Did They Really Do That? Judging the Veracity of Children's Stories After Parental

Coaching

By

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Abstract

In court cases professionals and lay persons, may be asked to distinguish truthful from deceitful reports given by young children. In this study, 109 university students and members of the general public judged whether children were telling the truth about the experience of travelling by plane. One of seven videos, each depicting one child being interviewed (either of three females or four males from the ages of 7-11), was shown to participants. Four children were giving truthful accounts, two of whom had prepared their own stories and two of whom had been helped by a parent; and three children were telling a false story, one of whom had prepared his/her own story, and two of whom had been prepared by parents who had flown before. Participants were above chance when judging true accounts for both prepared (77%) and unprepared conditions (75%). However, 63% of the unprepared lies were judged correctly, as opposed to only 45% of the coached lies being judged correctly. Participants who made correct veracity decisions said that high quantity of details (30%) and unstructured reproduction (21%) indicated truthfulness. Unsuccessful participants mentioned that information the participants perceived as incorrect (21%) was indicative of deception. Results show adults' veracity decisions are impacted by preparation which can adversely affect the courts ability in making a just decision.

Did they really do that? Judging the veracity of children's stories after parental coaching

In a court case professionals, such as social workers and police officers may be asked to distinguish truthful from deceitful reports given by young children. There has been debate as to whether children are competent enough to testify in court. However, the fact remains that for many circumstances, without a child's testimony, a case cannot be argued (e.g., sexual abuse) (Yates, 1987). Since children are able to testify in court, deciphering whether they are being truthful is essential to a successful case. Thus, factors that increase the perceived veracity or believability of children's statements play an important role in these cases. In incidences such as custody battles it is vital to learn the circumstances under which children can successfully tell a lie and help in learning steps that may be taken to help correctly identify children's true versus false statements.

The Effects of Coaching

A judge's or jury's perception of an eyewitness can play an important role in the final decision made about a particular case. Children who witness or experience crimes may receive help (coaching) in preparing their story from a parent or from legal personnel in order to ensure these stories sound believable (Talwar, Bala, & Lindsay, 2006). Given the stressful nature of a courtroom scenario for children, discussion with a parent may be the help children need in order to tell a believable story. However, it is possible that children may acquire knowledge not through personal experiences, but through events they have experienced vicariously, through conversations or from the media that they can incorporate into their reports, perhaps leading them to tell a believable false story (Roberts & Powell, 2001). Additionally, in cases where parents have something to gain (e.g., custody battles), parents may fabricate stories and then

direct children in how to tell such fabrications. This is especially disturbing in light of

research suggesting that such coaching increases the chance that children's false stories

will be believed (Vrij, Akehurst, Soukara, & Bull, 2002). In particular, when a parent

helps prepare a child's testimony, research shows that the testimony is more likely to be

believed, whether it is a truth or a lie, than if a child presents the account without any

prior instructions (Warren, Dodd, Raynor, & Peterson, 2012). Furthermore, children's

coached untruthful statements are more likely to be believed than their non-coached

truthful statements (Warren et al., 2012).

Traditionally, research has suggested that when a child gives a lengthy narrative

an adults' ability to detect deception is increased (Talwar & Lee, 2002). However, when

children are coached by their parents, providing a longer narrative may still not be

enough to increase lie detection rates (Talwar et al., 2006). Such research implicates

coaching as negatively affecting accuracy rates of both short and long narratives (Talwar,

et al., 2006). Evidently, coaching is very effective in increasing the believability of

children's statements and further research is needed to decipher the factors that contribute

to coaching and the circumstances under which it is most effective.

Lie Detection of Children

An important concept in studying the veracity of children's statements is factors

that allow adults to accurately detect lies told by children. The overall consensus of

research is that adults are no better than chance at distinguishing children's false accounts

from their true accounts (Leach, Talwar, Lee, Bala, & Lindsay, 2004). For example, a

modified temptation resistance paradigm has been used to examine situations where

children are internally motivated to be deceitful (Talwar & Crossman, 2012). Children

are given the opportunity to disobey an adult and were questioned about it later (Talwar & Lee, 2002; Talwar et al., 2004). This allowed children to either lie or tell the truth about their behavior. In these studies, children were not directed in how to present their stories and therefore the results generalize to a naturalistic lie telling situation. In such studies adults generally performed at chance levels when judging veracity (Leach et al., 2004). A criticism of these studies was the limited amount of information provided by children. In many cases children were simply asked questions that required one or two word answers. In response to such criticisms, research began to be conducted that required children to give lengthier answers but adults continued to perform at chance levels (Vrij, 2005).

Even professionals who often have to deal with lie detection and/or children in their occupations perform no better than chance at detecting lies told by children (Leach et al., 2004). Professionals are more certain of the correctness of their decisions, but in reality their decisions are no more factual than are the decisions made by the average layperson (Leach et al., 2004). Many adults would say that detecting lies told by children is much easier than detecting lies told by adults since children are still developing cognitively (Vrij, 2006). However, research demonstrates that adults have increased difficulty detecting lies when children actively conceal their own wrongdoings (Talwar & Lee, 2002; Talwar et al, 2004), and with help lies told by children seem to be equally as difficult to detect as lies told by adolescents and adults (Vrij et al., 2006). This has been shown by Vrij and colleagues who have successfully coached children to use content based criteria analysis to make their stories more believable (Vrij et al., 2002). Children given a naturalistic opportunity to lie, such as lying about a person wiping important

information off a blackboard, used Criterion Based Content Analysis (CBCA) criteria to make their story more believable (Vrij et al., 2002). Participants viewing these children performed worse than chance when children were coached to lie (Vrij et al., 2002).

