

Does Practice Make Perfect? Judging the Truthfulness of Child and Adult Stories

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A thesis submitted to the Psychology Program in partial fulfillment of the requirements of Bachelor of Arts (Honours), School of Arts and Social Science

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Abstract

A person's ability to detect whether another individual is lying or telling the truth is commonly at chance levels (~50%). In the present study, a total of 206 people from the general public judged the veracity of a story about witnessing a video of potential child abduction. Stories were told by an adult or a child and were presented to participants across three mediums (transcript, audio, audio-video) via an online survey. Overall accuracy rates were not significantly different from chance (52.9%). The accuracy for identifying a child's false and an adult's true story also stayed at chance levels (46.7% and 41.6% respectively), while accuracy for identifying a child's true story was significantly above chance (58.9%). When participants' recognition of CBCA criteria throughout these stories was assessed, findings showed that participants applied various elements of the CBCA in an incorrect way, perhaps attributing to their low accuracy when deciding the truthfulness of a story told by a child or adult. Only performing at chance levels when identifying a lie told by a child or a truth by an adult is particularly disturbing when it is possible that any participant in this study could be summoned to be a jury member. These results illustrate that decisions made when judging the veracity of children's and adult's stories could potentially contribute to wrongful convictions and wrongful dismissals. Future research should explore how to improve this accuracy.

Does Practice Make Perfect? Judging the Truthfulness of Child and Adult Stories

The accuracy of children's eyewitness testimony has become increasingly important in cases where they may be called upon to testify in court or to supply their testimony via another medium such as through audio recordings or transcripts (e.g., abuse and custody cases) (Talwar, Crossman, Williams, & Muir, 2011). A juror will, at some point in these case examples, have to determine the truthfulness of a child's statement, and incorrect decisions can have adverse effects on a child's well-being (Warren et al., 2015). Although accuracy in this area of the judicial process is critical, children sometimes make false statements for a host of reasons (Talwar et al., 2011). An adult's ability to correctly detect when a child is telling a lie and when a child is telling the truth during testimony is important to obtaining the correct information.

Lie Detection

Deciding whether another individual is lying or telling the truth is one of the most difficult tasks that falls under interpersonal interactions (DePaulo, Jordan, Irvine, & Laser, 1982). There is evidence that adults perform at around chance levels (50%) when identifying lies told by both children (Crossman & Lewis, 2006; Edelstein, Luten, Ekman, & Goodman, 2006; Talwar, Lee, Bala, & Lindsay, 2006) and by other adults (e.g., Crossman & Lewis, 2006; Edelstein et al., 2006).

For example, when Talwar et al. (2006) played a mock "court appearance" of a child either telling the truth or a lie via video to adult participants, the overall accuracy for lie detection was 49.7% (Talwar et al., 2006). Similarly, in a meta-analysis by Bond and DePaulo (2006), it was shown that the accuracy rate of participants in judging adults'

stories was 54%. Within this meta-analysis, if adults had a chance to practice their lie, the accuracy rate decreased (Bond & DePaulo, 2006).

Similar to research showing the effect of adults practicing their stories on later decisions regarding an event's veracity (whether the event was true or false), a study assessing adults' ability to detect children's prepared or unprepared lies or truths showed overall accuracy ratings at 51.5% (Stromwall, Granhang, & Landstrom, 2007). There were higher accuracy rates for unprepared statements at 56.6% compared to prepared statements at 46.1% (Stromwall et al., 2007). These results indicate that similar to decisions regarding other adults, adults are less accurate at detecting children's prepared lies than unprepared lies.

Coaching

Adding to the difficulty in detecting children's lies, it is possible for the child to be coached into a lie, a term that refers to an adult's instructions for a child to lie about a sequence of events, usually for personal gain (Warren, Nunez, Keeney, Buck, & Smith, 2002). This adult is often a parent. Evidence has been presented in prior studies that shows parents can coach their children and successfully get them to falsify their report of events (e.g., Bottoms, Goodman, Schwartz-Keeney, & Thomas, 2002; Talwar et al., 2004). For example, Talwar et al. (2006) supplied 48 videotapes of children testifying as stimuli to 193 undergraduate students. Unbeknownst to participants, the children were instructed to try to persuade others to believe them and to be as convincing as possible (Talwar et al., 2006). The parents of these children were also given instructions to coach their children about the event (e.g., attending a wedding, acting in a play) and to tell their children what specific details to focus on (e.g., who was there, what was said, and

emotional feelings accompanying the situation). Parents were told to practice the story three times a day for three consecutive days prior to the videos being recorded (Talwar et al., 2006). The results indicated that the participants' accuracy rates at detecting truth-tellers was 74%, while the accuracy rates for detecting lie tellers was 25.8% (Talwar et al., 2006). More importantly, Talwar et al. (2006) found that there was a bias to participants' decisions in that they tended to believe children's testimony no matter what the actual veracity (true or false) of the story was (Talwar et al., 2006). It was unclear then whether the decisions made were a consequence of the believability of coached children or a bias towards not wanting to say children were lying (i.e., truth bias).

