glasses, $F(1, 37) = 2.97$, $p = .093$, partial $\eta^2 = .07$.

Mode of Presentation

The aforementioned 2 (recording type) x 2 (parent or not) between subjects ANOVA was also used to determine if the mode of presentation (i.e., audiovisual vs. audio-only) and whether or not the participant was a parent had a significant effect on the accuracy of veracity judgments. No statistically significant differences in accuracy were observed as a function of the mode of presentation, $F(1, 40) = 0.81$, $p = .375$, partial $\eta^2 = .02$). A comparison between parents and non-parents revealed that within the audiovisual condition, non-parents (*M* = 0.74, *SE* = 0.08) reported significantly more reasons for thinking that the child was lying than did parents (*M* = 0.42, *SE* = 0.13), $F(1, 37) = 4.73$, $p = .04$, partial $\eta^2 = .11$. Eleven percent of the variability in the number of lie-related cues reported by participants in the audiovisual condition could be accounted for by knowing if the participant was a parent or not

Confidence Assessment

Participants rated their confidence in their ability to judge the veracity of each child. Participants' mean confidence rating (on a scale of 1 to 5) when assessing truth-tellers (*M* = 5.45, *SD* = 1.21) was found to be significantly greater than when assessing liars (*M* = 3.37, *SD* = 0.72), $t(41) = 11.12$, $p < .001$) , $r^2 = .75$.

Correlation Analyses

A series of Pearson correlations were carried out in order to determine the relationship between veracity judgment accuracy ratings and the cues that people reported relying on when making such judgments. There was no significant relationship

observed between the types of cues people reported relying on (i.e., auditory vs. visual) and the overall accuracy of their decisions. However, when the participants assessed the two children who told the truth, it was found that veracity judgment accuracy ratings were positively correlated with reporting that those children's accounts were detailed (r_1 = .34, p = .026; r_2 = .35, p = .02) and logical (r_1 = .34 p = .03; r_2 = .37, p = .02). Thus, when assessing the two children who were telling the truth, accuracy increased as participants reported that the accounts were more detailed and more logical. It was also found that when assessing one of the two children who told the truth, accuracy ratings were negatively correlated with reporting that the child was being prompted by the interviewer (r = -.46, p < .001). Therefore, when assessing one of the two children who told the truth, accuracy decreased as participants reported that the child was being prompted by the interviewer. When participants assessed the two children who provided fabricated accounts, veracity judgment accuracy ratings were found to be positively correlated with reporting that those children lacked confidence (r_3 = .45, p < .001; r_4 = .47, p < .001), had a poor response time to the interviewer's questions (r_3 = .34, p = .03; r_4 = .49, p < .001), and were being prompted by the interviewer (r_3 = .48, p < .001; r_4 = .32, p = .04). Thus, when assessing those children who were lying, accuracy increased as participants reported that those children lacked confidence, had poor response time, and were being prompted by the interviewer.

Discussion

The current study examined participants' ability to judge the truthfulness of children's stories across audio-only and audiovisual conditions. It was hypothesized that participants would have significantly higher accuracy ratings when presented with the child's account through audio-only recordings as opposed to audiovisual recordings. However, no significant differences were found in the overall accuracy of veracity judgments as a function of the mode of presentation. This finding did not conform to previous adult-based research. Thus, future research should aim to elucidate why these differences exist. It was found that when viewing the video of the child, parents gave significantly fewer reasons for thinking the child was lying than did non-parents. This corresponds somewhat to previous research which found parents to be less likely to accuse their own child of lying, perhaps as a means of avoiding negative feelings about their child (Talwar & Renaud, 2010). It is possible that the observed effect is simply an extension of this protective mechanism. However, this remains highly speculative and alternative methods (e.g., eye tracking) should be used in the future to better ascertain the differences in the allocation of participants' attentional resources when viewing children's testimonies.