Similarly, Talwar et al. (2006) had parents coach their children to tell a believable story about an event not actually witnessed (e.g., attending a wedding). Here, parents instructed their children three times a day before the interview which was recorded and shown to participants. No difference was found between veracity decisions for true and false reports; they were both detected at chance levels (Talwar et al., 2006).

How the Nature of Event Effects Memory

Research has clearly shown important differences in the accounts given by children when discussing stressful versus non-stressful events (Peterson, 2010). In particular, children better recall stressful events. This might suggest then that children's truths and lies about a stressful event would be different than their truths or lies about a false event. Yet the majority of research completed to date has assessed children's stories about relatively mundane events, even more so when the effect of coaching has been considered. Most of the research on the effects of parents coaching children has focused on children's recounting of non-stressful events, failing to take into account stress and its importance in children's recall (Talwar et al., 2006). It seems important then to determine whether the effects of coaching would be different if children were discussing a stressful versus a non-stressful event. In the current study, people were asked to judge the veracity of children's experiences with travelling, with a particular focus on the potentially stress-inducing event of going through airport security.

The only previous study that examined the veracity of children's statements in a stressful situation involved the use of transcripts (Warren et al., 2012). Transcripts were given to participants outlining the child's recounting of his or her experience or fabricated story. In that study, a child was interviewed, providing a plethora of details, however, the fact that the interview was transcribed and was not shown to participants directly cut out all non-verbal lie detection cues. For example, children were asked to discuss a recent injury where they had visited the emergency room, or asked to create a false story of an injury. It is possible that these children gave off non-verbal cues during their interviews making them appear genuine. Similarly, it is possible that those who were lying gave off distinctly different cues than those who were being truthful and that information could implicate them as deceitful. Nonverbal cues play a role in lie detection, both alone and when verbal and nonverbal cues are used together (such as in a video) (Vrij et al., 2004). It appears then that a more holistic approach increases accuracy (Vrij, Grahag, & Porter, 2010). Therefore in the present study, participants were presented with videos of a child being interviewed so they could examine the child's story aided by both verbal and nonverbal cues.

The Current Study

The purpose of the present study was to address the gap left by previous research concerning the perceived veracity of children's statements. The event/recall of traveling on a plane for the first time was utilized because this type of travel can result in a high amount of stress. In comparison to previous studies that have focused on the recounting of stressful events through transcripts, this study used a video for participants to assess children's physiological arousal and other nonverbal cues. In this study videos of

children who had versus who had not travelled were used. There were seven videos in total, which represented separate conditions. Next university undergraduates assessed the truthfulness of the children's stories.

There is little research in this area, to help guide the current hypotheses. However, adults were expected to be significantly more successful in detecting the false accounts of unprepared children's reports versus those of prepared children. When individuals are describing a compound event, they should have more trouble creating a fabrication than when telling the truth, since lie telling requires more cognitive effort than truth telling (DePaulo et al., 2003). With regards to children who have been coached, adults are more likely to believe the coached lies than unrehearsed lies (DePaulo et al., 2003; Warren et al., 2012). Warren et al. (2012) found that children's coached and fabricated statements were more likely to be believed (74% were believed), than non-coached truthful statements (believed at a chance level). Therefore, it was hypothesized that coached fabrications would be perceived as truthful, more often than the non-coached statements. It was also hypothesized that participants would be more likely to judge children displaying nervousness cues (such as fidgeting and less eye contact), those who appear to be thinking harder, and those who were visibly trying to control their behavior as being lie tellers. These have all been found as reasons individuals gave for discriminating between truth tellers and lie tellers in previous studies (Vrij et al., 2006).

Method

Participants

A sample of 109 adults that included undergraduate students and members of the general public was used in the present study. There were 75 women and 34 men, with an average age of 33 years (ages ranged from 18-75 years). Undergraduate students were recruited from Grenfell Campus, Memorial University of Newfoundland in a variety of introductory and second/third year psychology classes as well as through convenience sampling. Students in introductory psychology classes were entered into a subject pool and given participation marks upon completion of the study. The general public was recruited through convenience sampling, as well as through word of mouth. Approval to conduct this research was given by the Grenfell Campus Research Ethics Board.

Materials

Videos. There were 7 videos utilized in the experiment. All videos depicted a child between the ages of $8 - 11$ years facing the camera, with an interviewer directly behind the camera, who was not visible during the video. All children were questioned about a trip on a plane and their travel experience, which included entering the airport, going through security and the children's experience on the plane. The interview questions used were scripted (See Appendix A). The videos ranged from approximately 5 minutes to approximately 8 minutes in length. Several videos were edited to make the length of videos roughly consistent across conditions and two videos were edited to obscure identifying information. The parents of the children gave consent to have their child appear in the videos and consented to the release of these videos for the purposes of the study. Three of the children told an untruthful story and four told a truthful story.