There is also a similar concept referred to as a lie bias where there is potential for participants to tend to disbelieve stories no matter what the actual veracity of the story is (Bond, Mallory, Arias, Nunn, & Thompson, 2005). Several lie detection studies have been conducted with adults and children using transcript and video and no lie bias was present in participants' veracity decisions (e.g., Crossman & Lewis, 2006; Stromwall et al., 2007; Warren et al., 2012).

In a similar study conducted by Warren, Dodd, Raynor, and Peterson (2012), children who told coached lies were again believed at a high rate but there was no truth bias. Each participant received a copy of one of 32 interview transcripts from a child who was talking about an injury that required a trip to the emergency room, and participants were asked to report whether the child was lying. Seventy-four percent of coached lies were judged as true by participants (Warren et al., 2012).

In another study conducted by Warren et al. (2015), the true or false stories told by 96 children in three age groups (5-7, 8-10, and 11-14) were assessed by lay judges

who were asked to indicate whether they thought the child was lying or telling the truth and to rate the level of confidence in their decision (Warren et al., 2015). Interestingly, participants were more confident in their responses when judging coached, compared to uncoached, stories in children aged 8-years-old or older (Warren et al., 2015). Although confidence rating was not directly linked to veracity scores, it is important to note this finding because it shows that at least in this study, participants felt a higher level of confidence in their decision when deciding whether or not a coached child was lying versus an uncoached child.

Although past studies have assessed adults' abilities to determine the veracity of both children's and adults' stories of an event, a noted weakness of these studies is that they have not directly compared the ability of individuals to assess a child's versus an adult's story of the same event. In the case of custody hearings, an example of when coaching is often suspected to have occurred (Talwar et al., 2011), children and adults are about the same event. It is important then to determine how laypeople would evaluate such stories. This is the focus of the present study.

Presentation Medium

Another noted issue with previous studies is that in assessing deception, researchers have presented their stimuli either by video, audio, or transcript (Crossman & Lewis, 2006; Edlestein et al., 2006; Ross, Dunning, Toglia, & Ceci, 1990; Talwar et al., 2011). For example, research evaluating children's testimony using Criterion Based Content Analysis (CBCA) focuses on transcripts whereas other research assessing veracity decisions has generally used videos (e.g., Blandon-Gitlin et al., 2005; Landstrom & Granhag, 2008; Pezdek et al., 2004). It is plausible that the way that the child's

testimony is presented (i.e., transcript, audio recording, video with audio) may affect participants' ability to detect a lie told by a child and a parent and thus affect veracity ratings.

For example, a study conducted by Landstrom and Granhag (2008) investigated the impact of camera shot (close-up, medium, long shot) and camera focus (child only or child and interviewer) on believability ratings of the child's story. Children who were in the long shot condition with the interviewer in the frame appeared more relaxed to adult raters, and children who were viewed in a close-up shot were rated as having to think harder about their stories (Landstrom & Granhag, 2008). Another study conducted by Landstrom, Granhag, and Hartwig (2007) compared live observers to those watching testimony via video. It was found that live observers perceived children in more positive terms (i.e., seen as more trustworthy) and rated their statements as being more convincing (Landstrom et al., 2007). These results show that the presentation of testimony has an effect on the way testimony is perceived.

With the use of videos, visual cues are utilized by raters when making a decision (Gadea, Alino, Espert, & Salvador, 2015). The absence or presence of these cues may impact a rater's ability (either positively or negatively) to determine the truth. Signs that are affiliated with nervousness for example, are often wrongly associated with lying (Bogaard, Meijer, Vrij, & Merckelbach, 2016). This includes laypersons commonly holding the misconception that liars display less eye contact, when in actuality, research shows less eye contact is not an indicator of deception (Bogaard et al., 2016).

There has also been some research done with audio recordings suggesting that individuals using deception may take longer pauses (Anolli & Ciceri, 1997).

Unfortunately, there is very little research assessing lies via just audio cues. Such research is important however, because parents are beginning to bring police audio recordings of their children, typically on a cellphone, reporting abuse by a friend or family member (Korkman, Juusola, & Santtilla, 2014). Because this is viewed as the first story the child has told, and the first story is traditionally seen as the most reliable, (Fisher, Geiselman, & Raymond, 1987) it is important to examine how audio-only accounts of events are evaluated.

Without directly comparing mediums, it is impossible to know whether the medium would have an impact. As noted in the Talwar et al. (2006) study, raters demonstrated a truth bias. Was this due to the coaching of children or could it be the presentation medium used? In the Talwar et al. (2006) study the stories of 48 children were viewed by participants in the form of a video. In the Warren et al. (2012) study, there was no truth bias and in their study the stories of children were presented via transcript.

Criteria-Based Content Analysis

In relation to transcripts, one of the most popular methods to evaluate the veracity of child eyewitness testimony is through the CBCA (Roma, Martini, Sabatello, Tatarelli, & Ferracuti, 2011). The CBCA involves a thorough psychological analysis of the child's story based on a list of criteria (e.g., logical structure, rate of details, number of corrections made) (Roma et al., 2011). The notion is that an increased presence of CBCA criteria likely signifies the story is true (Vrij, 2005). Supporting this, simulation studies have found that the mean CBCA scores for truth tellers were significantly higher than the mean CBCA scores for liars (Roma et al., 2011; Vrij et al., 2002). Furthermore, in Vrij's

(2005) overview of the occurrence of CBCA criteria in field studies, it was shown that CBCA scores were higher for truthful compared to falsified reports.