Overall, participants had difficulty determining whether the child was telling the truth or telling a lie above the level of chance (M = 56.6%). This finding coincides with previous research in child lie-detection (e.g., Talwar et al., 2006; Warren et al., 2015). In those studies overall accuracy rates were found to be 49.7% and 50.5%, respectively. Also in agreement with select previous research was the observation that participants identified the children who were telling the truth with above-chance level accuracy (M =

67.9%). For example, Talwar and colleagues (2006) found that prior to cross-examination, adults' were able to identify those children who were telling the truth with 74.0% accuracy, which is significantly greater than chance. However, there is also evidence to suggest that when deceit is more ecologically valid (e.g., when follow-up interviews are conducted) children's lies become easier to identify (e.g., Orcutt, Goodman, Tobey, Batterman-Faunce, & Thomas, 2001). This may be a consequence of deception being more difficult to maintain than truthfulness, due to a difference in cognitive load (Vrij et al., 2000) coupled with children's nascent social and cognitive development (e.g., Ding, Wellman, Wang, Fu, & Lee, 2015).

When lie-detection accuracy was compared across parents and non-parents, it was found that non-parents were significantly more accurate than parents at identifying the children who were lying than the children who were telling the truth. This difference in accuracy conflicts with previous research that has shown that parents are more accurate than non-parents at distinguishing between the truths and lies of children (Chahal & Cassidy, 1994). However, any parent/non-parent effects observed in the current study must be interpreted with caution due to a very small sample size (i.e., 11 parents participated in the current study). Therefore, a more robust parent-sample is required before this apparent deficit in parents' lie-detection ability can be appropriately compared with existing literature.

It was also hypothesized that as the number of reported visual cues increased, veracity judgment accuracy would decrease. However, no significant correlations were observed between the types of cues presented (i.e., speech-related vs. visual) and the overall accuracy rates. When evaluating children who were telling the truth, participants'

accuracy was associated with reporting that those children gave detailed and logical accounts. This is consistent with past findings that have identified similar qualitative differences between children's truthful and fabricated accounts (e.g., Volbert & Steller, 2014). Additionally, it was found that when evaluating those children who provided fabricated accounts, accuracy was associated with reporting that those children were less confident and had poor response time overall. Again, this remains in agreement with the cognitive load hypothesis (Vrij et al., 2000) as a greater degree of cognitive expenditure may inhibit response time and give the impression of a less confident presentation of testimony.

Interestingly, participants commonly reported interviewer prompting as an indication of lying (e.g., "the child just seemed to be saying what the interviewer wanted"). While this reasoning was associated with higher accuracy when assessing those children who were lying, it did not appear to be a useful cue to rely on when assessing truth-tellers. Furthermore, when assessing one of the two children who were telling the truth, accuracy was negatively correlated with indicating that the child was simply being led by the interviewer. Because of this asymmetry in cue-related accuracy, it is important for lay judges to be made aware of the fact that a certain degree of prompting and encouragement may be necessary to assist children in generating their narratives, irrespective of truthfulness. Past research has supported this assertion by pointing to children's tendencies to provide "gist-consistent" responses to questioning (Brainerd & Reyna, 1996). Thus, children often may not fully understand what is expected of them when asked to provide testimony, and so some degree of interviewer-provided assistance should not necessarily be interpreted as an indication of deceit.

Following the question "was the child telling the truth?" the current study presented participants with a forced-choice (i.e., yes or no). This forced-choice paradigm is commonly used in child lie-detection research (e.g., Leach et al., 2009). However, by applying a forced-dichotomy to the truthfulness of children's accounts, it is assumed that the options presented are mutually exclusive and collectively exhaustive (i.e., the accounts are either *entirely* true or *entirely* fabricated). However, in many naturalistic circumstances it may be the case that children (as well as adults) provide complex narratives that are ultimately fabricated but which contain *aspects* of truth (or vice versa). For example, a child may witness a crime and then lie about the severity of the crime. Thus, it is suggested that future research make use of an open-ended response paradigm when assessing the truthfulness of children's testimony so as to offer a more naturalistic and nuanced representation of children's deception and its detection.