Four of the children in each of these conditions were assisted in preparing their true or

false story with the help of a parent in order to create a "coached" condition while the

other half were asked to prepare their own stories (See Figure 1 for the experimental

design).

   Scripts. Coached children discussed aspects of their experience or story with a

parent before being interviewed in order to keep their story consistent and to give them

practice before the interview. A script was given to the parents of children who were to

be coached that included details the children might want to include in their story (e.g.,

what happened before travelling on the plane).

   These scripts were adapted from previous work done by Dr. Kelly Warren and

can be viewed in Appendix B. Parents were instructed to practice with their child for the

three days leading up to the interview in sessions of 10-20 minutes.

   Questionnaire. Participants were asked to complete a questionnaire. As part of

the questionnaire, participants were asked whether they believed the child depicted was

telling the truth (yes or no) and to indicate how confident they were in their decision on a

likert scale ranging from 1 "not at all" to 5 "very confident." Next they were asked in an

open ended format why they came to this conclusion and what factors assisted them in

making their decision. Participants were also asked to complete a short demographics

section that requested age and gender, as well as to indicate their experience with lie

detection, children, and flying/customs.

Procedure

   During participation and recruitment, participants were told that the purpose of

the study was to examine the public's ability to detect the veracity (or truthfulness) of a

child's story. They were instructed that they would have to watch a video of a child

telling a story about travelling on a plane and that this story may be the truth or a

fabrication.

The study consisted of four experimental conditions, with a male and female child

for all but one condition. Participants were randomly assigned to one of the seven

videos, were asked to watch the child's interview and then determine whether they

believed the child was telling a truth, or was in fact lying. After the participants had

watched the video, they were asked to fill out a questionnaire. This questionnaire

typically took 5-8 minutes to complete. Following the questionnaire, participants were

given a debriefing form to take with them and were reminded that if they did recognize

the child in the video that they were not to mention the study to that child or his/her

parent.

Results

A logistic regression analysis was completed with participant's accuracy as the outcome variable and confidence, veracity (i.e., whether the child was telling a truth or a lie), coaching (whether the child was coached or not), and child gender (male or female) as predictor variables. As there is no preexisting theory to suggest the order in which variables should be entered into the model, the forward stepwise regression method was used. Accuracy of the video was the only variable entered into the model and the overall model was significant, Model $\chi^2(1) = 7.21$, $p = .007$, $R^2 = .05$. However, prediction accuracy was not improved, remaining at 65.1% (-2LL = 140.96) accuracy with the predictors added compared to the same prediction accuracy using just the constant (-2LL = 133.74). The analysis revealed that whether the child was telling the truth or a lie was a significant predictor of accuracy, Wald = 6.99, $p = .008$. As shown in Table 1, the odds ratio (OR) associated with video veracity is less than one meaning as we move from the child telling a lie, to the child actually telling the truth participants were more likely to be accurate in their prediction.

To further explore the breakdown of accurate versus inaccurate decisions based on video veracity, one sample t-tests were conducted to determine whether the proportion of accurate decisions in a particular condition were significantly different from chance (50%) accuracy (See Figure 2). When children were telling the truth, participants were correct an average of 76% of the time, a difference that was significantly higher than chance, $t(61) = 4.71$, $p < .001$. Participants' higher than chance accuracy rate for judging truthful children occurred regardless of whether participants viewed children who were telling the truth and were not coached (75% accuracy) $t(31) = 3.21$, $p = .003$ or when

participants viewed children who were telling the truth but were coached (77% accuracy),

$t(29) = 3.34$, $p = .002$. In contrast, when children were telling a lie, the overall accuracy

rate was 51%, was not significantly greater than chance, $t(46) = 0.14$, $p = .89$. If the

lying condition was further subdivided into children who were versus were not coached,

results remained the same. Those judging children who were lying and were not coached

were correct 63% of the time, a difference that was not statistically different from chance

$t(15) = 1.00$, $p = .333$. Similarly, those judging children who were lying and who were

coached, were correct 45% of the time which was no different than chance, $t(30) = -0.53$,

$p = .60$.

The pattern of reasoning behind correct and incorrect veracity or truthfulness

decisions was then investigated. Those who said that children were truthful listed:

perceived correct information, unstructured reproduction, sensory information,

confidence, and eye movement indicating thinking as reasons for their veracity decision.

Those who said children were deceitful mentioned: perceived incorrect information, that

the child sounded coached, that the child was vague, nervousness, and that the child

looked away, as indicating deception. Both correct and incorrect participants listed

perceived correct details as indicating truthfulness (correct - 42% and incorrect - 29%).

Those who correctly identified children's stories as a truth or a lie listed: unstructured

reproduction as indicating truthfulness (21%) and high quantity of details as indicating

truthfulness (30%). In contrast, those who made incorrect veracity decisions mentioned:

sensory information as indicating truthfulness (21%) and perceived incorrect information

as indicating deceitfulness (21%).