Unfortunately though, factors other than veracity may affect CBCA scores. Pezdek et al. (2004) applied the CBCA criteria to the transcripts of 114 children who recalled either a routine (familiar) or traumatic (unfamiliar) medical procedure. Results indicated that children who reported a routine medical procedure (a familiar event) obtained significantly higher CBCA scores than children who reported a traumatic medical procedure (an unfamiliar event), although all of the recollections were true (Pezdek et al., 2004). This evidence supports the idea that familiarity, as well as veracity, has an impact on obtained CBCA scores. Another study conducted by Blandon-Gitlin, Pezdek, Rogers, and Brodie (2005) involved 94 children, some of whom described a true event and some of whom described a false event; additionally, half described a familiar event and half described an unfamiliar event. Two trained CBCA judges then evaluated the children's responses (Blandon-Gitlin et al., 2005). The obtained CBCA scores were more strongly influenced by the degree of the child's familiarity with the report than the actual veracity of the story (Blandon-Gitlin et al., 2005).

Findings looking at the effect familiarity of an event has on CBCA scores demonstrate that use of the CBCA to judge veracity may be problematic. However, some might assume that a child who provides a clear account of an event is obviously telling the truth. Unfortunately, to date these results have not been considered in light of parent coaching (i.e., the act of making a child familiar with a falsified sequence of events). It seems plausible that coaching can have an effect on CBCA scores, whereby the belief in perceived truthfulness of a child's story increases. Past research has in fact established

that children coached to lie by an experimenter who taught them about CBCA criteria (Vrij, Akehurst, Soukara, & Stavroula, 2002) demonstrated elevated CBCA scores compared to children who told unprepared stories, but the CBCA has not been used to assess the stories told by children who have been coached to lie by a parent or by children who have undergone somewhat more naturalistic coaching which occurs at home with a parent and no observers in comparison to being in a laboratory setting.

The Present Study

Prior studies in this area have commonly focused on having children lie because of their own transgressions or about an experience of a medical injury (Crossman & Lewis, 2006; Warren et al., 2015). In this study, the content of the stories told by both the parent and the child were changed in that the participant was watching a video of a potential child abduction. By making the content of the stories crime-related, the realistic nature of the study is increased, as this is more relatable to a real-life situation where a child may have witnessed a crime. In the past, researchers have also chosen to present either an adult's story or a child's story, never both about the same content. In the current study an adult's true story and a child's coached versus true stories about the same subject were compared to assess the difference in accuracy rates. Previous investigations involving coaching generally included instructions to the adults as to how to coach the child and the aspects of the event they should focus on (e.g., who was there). The coaching that took place in this study did not involve the parents being instructed in any way. This added an element of reality to the coaching as the parent was free to use whichever coaching methods she wished; however, it did not allow for monitoring of the coaching techniques used by the parent. How the CBCA criteria were being applied in

relation to deception detection accuracy was also of interest so participants were asked to rate the degree to which several CBCA criteria were present in the story.

To determine the possible impact of the medium (transcript, audio, video) on the believability of a coached lie told by a child or the truth told by a child or a parent based on the same subject matter, all three mediums (i.e., transcript, audio, video) were compared (excluding video for the parent). If accuracy rates were better when stories were presented in one way versus another, this could indicate that stories should always be presented and judged via a certain medium. To date, no known research has directly compared adults' ability to detect children telling the truth versus their ability to detect adults telling the truth about the same event. Understanding the commonalities and differences that exist in such circumstances is important when we consider cases such as custody disputes where both children and adults may be lying about a situation. By comparing a child telling the truth to an adult telling the truth about the same event, this allowed for a comparison of the characteristics of each story in relation to CBCA criteria (e.g., does a child pause more or less than an adult when the story is true).

Because past research has indicated laypersons' ability to detect truths and lies is at chance levels (~50%) (e.g., Bond & DePaulo, 2006; Crossman & Lewis, 2006; Stromwall et al., 2007), it was hypothesized in this study that (A) participants' ability to detect the truth when told by the adult would be at chance levels and (B) participants' ability to detect the truth when told by the child would be at chance levels. Additionally, since prior research has indicated that coaching can make a child's lie harder to detect (Talwar et al., 2006; Warren et al., 2012), it was also hypothesized in this study that (C)

when coached, the child would be just as believable as when the child was telling the truth.

In previous studies, research has also assessed participant confidence and found that there was no link to accuracy (Evans, Bender, & Lee, 2016; Warren et al., 2015). Even with high confidence rates, there has been no link to correct veracity judgements (Evans et al., 2016). Because of this, it was hypothesized that (D) confidence would not be related to veracity scores.

Past researchers have also found that there is sometimes a truth bias in answers when evaluating the veracity decisions of participants (Street & Masip, 2015; Talwar et al., 2006), though none of these studies ever compared the same story across mediums. In keeping with this, it was hypothesized that (E) a truth bias may emerge for children's stories and that it might be seen in the video but not transcript or audio mediums.