While the current study was in many ways consistent with previous research, it is not without its limitations. Firstly, the topic of the child-interviews used in the study (i.e., going to the optometrist and getting eyeglasses) might not be representative of the kinds of things children lie about under more naturalistic circumstances (e.g., sexual abuse cases). Also, there were no consequences for not being able to lie successfully (as there often would be in real-world cases), and so the children in the current study may not have been adequately motivated to provide convincing fabrications. However, it is also important to notice that these concerns are not unique to the current study (e.g., Chahal & Cassidy, 1994).

Furthermore, each participant was provided with a sequence of recordings to assess, as opposed to a single standalone recording. This type of design likely promoted

participants' relative, rather than absolute, veracity judgments. In other words, it is possible that participants rated the veracity of each child in terms of his/her believability *relative* to the other children in the sequence. Therefore, future research should aim to minimize the use of relative judgments by presenting each participant with only one child to assess. Lastly, while not necessarily a limitation, it is important to bear in mind the possible impact of the camera perspective and zoom used in the present study as these factors have been shown to influence the perceived believability of children (Landström & Granhag, 2008).

Conclusion

The current study provided additional evidence that adults are generally unable to distinguish between children's truthful and fabricated testimony above the level of chance. However, it was found that participants could identify those children who were telling the truth with a statistically greater degree of accuracy than those children who were lying. While no overall differences in accuracy were observed as a function of the mode of presentation (i.e., audiovisual vs. audio-only), it was found that when viewing the video of the child, non-parents reported significantly more reasons for thinking that the child was lying than did parents. Further, non-parents were significantly more accurate than parents at identifying those children who provided fabricated accounts. Future research should work to include more ecologically valid paradigms and to make use of alternative methodologies (e.g., eye tracking) so as to clearly explicate any attentional biases that may exist when presented with the visual components of a child's testimony.

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Appendices

Appendix A

Deception detection and children: Impact of the mode of presentation

Informed Consent Form

The purpose of this Informed Consent Form is to ensure you understand the nature of this study and your involvement in it. This consent form will provide information about the study, giving you the opportunity to decide if you want to participate.

Researchers: This study is being conducted by Mark Snow as part of the course requirements for psychology 4951/4959, Honours Project in Psychology I & II in the psychology program at Grenfell Campus, Memorial University of Newfoundland. I am under the supervision of Dr. Dwayne Keough.

Purpose: The study is designed to investigate the public's ability to determine the veracity (truthfulness) of child testimonies. The results will be used to write a lab report as part of the course requirements. The study may also be used in a larger research project and may be published in the future.

Task Requirements: You will be asked to listen to a brief story and to complete a short questionnaire. You may omit any questions you do not wish to answer.

Duration: The study will take approximately 15 minutes to complete.

Risks and Benefits: There are no obvious risks involved with your participation in this study. Your participation will help to inform legal personnel and the general public about lie-detection procedures.

Anonymity and Confidentiality: Your responses are anonymous and confidential. Please do not put any identifying marks on any of the pages. All information will be analyzed and reported on a group basis. Thus, individual responses cannot be identified.

Right to Withdraw: Your participation in this research is totally voluntary and you are free to stop participating at any time.

Contact Information: If you have any questions or concerns about the study, please feel free to contact Mark Snow at mdsnow@grenfell.mun.ca or my supervisor, Dr. Keough at (709) 639-2740 or dkeough@grenfell.mun.ca. As well, if you are interested in knowing the results of the study, please contact Mark or Dr. Keough after April 1, 2016.

This study has been approved by an ethics review process in the psychology program at Grenfell Campus, Memorial University of Newfoundland and has been found to be in compliance with Memorial University's ethics policy. If you have ethical concerns about the research (such as the way you have been treated or your rights as a participant), you may contact the Chairperson of the GC-REB through the Grenfell Research Office (gcethics@grenfell.mun.ca) or by calling (709) 639-2399.

I acknowledge that I have been informed of, and understand, the nature and purpose of the study, and I freely consent to participate. This Informed Consent Form will be placed in a separate envelope to ensure anonymity.