Discussion

To date no study has utilized the situation of flying to examine the effects of coaching on correct veracity decisions and those (i.e., Warren et al., 2012) that have used a stressful situation, used transcripts to present the children's stories. In contrast to these earlier studies, the current study allowed participants to examine videos of accounts detailing a potentially stressful experience. Given the newly emerging evidence on the effectiveness of coaching (Talwar & Crossman, 2012; Warren et al., 2012; Vrij et al., 2002) and the possibility of its negative effects in court cases involving children (e.g., custody cases), it is important to delineate the impact of preparation on children's testimonies.

In the present study, 65.1% percent of people accurately judged the veracity of the story with which they were presented. It was found that the accuracy of the decision made could be predicted (65%) without any knowledge of the condition to which a person was assigned. The child's gender, participants' confidence in their decision, and whether the child was coached did not increase prediction accuracy. However, video veracity was identified as an important predictor of accuracy and therefore it was further examined.

Adults Ability to Detect Deception

Past research has found that adults are no better than chance in detecting children's truthful stories from their deceitful stories (Leach et al., 2014; Talwar & Lee 2002) so it was hypothesized that participants' accuracy rate for both true and false conditions would be no different than chance. Surprisingly, in the current study, accuracy rates for children telling truthful stories were above chance levels (75%), whereas accuracy levels for children telling lies were around chance levels (63%). This differs

from previous studies in the area that found adults had difficulty making veracity

decisions whether the child was telling a truth or a lie (Talwar et al., 2006; Warren et al.,

2012), only partially supporting the first hypothesis.

Differences in findings may be due to the fact that in previous studies, situations

have been used such as attending a wedding or breaking a bone (Talwar et al., 2006;

Warren et al., 2012) whereas the current study children were asked to discuss traveling on

a plane. There are two major differences in these scenarios. The first is that traveling by

plane is not something that children could easily make up a story about if they had not

experienced the event themselves, in comparison to breaking a bone or other "big

events." This allowed those who were truthful to be perceived as believable and also

made for an unconvincing story when a child was being deceitful. Secondly, the

experience of traveling on a plane is highly controlled and scripted. Therefore, without

experiencing the event a child may leave out or falsify important details. In this case

someone who has been on a plane would have experience with and be able to identify the

experience as unauthentic. This may account for the high accuracy rates within the

current study, as only 3% of participants had never been on a plane. It is possible that

since participants had all experienced the event in question they could identify the

genuine stories by comparing them to their own experiences, resulting in a higher level of

accuracy.

Another difference between the present study and past studies is a difference in

the method with which lies were obtained from children. Past studies that have utilized

methods assessing naturalistic and internally motivated deceit, where children were given

an incentive to cheat and then cover up their cheating, have found that adults are no better

than chance at accurately detecting a child's deception (Talwar & Lee, 2002; Talwar et al., 2004; Leach et al., 2014). However, in these studies children were not interviewed about their actions but were simply asked questions such as, "did you peek at the toy?" In the current study children were interviewed about their entire fabricated experience meaning there was a potential increase in both verbal and nonverbal indicators of lying, as well as in the quantity of details that children provided. It should not be surprising then that accuracy rates are different in this study than rates seen in these studies where less information was presented to observers.

In a study by Strömwall and Granhag (2007) it was found that adults could detect children's truthful stories at a rate more similar to that seen in the current study. Strömwal and Granhag examined children's truthful and non-truthful stories about meeting a strange man and then using a video asked participants to decide whether they believed children were truthful. The similarities between accuracy rates in Strömwal and Granhag's (2007) study and the current study suggest the differences in participant's ability to accurately detect truthful stories may in fact be a result of the added component of nonverbal information supplied by the video. This is further illustrated by differences in accuracy rates using transcripts where truthful children were only accurately perceived at chance levels (Warren et al., 2012). Even though Warren et al.'s study used full interviews so that the amount of information presented to participants was similar to that seen in the present study, the study did not have the nonverbal cues provided by the videos.

The Effects of Preparation

　　　　Research in the past has demonstrated that coaching does occur in courtroom

scenarios (Talwar et al., 2006). Alarmingly, coaching has been found to increase a

child's believability by estimates of up to 88% (Vrij et al., 2002). Specifically, in the

present study it was hypothesized (based on past research) that coaching would decrease

the likelihood of correct veracity decisions in the deceitful conditions and have no effect

on correct decisions in the truthful conditions. In accordance with the original hypothesis

there was no difference in proportion accuracy according to the veracity of the video

when the children were not coached. However, there was a difference in accuracy

according to the veracity of the video when the children were coached. As seen in Figure

3, children who have been aided in preparing their story by a parent are generally

successful in convincing other adults that their story was truthful when in fact it was

deceitful. Those who were not coached were relatively unsuccessful in their attempts to

convince lay judges of their falsified stories. Similar findings have been shown in studies

examining children's accounts of exciting events, such as a family wedding (Talwar et

al., 2006), and in very stressful events like breaking a bone (Warren et al., 2012).

　　　　There was no difference in accurate veracity decisions with children who told the

truth, regardless of whether the child was coached or not. Therefore if children were

truthful, coaching did not significantly increase or decrease participant's accuracy.