Reportedly, CBCA has been utilized to evaluate the truthfulness of child testimony, most often in sexual abuse cases (Roma et al., 2011). The presence of CBCA criteria in a child's story is thought to be an indication of truth (Vrij, 2005). Because of this, it was hypothesized that (F) the greater number of CBCA criteria participants identified in the adult truth condition, the more accurate their veracity decisions would be, the greater the number of CBCA criteria participants identified in the child truth condition the more accurate their veracity decisions would be, and the greater the number of CBCA criteria participants identified in the child lie condition, the less accurate they would be.

As noted, prior researchers have generally chosen just one medium with which to present stories to participants (Crossman & Lewis, 2006; Edlestein et al., 2006; Talwar et

al., 2007). Some studies have found camera angle can affect how laypersons view testimony (Landstrom & Granhag, 2008); another study found that individuals using deception take longer pauses in audio interviews (Landstrom et al., 2007); and some have found that visual cues are sometimes incorrectly utilized by participants to make a veracity decision when watching a video recording (Bogaard et al., 2016; Gadea et al., 2015). No study to date has compared accuracy rates of participants across three mediums (transcript, audio, and video) using the same story content. Because of the mixed results when using different mediums and the lack of research comparing these three modalities, no specific hypothesis was made, but the possible direct effect of medium and possible interactions of medium with other variables were assessed.

Method

Participants

A convenience sample of 206 participants completed an online survey presented via survey monkey. Participants were asked to participate through a message on Grenfell Messenger, the first-year subject pool, online public forums, and various Facebook pages (See Appendix A). All participants were over the age of 19 unless they were university/college students, in which case they were considered to be mature minors. Forty-six participants identified as male with a mean age of 29.80 years ($SD = 12.11$) and 141 participants identified as female with a mean age of 31.10 years ($SD = 9.52$). Nineteen participants did not specify their age/gender.

Materials

Stories. Two true and one falsified story about a child abduction were obtained for the purposes of this study. The stories were told by either a child or a parent. In the lie condition, the child was coached to lie by a parent about witnessing the event. In the two true conditions, the stories were recounts of events witnessed by the parent or child (via a video created for YouTube (See Appendix B). Stories were both audio and video recorded (with the exception of the parent interviews as the parent was uncomfortable being video recorded) and then transcribed. Audio and video recordings, as well as the transcripts of the recordings, were used to represent the separate mediums.

Questionnaire. A questionnaire was also developed for the purposes of this study. The questionnaire consisted of questions regarding believability and content (e.g., was the person telling a truth or a lie, was the story detailed?), Likert-type scale questions assessing content of the story (e.g., was the story you were told logical?) on a scale of 1 (*not at all*) - 5 (*very/often*), an open-ended question regarding confidence (i.e., how

confident are you in your decision?), and demographic questions (i.e., age, gender, and ethnicity). A small thank you paragraph and reminder of the study focus was provided to participants upon completion of the questionnaire (See Appendix C).

Procedure

The questionnaire about the believability of a child or parent telling a truth or a lie was posted online and participants were recruited through social media. Those who were interested in completing the study were given a link to the survey. After clicking on the link, they saw the informed consent screen (See Appendix D) and were instructed that upon clicking next on this screen consent would be assumed, as was the fact that they were at least 19 years of age or a university/college student. Participants were then shown the survey where they read/listened to/watched (with an exception to no video in the parent condition) one of three accounts of an abduction (See Appendix E): a child coached to lie by the parent, or a child or a parent telling the truth. After reading/listening to/watching a story told about witnessing a potential child abduction, participants completed the questionnaire about the believability and content of the story with which they were presented. Lastly, they were thanked for their participation and reminded of the purposes of the study.

Results

The first concept examined in this study was whether or not people performed better than chance levels at identifying veracity in each condition (adult truth transcript, adult truth audio, child truth transcript, child truth audio, child truth video, child lie transcript, child lie audio, child lie video) (hypotheses A, B, and C). Following that, the potential predictors of accuracy (i.e., person seen, veracity, medium, confidence, CBCA score) that could be identified and seen in the various conditions were assessed (hypothesis D). Then, the accuracy rates based on medium (transcript, audio, video) were analyzed (hypothesis E). Next, the usefulness of the CBCA in judging the veracity of child and adult stories was evaluated (hypothesis F). Finally, as an exploratory analysis, the particular criterion used by participants (e.g., one's own thought processes and feelings) to make their veracity decisions were explored.

Accuracy in Veracity Decisions

Descriptive statistics for the accuracy of veracity judgements across conditions are displayed in Table 1. One-sample *t*-tests were conducted to determine whether or not participants' accuracy ratings were significantly different from chance-level accuracy (i.e., 50%). Participants' overall truth-lie detection accuracy, their accuracy when judging a child's coached lie (supporting hypothesis C), and their accuracy when judging an adult's true story were not significantly different from chance (supporting hypothesis A). However, when participants' ability to detect a child telling the truth was examined, in contrast to hypothesis B, the accuracy rate was found to be significantly better than chance, $t(61) = 0.51, p = .001, r^2 = .004$.