Signed _____

Date _____

Deception detection and children: Impact of the mode of presentation

Debriefing Form

The purpose of this study was to investigate people's ability to detect the veracity (truthfulness) of children's stories. You have been presented with a recording of a child who was being interviewed about an experience of visiting an optometrist and receiving eyeglasses. The child you were presented with may or may not have been telling the truth. Furthermore, the child's story may have been presented to you in the form of a video-recording or an audio-recording. Different mediums were used in order to investigate whether or not people tend to detect lies more accurately as a function of the way in which the child's accounts were presented (i.e., video versus audio recordings). Based on existing research, we expect greater accuracy to result from presentation of the child's account through the audio-recording medium. Information gathered will be treated as group information rather than individual information. This means no one will know what information you provided. If you have any questions or concerns about the study, please feel free to contact Mark Snow at mdsnow@grenfell.mun.ca or Dr. Dwayne Keough at dkeough@grenfell.mun.ca. As well, if you are interested in knowing the results of the study, please contact Mark or Dr. Keough after April 2016. Thank you for your participation.

The proposal for this research has been reviewed by the Grenfell Campus-Research Ethics Board and found to be in compliance with Memorial University's ethics policy. If you have ethical concerns about the research (such as the way you have been treated or your rights as a participant), you may contact the Chairperson of the GC-REB through the Grenfell Research Office (gcethics@grenfell.mun.ca) or by calling (709) 639-2399.

Child Interview (Semi Scripted)

Tell me about your trip to the optometrist (eye doctor) to get glasses.

This will be followed up by utterances of **what else do you remember?** until the child cannot supply any additional information.

If the child does not respond to this you can say "I heard you went to the eye doctor – tell me about that." This will be followed up with utterances of "what else do you remember?" until the child cannot supply any additional information.

Tell me about the waiting room

This will be followed up with utterances of "what else do you remember?" until the child cannot supply any additional information.

Tell me about the optometrist (eye doctor).

Was the doctor a man or a woman?

What did the eye doctor look like?

"what else do you remember?"

What was the eye doctor wearing?

"what else do you remember?"

Tell me everything the eye doctor did.

"what else do you remember?"

Tell me about the glasses you got that day.

This will be followed up with utterances of "what else do you remember?" until the child cannot supply any additional information.

Lie Detection and Children – Questionnaire

Is the child telling the truth? (Please circle an answer)

Yes No

How confident are you in your decision? (Please circle an answer)

Not at all Confident		Somewhat		Very
1	2	3	4	5

Why did you come to this decision? Please identify any information in the recording that led you to this decision or any strategies you used in making the decision. (Use the back of the paper or another sheet if you need more space).

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Lie Detection and Children – Questionnaire

Age: _____

Gender: _____

Please indicate any course work you have completed in forensic psychology, police studies, or criminology. Which of the following have you taken courses in? Please check off all that apply.

___ A course in Forensic Psychology
___ Criminology
___ Training through the RNC or RCMP
___ Social Work
___ Law
___ Sheriff's officer
___ Probation officer
___ Corrections
___ Other (please specify) _____

Please indicate any experience you have with children, including any employment or profession. Please check off all that apply.

___ Daycare Worker
___ Lawyer
___ Teacher
___ Social Worker
___ Police Officer
___ Parent or Gaurdian
___ Babysitter
___ Coach
___ Team Coach
___ Other (please specify) _____

Please indicate any experience you have with optometry. Please check off all that apply.

___ Have visited an optometrist at least once in the last year
___ Have visited an optometrist once or twice before
___ Have never visited an optometrist
___ Other (please specify) _____

Do you wear eyeglasses or contact lenses? (Please circle an answer)

Yes No

Appendix B

Table 1

Accuracy rates (%) for participants across conditions

Condition	*M*	*SD*
Video-lie	52.38	29.48
Video-truth	71.43	33.81
Audio-lie	42.86	28.66
Audio-truth	64.29	28.03
Overall	56.55	0.21