Previous studies have also found no difference in truthful conditions where children have

either been prepared or unprepared by their parents (Warren et al., 2012).

Cues of Deception

An examination of verbal or nonverbal cues participants used in making their veracity decisions revealed that participants who said the children in the videos were truthful listed: perceived correct information, unstructured reproduction, mentioning sensory information, child's confidence level, and eye movement indicating thinking as indicative of truthfulness. In contrast, participants who identified children as lie tellers listed: perceived incorrect information, that the child sounded coached, vague/ little details, nervousness, and looking away as indicating deception. Interestingly, in contrast to the third hypothesis, the majority of these were verbal cues, suggesting that the presentation of children's stories through video may not have added extra information for participants to determine children's veracity. This is concurrent with previous studies where significantly more verbal cues were indicated than non-verbal cues when participants were asked to determine children's statements as being true or false (Stromwell et al., 2007). This brings into question how important non-verbal indicators, such as facial cues and body movements are in detecting lies and further study is need to assess the relationship. It may be that participants are using these nonverbal cues but are unaware of the actual reason for their decision.

There were distinct and shared indicators for those who made correct versus incorrect veracity decisions. Both correct and incorrect participants listed percieved correct details as indicating truthfulness (correct-42% and incorrect-29%). Therefore, whether a child gave perceived correct information about the experience in general was a poor predictor, even though it was mentioned often. Those who correctly identified children's stories as a truth or a lie listed: unstructured reproduction indicating truthfulness (21%) and high

quantity of details indicating truthfulness (30%). Unstructured reproduction refers to the

quality of a child's story and whether it could be told flexibly, in order to sound

unrehearsed and authentic. Previous studies have listed unstructured reproduction as a

commonly mentioned indicator of truthfulness (Vrij, Granhag, & Porter, 2010). This

suggests showing flexibility in a story may actually indicate truthfulness and perhaps this

should be considered in educating people regarding how to correctly make a veracity

decision.

   The second indicator for those participants who made correct veracity decisions was a

high quantity of detail. Although this may in fact be an important predictor under certain

situations, there are some cautions to be made. Importantly, past research has established

that children who are younger, in general, provide less detail (Santtila, Roppola, Runtti,

& Niemi, 2000). This is not because they are lying but because of their verbal fluency

(Santtila et al., 2000). In fact low verbal fluency has been a consistent predictor of why

younger children are believed less in a courtroom situation (Santtila et al., 2000).

Therefore, although the current findings identified it as a useful predictor, when children

are younger (around 6 years of age) it may not be an accurate method of veracity

detection. In addition to considerations of younger children, male children at around 10

years of age tend to give less detail in comparison to their female counter parts due to

lower verbal ability (Santtila et al., 2000). For example, the videos of male children in

this study were 4-6 minutes long on average while the female's videos were all around 8

minutes even with some being edited to reduce length. Therefore, when determining

children's stories to be truthful it is important to consider these factors and to not simply

believe a child due to his/her ability to provide abundant amounts of information, or

disbelieve a child due to his/her perceived lack of ability to provide abundant amounts of information.

Participants who made inaccurate veracity decisions listed sensory information (what the child seen or heard) in indicating truthfulness (21%) and perceived incorrect information in indicating deceitfulness (21%). This finding in particular is noteworthy as research has shown that children do not necessarily report and understand information in the way that an adult would (Plach, 2008). As indicated by the errors made based on an incorrect assumption regarding details provided by children, people should not just disbelieve a child if his/her information sounds unusual or incorrect. Also, results suggest it is important to pay attention to what children mention as things they see or hear, which sound correct, may not actually be the best information to use in predicting truthfulness. Previous studies have indicated similar findings and concerns when judging children's veracity and therefore these findings should be considered whenever individuals are presented with children in a lie detection scenario.

Limitations

There were some limitations to the present study. First, whether the parent's experience with the coached event (in this case flying) had any effect on their coaching ability was not examined. Any parent in this study, who coached their child to tell a false story had flown at least once before. This gives parents insider information on the event in question and possibly increases their ability to prepare their child in telling a more believable story. It is important to assess this relationship between parental experience and the effectiveness of coaching since many parents in court cases do not actually have experience with the event they coach their children to tell a story about. For example, a

parent preparing a child for a custody case against another parent may attempt to coach a child to tell the court that the other parent had sexually abused the child. In this case the parent doing the preparation may have never experienced sexual abuse him/herself and therefore would not have direct access to that knowledge. This may or may not influence the effectiveness of the parent's coaching and consequently this possibility should be examined. The child's experience/ expertise with the event may also be a significant factor. The small number of children (n= 1 or 2) in each video condition may also be a limitation, since this may not be representative to all children. Another limitation is that there was no video for a condition with a female child who had never been on a plane and was not coached. This left only one video for the lie-teller who was not coached and therefore the generalizability of findings is questionable. Additionally, there was an unequal distribution of male versus female participants (75 females vs. 34 males). Therefore the results may not be generalizable to male lay judges in general.

Future Research and Conclusions

Future research should focus on the parent coach's experience with the event in question. This will allow the relationship between a child's believability and the coach's expertise with the event to be delineated. It would allow for the nature of coaching to be fully explored and shine light on the effects of coaching in naturalistic courtroom scenarios.