Predictors of Accuracy

A binary logistic regression analysis was completed with participants' accuracy as the outcome variable and with person seen (adult or child), veracity (whether the story was true or false), medium (transcript, audio, video), CBCA (how the criteria were applied), and confidence (1 = *not at all*, 5 = *very*) as predictor variables. As there is no established theory to suggest the order in which variables should be entered into the model, the hierarchical method was used. Main effects were entered on the first step, followed by two-way interactions on the second step, three-way interactions on the third step, and four-way interactions on the fourth step.

First, the main effects of person seen, medium, confidence, and CBCA were assessed for the adult and child for the transcript and audio truth conditions. The video modality could not be included because that medium was not available for the adult truth condition. Similarly, veracity was not assessed as there was no adult lie condition. The overall model was significant [$\chi^2(4) = 17.03, p = .002, R_N = .21$]. Prediction accuracy was improved from 55.4% ($-2LL = 138.82$) using just the constant to 72.3% with the four predictor variables added ($-2LL = 121.79$). The test revealed that person seen (Wald = 7.38, $p = .007$) and CBCA criteria (Wald = 5.29, $p = .021$) were significant predictors of accuracy. As shown in step 1 in Table 2, the odds ratio (OR) associated with person seen suggested participants who saw the adult were less likely to be accurate in their veracity decision. The odds ratio associated with CBCA criteria (step 1 Table 2) indicated the more CBCA criteria noticed by participants, the less likely they were to be accurate in their veracity decision.

When the two-way interactions were included in the regression model after person seen, medium, confidence, and CBCA were already in the model, the incremental change was significant [$\chi^2(6) = 20.98, p = .002$ ($-2LL = 100.82$)]. The person seen was still a significant predictor (Wald = 6.19, $p = .013$) but the recognized presence of CBCA criteria was not. As suggested by the odds ratio (Table 2), participants were more likely to be accurate if they viewed the child than if they viewed the adult. The interactions between the person seen and the use of CBCA and between the medium and participants' confidence with their decision emerged as significant predictors of accuracy. Follow-up regressions were completed to assess these two-way interactions.

In assessing the interaction between the medium and the participants' confidence ratings, when the transcript medium only was considered, the model including participants' confidence was not significant [$\chi^2(1) = 2.05, p = .152, R_N = .04$]. Similarly, when the audio medium only was considered, the model including the participants' confidence was again not significant [$\chi^2(1) = 2.96, p = .086, R_N = .08$]. However, there does appear to be a difference in the pattern of results suggested by the odds ratios. In the transcript only condition, the odds ratio suggested the more confident participants felt in the answer they chose, the more likely they were to be accurate. In contrast to this, in the audio only condition, the odds ratio suggested the more confident participants felt in the answer they chose, the less likely they were to be accurate.

In assessing the interaction between the person seen and the use of the CBCA criteria, when just the adult was considered, the model that included the use of CBCA criteria was significant [$\chi^2(1) = 16.95, p = .001, R_N = .32$]. Prediction accuracy was improved from 56.5% ($-2LL = 84.92$) using just the constant to 75.8% with recognized

presence of the CBCA criteria added as a predictor variable ($-2LL = 67.97$). As indicated by the odds ratio, the more participants acknowledged CBCA criteria, the less likely they were to be accurate in their veracity decision (Table 2). When just the child was considered, the model that included the recognition of CBCA criteria was not significant [$\chi^2 (1) = 1.62, p = .203, R_N = .20$].

Next the models assessing the potential predictability from higher order interactions were considered. When three-way interactions were added to the model with person seen, medium, confidence, CBCA, and the respective interactions already in the model, the incremental change was not statistically significant [$\chi^2 (4) = 0.39, p = .984 (-2LL = 100.43)$] nor was the incremental change statistically significant when the four-way interaction was added, [$\chi^2 (1) = 1.02, p = .312, (-2LL = 99.41)$].

A second binary logistic regression was completed to assess veracity and medium in the child only condition because there was only a truth condition for the adult. When veracity, medium, confidence and CBCA were added in the model assessing just the child, the first model was significant [$\chi^2 (5) = 12.86, p = .025, R_N = .13$]. Prediction accuracy was improved from 60.2% ($-2LL = 165.40$) using just the constant to 70.7% with the four predictor variables added ($-2LL = 152.53$). Veracity was a significant predictor of accuracy (Wald = 6.99, $p = .009$). Participants were less likely to be accurate if the story told was a lie (OR = 2.86) than if the story told was the truth (hypothesis C). When two-way interactions were added into the model after veracity and medium were already present, the model was not significant [$\chi^2 (14) = 22.20, p = .075, (-2LL = 143.20)$]. The same was seen when three-way, [$\chi^2 (20) = 27.94, p = .111, (-2LL =$

137.46)], and four way interactions were added, [$\chi^2(22) = 29.19, p = .139, (-2LL = 136.21)$].

Medium and Accuracy

Descriptive statistics for the accuracy of veracity judgements across mediums were conducted. One-sample *t*-tests were used to determine whether or not participants' accuracy ratings were significantly different from chance-level accuracy in each medium (i.e., 50%). In the transcript condition, accuracy rates of participants were not significantly different from chance, $t(86) = -0.11, p = .915, r^2 = .0001$. Similarly, in the audio condition, accuracy rates of participants were not significantly different from chance, $t(70) = 0.59, p = .557, r^2 = .005$ and in the video condition (where only the two child conditions were assessed as there was no video for the adult truth condition), accuracy rates were not significantly different from chance, $t(47) = 1.16, p = .252, r^2 = .03$.

Similar to accuracy, comparisons were done to assess whether differences in the rate of deciding that a story was true or false differed from chance in each medium in the child only condition (hypothesis E). Descriptive statistics for the choice made across the medium with which a story was presented are displayed in Table 3. One sample *t*-tests were conducted to determine whether or not participants' rate of choosing was significantly different from chance level (i.e., 50%). When participants' choices in assessing the adult's true story via transcript were evaluated, participants were more likely to say that the adult was lying than would be expected by chance, $t(37) = -2.41, p = .021, r^2 = .14$. In contrast, participants' choices in assessing the child's transcripts,

indicated they were significantly more likely to say that the child was telling the truth than would be expected by chance, $t(48) = 2.56$, $p = .014$, $r^2 = 0.12$.

CBCA Criteria and Participant Reasoning

Correlations between CBCA criteria and participants' accuracy in making veracity decisions are displayed in Table 4. In the adult truth condition, details, logic, and coherence were positively correlated with participant accuracy. This means that the more detailed, logical, and coherent participants identified the story as being, the more accurate they were in their veracity decision. In contrast to this, emotional state, corrections, complications, unusual details, digression, and unnecessary details were negatively correlated with accuracy. This showed that the more that the participant identified each of these criteria as being present in the story, the less likely they were to be accurate in their veracity decision.

In the child truth condition, logic, details, and coherence were positively correlated with participant accuracy, which means the more these factors were identified in the story by participants, the more likely they were to be accurate in their veracity decision, $r^2 = .06$, $n = 64$, $p = .654$. No other CBCA criteria were significantly correlated with accuracy in the child truth condition. In the child lie condition, corrections and unnecessary details were positively correlated with participant accuracy; the more these factors were identified in the story by participants, the more likely they were to be accurate in their veracity decision, $r^2 = .25$, $n = 59$, $p = .053$. Additionally, coherence and logic were negatively correlated with accuracy, thus the more coherent and logical the participants rated the story to be, the less likely they were to be accurate in their veracity

decision. No other CBCA criteria were significantly correlated with accuracy in the child lie condition (hypothesis F).

The pattern of reasoning given by participants as being behind correct and incorrect truthfulness decisions was then investigated. This occurred before participants were asked about the presence of CBCA criteria, meaning participants could mention using the criteria without knowing they have previously been shown to be indicators of truthfulness. Those who were placed in the adult truth condition listed the amount of hesitation, details, coherence, repetition, and unusual details the story contained as reasons for their veracity decision (CBCA criteria) and also reported using intuition and verbal cues to decide. Those who were in the child lie condition listed the amount of hesitation, details, coherence, repetition, and the presence of unusual details the story contained as reasons for their veracity decision (CBCA criteria) and also reported using intuition, physical cues, and verbal cues to decide. Those who were in the child truth condition listed the amount of hesitation, details, coherence, and unusual details the story contained as reasons for their veracity decision (CBCA criteria) and also reported using intuition, physical cues, and verbal cues to decide. Thirty-three percent of participants who judged the truthful adult incorrectly reported that the amount of hesitation was an indication that the person was lying. Similarly, 40% of the participants who judged the child incorrectly reported that the surplus of details contributed to their veracity decision.

Discussion

The evaluation of children's eyewitness testimony has become an important issue in court, most often in custody battles and abuse cases between partners (Talwar et al., 2011). The ability of potential jurors to assess a child and an adult's story and make the correct veracity decision is important to be able to ensure that the guilty party goes to jail and an innocent person is not incarcerated for crimes he/she did not commit. Children can be coached to lie by their parents, so it is imperative to evaluate how accurately jurors would be able to judge children in these contexts and what factors could influence this accuracy.

Accuracy in Veracity Decisions

In the present study, adults were only able to detect the child's coached lies at chance level. Overall, the results of this study were consistent with the findings of previous research (Bond & DePaulo, 2006; Crossman & Lewis, 2006; Talwar & Lee, 2002; Talwar et al., 2006) and suggested that adults are unable to accurately identify true stories told by adults and coached stories told by children (supporting hypotheses A and C, respectively). An interesting finding was the high rate of accuracy of participants when the child was telling the truth (in contrast to hypothesis B). As determined by the accuracy of veracity decisions made by participants analyzed by the logistic regression, the child was believed more often by participants when telling the truth than when coached to lie (in contrast to hypothesis C). This may be partially explained by the truth bias seen in the child transcript condition as discussed later.

Prior research has suggested when a child is asked to provide longer stories or to answer follow-up questions about the events, his/her lies may be easier to identify

(Talwar & Lee, 2002). The child in this study gave an extensive coached story that was consistent in length with the true story that was told. As well, the story involved being asked a number of questions by an interviewer regarding the people involved, the setting, and the actions. Despite this, adults remained at chance levels in their ability to detect the child's coached lie accurately. This may potentially be explained by the fact that the child in this study was coached over several days leading up to the interview. If this repeated coaching is typical of a real-life scenario that a child may undergo in a coaching situation, this has negative ramifications for what would happen if parents coached a child to lie. The finding that the coached child was believed less often than coached children in previous studies (e.g., Warren et al., 2012) could be explained by the type of details the child gave in his coached lie. For example, some of the details reported by the child were referred to by participants as "too advanced for a child" (e.g., mentioning a 'cul-de-sac'). This could have caused participants to be skeptical about the child's answer and to therefore judge the child as lying. This might indicate that the use of such terminology could be indicative of lying in stories told by children who are coached. Alternatively, it could mean that children who are coached to lie, but who do not use complex terminology, would be believed at an even higher rate than was seen in this study.