Children who testify in court are likely to be coached by their parents in order to prepare their story. However, it is not only parents who prepare these children for court. In fact sometimes parents are not allowed to prepare the children, like in cases where the parent is on trial for alleged abuse or neglect. In these cases lawyers and\ or social

workers may help a child prepare his/her story. The effectiveness of a non-relative coach

may be different from that of a parent or guardian. Due to the evident effects of coaching

by parents this factor should be examined in order to further discover the effects of

coaching. This should include preparation by professionals whose job it is to actually

talk with children before they appear in court.

Whether verbal indicators are as important as non-verbal indicators in lie

detection is yet to be determined. Many studies have used CBCA criteria in order to

make children's reports more believable and have neglected to assess training children to

hide or show certain non-verbal indicators (Vrij, 2004). Some studies have provided lay

judges with transcripts of children's reports, not giving them access to non-verbal

indicators (Warren et al., 2012). The current study utilized videos and provided

participants with both verbal and non-verbal indicators. More research should be

conducted in order to assess whether videos, transcripts, or even recordings are most

useful in increasing judges' accuracy rates.

Parental coaching in the present study was shown to have implications for

children ranging from 8-11 years of age. This is relevant since these are children who are

at an increased likelihood of being coached by parents or lawyers because they are

considered a sensitive population. Since coached lies in these children are seen as more

believable, in comparison to not coached lie tellers, a person's ability to detect deception

in children can be seen as increasingly difficult. In this study, individuals were more

accurate in distinguishing truthful reports. This is encouraging in that children who are

telling the truth are more likely to be believed. However, the fact that participants

performed at around chance in detecting lies demonstrates that distinguishing a child's

deceitful story may be increasingly difficult. Since coaching can decrease the accuracy

of lie detection, but does not actually increase accuracy for truth tellers, its effects make

only deceitful children more likely to be believed in court. Therefore, coaching may not

be helpful under any circumstances and may cause more harm than good. Finally, correct

veracity decisions may actually be increased by paying attention to whether children's

stories are flexible or sound rehearsed and may somewhat guard against the negative

effects of coaching. In contrast, thinking you understand the way a child will describe

something may lead to incorrect veracity decisions. There are many unanswered

questions in relation to the effects of preparation on a child's story. However the key

implication of this study is that coaching adds another layer of complexity in deciphering

children's true and false statements.

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Tables and Figures

Table 1

The Logistic Regression Model Predicting Decision Accuracy

	B (SE)	95% CI for Odds Ratio		
		Lower	Odds Ratio	Upper
Step 1				
Constant	1.14 (0.30)			
Video Veracity	-1.10** (0.42)	0.15	0.33	0.75

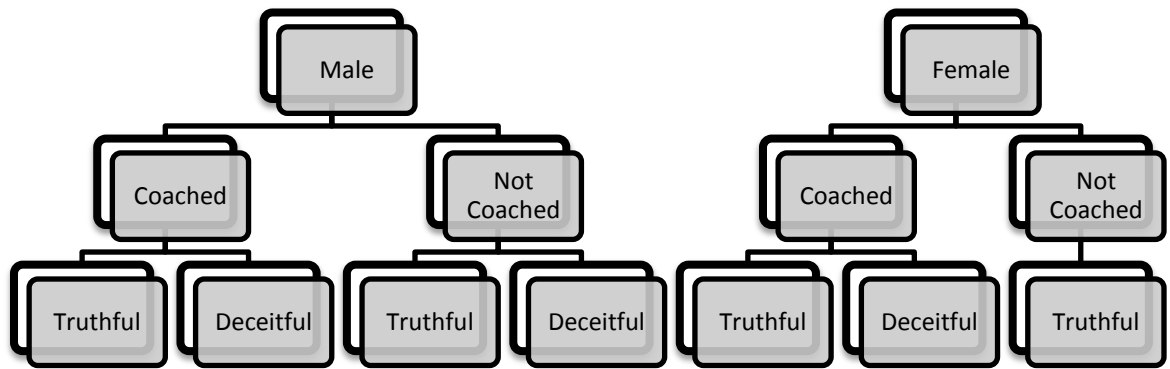*Note:* *indicates $p < .05$ ** indicates $p < .01$
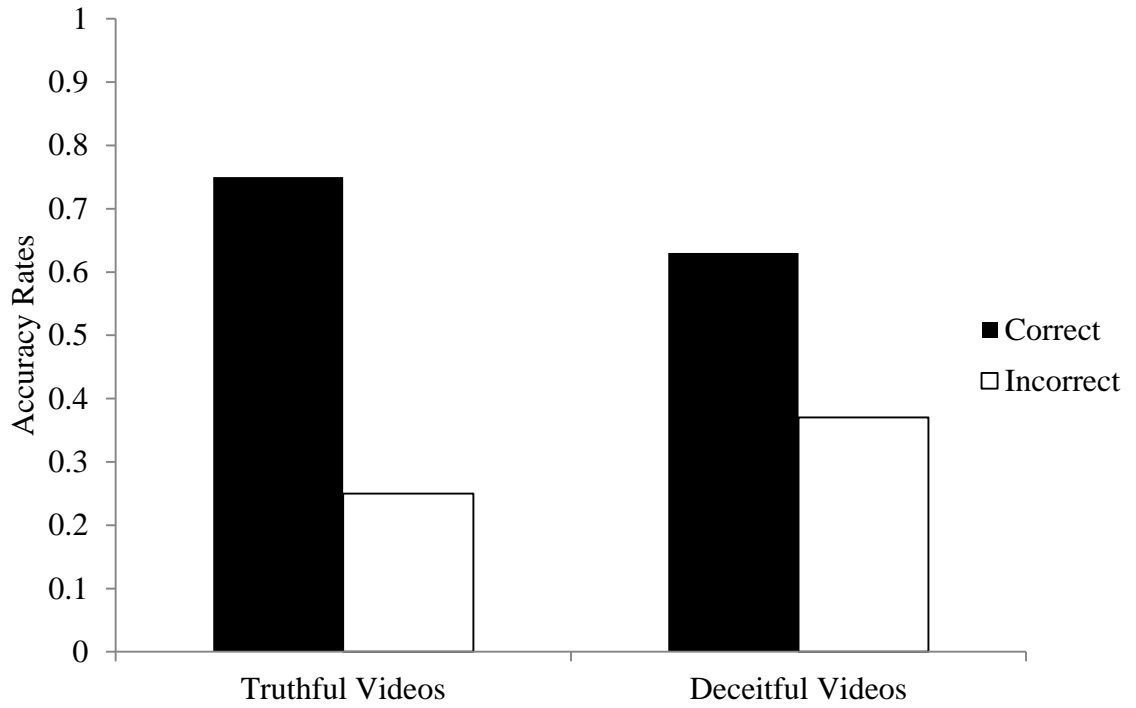
Figure 1. Conditions