Previously, confidence has been seen to be unrelated to the accuracy of participants in identifying a truth or a lie and in one study, despite accuracy or inaccuracy, participants were more confident when judging coached than uncoached children's stories (Warren et al., 2015). Participants in the present study were asked to rate how confident they felt (1 being *not at all*, 5 being *very*) about their veracity

decision. It was hypothesized that (hypothesis D) confidence would not be related to accuracy in veracity decisions made by participants.

In somewhat of a contrast to the hypothesis, there was a medium by confidence interaction. It seemed in the transcript condition, a higher level of confidence was related to participants being accurate in their answer, but that in the audio condition, a higher level of confidence was related to participants being less accurate in their answer. This may be explained by the participants' ability to re-read the transcripts or to be more attentive to the information when they could read it instead of listening to an audio-only recording. This could suggest that confidence might be successfully used as an indicator of the accuracy of a veracity decision in transcript-based versus audio-based decisions, but it was only seen when the person giving the story was telling the truth. Furthermore, confidence has not been related to accuracy in past studies that have used transcripts (Talwar et al., 2007; Warren et al., 2015). With respect to audio-recordings, participants might have been using vocal cues to identify the story as being true or false, but seem to have inappropriately identified such cues as signifying a truth or a lie and therefore were unable to correctly make veracity decisions. With so little research assessing the use of audio recordings in making veracity decisions, it is difficult to know what exactly participants could be correctly or incorrectly applying to make this decision. Related to this, what, cues if any, could be incorrectly associated with enhanced confidence is unknown.

Medium

Previous studies in this area have generally used one method of presenting stories to participants (i.e., transcript or video recording) (e.g., Crossman & Lewis, 2006;

Edlestein et al., 2006; Talwar et al., 2011). In this study stories were presented over three mediums (transcript, audio, video). In some studies, it has been noted that issues as simple as video camera angle can make the child seem more or less believable (Landstrom & Granhag, 2008). Also, the argument for the benefit of video recordings when participants are viewing testimony has been made because of the supposed aid of visual cues in making accurate veracity decisions (Gadea et al., 2015). This is despite research showing laypersons commonly hold misconceptions such as that liars display less eye contact than those telling the truth (Bogaard et al., 2016).

Regardless of presentation mode, it was found that participants' decisions were not statistically different from chance levels. This seemed to suggest that no matter what modality is used to present testimony, the ability to detect lies versus truths does not change from chance levels. When subsequent *t*-tests were performed, however, it was found that a truth bias existed in the child truth transcript condition, and a lie bias existed in the adult truth transcript condition (hypothesis E).

The tendency for participants to choose truth in the child transcript condition may be explained by human tendency to believe what they experience, something called the truth bias phenomenon (Street & Masip, 2015). Believing things by default is an adaptive function because there would be too much time spent evaluating the truthfulness of every situation (Street & Masip, 2015). This, coupled with the fact that children are often seen as innocent and trustworthy by veracity deciders (Monroe, 2012), could explain why adults in this study were so quick to judge the child as telling the truth in the transcript condition. A possible explanation for this effect not carrying over into the audio and video conditions may be the incorrect use of vocal and visual cues by

participants. Supported by the increase in confidence, decrease in accuracy in the audio condition, it may be possible that participants were applying incorrect vocal cues to decide the child was lying and this could have caused the participants to choose lie. Past studies have indicated that adults tend to mistake visual cues that are signs of nervousness regularly displayed by children as lies (Vrij, Akehurst, Brown, & Mann, 2006). Vrij et al., for example, noted that children move nearly twice as much when telling a story as adults and it has nothing to do with veracity. The absence of sound and visual cues in the transcript condition would have made the incorrect use of such cues impossible. This may indicate that research on which vocal and visual cues are used for indicators of truths and lies and their corresponding confidence ratings should be examined.

Vrij and Baxter (1999) found that when people judge statements that do not provide much verbal information, such as a denial, a lie bias can occur (i.e., deciding that the person is lying unrelated to the actual truthfulness). In the transcript given in the adult condition there was absolutely no denial, as the adult was a potential witness to events and the information given had a great amount of detail. A high number of corrections in a story can also give laypersons the impression that the individual is lying (Vrij & Baxter, 1999). The adult made a number of corrections in her truthful story and this fact was likely much more noticeable when the information was presented via transcript. Having the ability to re-read the story versus listen to/watch the story once may have allowed participants to encode (process) the information repeatedly and to recognize just how many corrections were made (although corrections should be an indication of truthfulness). This could indicate that the relationship between the coding

process and presentation medium of testimony should be further researched to assess what impact different mediums have on encoding processes and accuracy.