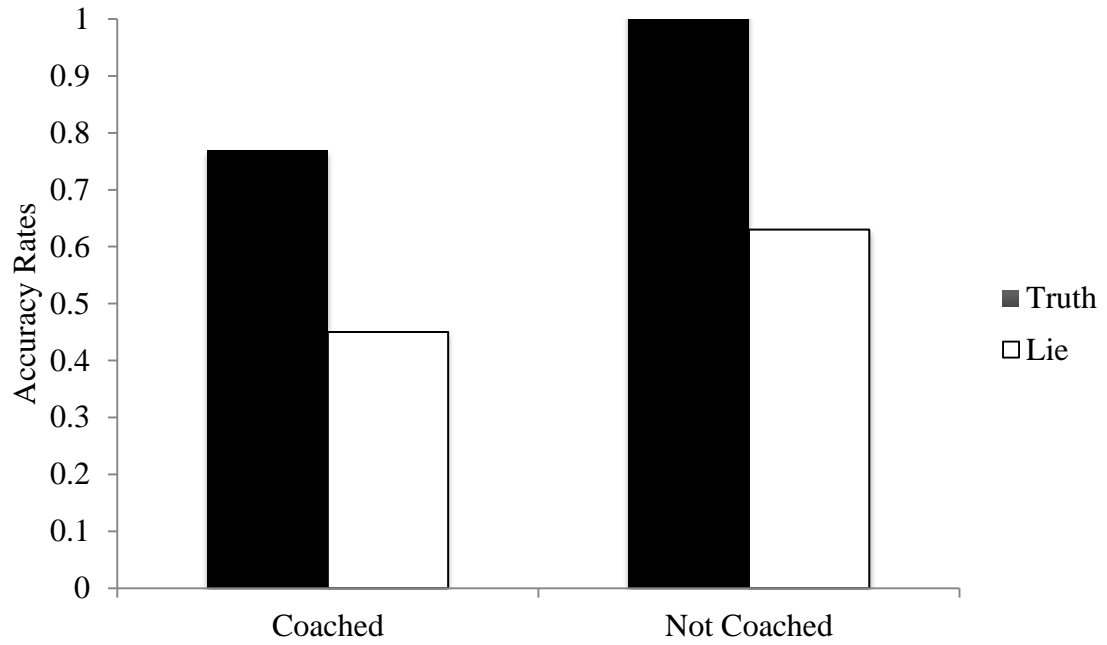*Figure 2.* Accuracy rates based on video veracity.

Figure 3. Accuracy based on coached and not coached videos for truth and lie

Appendix A

Child Interview

Tell me about the trip that you took.

This will be followed up with 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 on a plane- 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 airport.

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

Tell me about going through security.

 Tell me about the people that were there.

 Was the person who talked to you a man or a woman?

 What did the person look like?
  Followed up with utterances of **what else do you remember** until the child cannot supply any additional information.

 What was the person wearing?
  Followed up with utterances of **what else do you remember** until the child cannot supply any additional information.

 Tell me everything that person did?
  Followed up with utterances of **what else do you remember** until the child cannot supply any additional information.

Tell me about going on the plane.

 Tell me about the people that were there.

 Where did you sit on the plane?

 What did you see on the plane?

Followed up with utterances of **what else do you remember** until the child cannot supply any additional information.

What were the people around you wearing?

Followed up with utterances **of what else do you remember** until the child cannot supply any additional information.

Appendix B

Parental Coaching

Before the interview, you and your child will practice his/her story together to try and make it more believable. This is meant to reflect actual situations where parents may attempt to instruct their child to tell a specific lie to authorities such as the police. Consequently it is important that you directly help your child to work out the details of the story and the most convincing way to tell it. You and your child should practice once a day for four days leading up to the interview, for approximately ten to twenty minutes per session. The interviews tend to have some standard open-ended questions and here are some general points to consider elaborating in your story.

General situation:
      Where was it?
      What time of day was it?
      What season/weather was it?
      What were people dressed like?

Before traveling on plane:
      Who was around?
      What specifically was your child doing?
      What were others doing?
      Was there any important dialogue?

Security:
      Who was there?
      What did your child see during security?
      Describe any excitement, fear, or nervousness.

During the flight:
      Who was there?
      What were others doing?
      What specifically did your child do?
      Describe any excitement, fear, or nervousness.

Immediately after the flight:
      Reactions of your child or others on the plane including: dialogue, emotions, and exiting the plane.
      Describe exiting the plane, i.e. who accompanied the child.

After Flight:
      Who was with you?
      What did you do?
      Where did you go?
Also:

Do not worry if any details you include seem unfamiliar to interviewer.
Thank you for your help in this study.

Appendix C

Veracity of Child's Statements Consent Form
Student Informed Consent Form

The purpose of this informed consent form is to make sure 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 Cassy Compton, an honours student at Grenfell Campus Memorial University of Newfoundland, as part of her honours thesis. Cassy will be primarily collecting the data and her supervisor is Dr. Kelly Warren, who can be contacted at kwarren@grenfell.mun.ca or (709) 639-6511. Cassy can be contacted at ccompton@grenfell.mun.ca.

Purpose: This study is designed to understand the public's ability to detect the veracity or truthfulness of children's true versus false stories about an event. The results may be published in the future.

Task Requirements:
You will be asked to watch a short video, to determine whether the story told by the child is a true story or a fabrication, and to indicate why you think it is true or false. You will be asked to answer a series of demographic questions.

Duration: This project will take approximately 10-15 minutes to complete.

Risks and Benefits: There are no obvious risks associated with your participation in this study. Students who are part of a subject pool will receive the appropriate credit towards their grade in introductory psychology. There are no other obvious benefits associated with your participation.

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 identified and reported on a group basis. Thus, individual responses cannot be identified.

Right to Withdraw: Your participation in this research is completely voluntary and you are free to stop participating at any time during this study. Any data you provide up to that point will be destroyed. You may also omit any questions you do not wish to answer. Upon the completion of the study it will be impossible to identify your answers and thus your data cannot be destroyed after that time.

Contact Information: If you have any questions or concerns about the study, please feel free to contact Cassy Compton at ccompton@grenfell.mun.ca. As well if you are interested in knowing the results of the study please contact Cassy after April 2015.

Ethics Approval: The proposal for this research has been reviewed by an ethics review process in the Psychology Program at Grenfell Campus and is found to be incompliance with Memorial University's ethics policy. If you have ethical concerns about this 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 this study, and I freely consent to participate. The informed consent form will be placed in a separate envelope to ensure anonymity.

Signature: _____

Date: _____

Debriefing Form

Veracity of Children's Statements

In this study I am interested in people's ability to detect the veracity or truthfulness of children's stories. You have been asked to watch a short video of a child who was being interviewed about an experience of travelling by plane. The child you were presented with may have been telling the truth or a lie and he/she may or may not have been helped in making his/her story seem more believable. No identifying information was recorded which means that once you have left I will not be able to identify the information you gave and you will no longer be able to ask that your answers be removed. All information will be assessed and reported on a group basis. Thus, your individual responses will not be identified.   Your participation in this study will remain confidential. If you have any questions or concerns about the study, please feel free to contact me, Cassy Compton at ccompton@grenfell.mun.ca or Dr. Kelly Warren at kwarren@grenfell.mun.ca or (709) 639-6511. Thank you for your participation in this study.

The proposal for this research has been reviewed by an ethics review process in the Psychology Program at Grenfell Campus and is found to be incompliance with Memorial University's ethics policy. If you have ethical concerns about this 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.

Appendix D

Distinguishing Between Truth and Lie Telling

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   Somewhat   Very confident
     1   2   3   4   5

Why did you come to this decision? Please indicate any information in the video 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)

_____

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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 any 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 any that apply.

___ Daycare Worker	___ Parent or Guardian
___ Lawyer	___ Babysitting
___ Teacher	___ Coach
___ Social Worker	___ Team Leader (ex: Scouts)
___ Police Officer	

___ Other (please specify) _____

Please indicate any experience you have with travelling by plane. Please check off any that apply.

___ Frequent Flyer (more than twice a year)
___ Moderate flyer (once a year)
___ Have flown once or twice before
___ Have never flown on a plane
___ Have went through border services (customs)
___ Have never went through border services (customs)
____Have watched TV shows about airplane travel (ex: border patrol)
___ Other (please specify) _____