CBCA Criteria and Participant Reasoning

When considering transcripts of children's eyewitness testimony, the most popular method of evaluating truthfulness is through the CBCA (Roma et al., 2011). Increased presence of CBCA criteria in a child's story is an indication of truth (Vrij, 2005). Past research has found that the mean CBCA scores for a child's true story were significantly higher than CBCA scores for a child's false story (Virj et al., 2002).

In this study, the more often CBCA criteria were identified by participants as being a part of the child's story, the more likely they were to be inaccurate in their veracity decision (in contrast to hypothesis F). This result is completely out of line with previous research and suggests that participants are not identifying the presence of CBCA criteria in a child's story as indicators of truth and in some instances are taking the presence of CBCA criteria to be an indication of a lie. This could be attributed to 'common sense' decisions based on implicit reasoning (i.e., decision making based on one's own feelings and thought processes).

Often human beings take what they feel to be true as objective truth, and this can have an adaptive function as it would be extremely difficult to be skeptical of everything seen or heard (Street & Masip, 2015). In situations that concern lie detection however, more critical thinking is necessary when trying to make a correct decision about whether or not a story is truthful. When this critical thinking is not applied, it is extremely problematic considering that gut-reaction decisions could be lowering the accuracy of veracity decisions when an individual is lying.

Limitations and Suggestions for Future Research

Recent studies in lie detection that have considered coaching have given the child and adult, usually a parent, instructions on how to coach the child (e.g., setting, people present, specific events) (Talwar et al., 2006; Warren et al., 2015). In the present study, no coaching instructions were given to the adult about coaching. As previously noted, this was beneficial as it added an element of ecological validity to the study, but also it is a limitation in that the coaching methods used could not be monitored and therefore could not be analyzed. Knowing how the coaching takes place is of importance in determining what features of coaching make lies more believable. Future research should explore the possibility of allowing the coaching to take place between parent and child in their own home, but the parent and child could video/audio recorded themselves so coaching methods could be analyzed.

Past studies in this area have not compared adult and child stories about the same content. Unfortunately, time constraints limited the conditions that could be compared in this study. In future research, it would be beneficial to include an adult lie condition and a child uncoached lie condition as well as to assess all three mediums for each truth/lie condition.

Conclusion

The findings in relation to medium in this study must be considered. Although mixed results were found in previous studies (Blandon-Gitlin et al., 2005; Landstrom & Granhag, 2008; Pezdek et al., 2004), in this study there were no accuracy differences across the three mediums; participants' accuracy at detecting a true story told by an adult or a lie told by a child stayed at chance levels across conditions. This seems to suggest

that no matter how testimony is presented to laypersons, they perform just as poorly. This is an indication that other ways of improving accuracy in veracity decisions made by jury members should be explored. Upon further analysis, a truth bias was found in the transcript condition. Because so little research exists comparing three modalities (transcript, audio, video), it is impossible to say with any definitiveness that this truth bias would be regenerated in other transcript presentations, as there are studies that have found no truth bias in this condition (Warren et al., 2012). More extensive investigation comparing the three medium types needs to be conducted.

This study clearly provides evidence that laypersons, who are subject to jury summons, are not accurate in identifying children's coached lies or adult truths. The general public does not know about the correct application of CBCA criteria when evaluating the truthfulness of a story so laypersons are applying them incorrectly or not applying them at all. A child who is coached to lie can give believable testimony in court, and if potential jurors are no better than chance at detecting whether or not the child is lying because of this incorrect application, this has horrendous implications. If a child is coached to lie and is subsequently believed by a jury, innocent individuals can be falsely convicted and can spend time in prison for a crime they have never committed.

Similarly, the adult in this study who was telling the truth was not believed via the transcript presentation of the story, and participants' accuracy in detecting the truth or a lie in the adult audio condition was only at chance levels. If this was a court case and she was on the stand giving her testimony, she would not be believed by the jury judging innocence. This may allow an innocent person to go to prison and the guilty perpetrator to walk free. Without a doubt, the results of this study are an indication that we need to

investigate better methods of distinguishing between child and adult true and false stories, especially in the case of potential coaching.

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Table 1

Accuracy Rates (%) for Participants' Decisions Across Conditions

Condition	<i>M</i>	<i>SD</i>
True Stories	55.56	0.50
Adult	41.67	0.50
Child	58.96*	0.49
Child lie	46.77	0.50
Child true	69.44**	0.46
Transcript	49.43	0.50
Audio	53.52	0.50
Video	58.33	0.50

** *t*-test is significant at the .01 level comparing accuracy to chance levels (50%).

* *t*-test is significant at the .05 level comparing accuracy to chance levels (50%).

Table 2

The Logistic Regression Model Predicting Decision Accuracy

	<i>B</i> (SE)	95% CI for odds ratio		
		Lower	Odds ratio	Upper
Step 1				
Constant	4.87 (1.82)			
Person seen	-1.28* (0.47)	0.11	0.28	0.70
Medium	-0.48 (0.46)	0.25	0.62	1.53
Confidence	-0.02 (0.24)	0.61	0.98	1.56
CBCA	-0.14* (0.06)	0.78	0.87	0.98
Step 2				
Constant	10.15 (8.69)			
Person seen	12.38 (4.99)*	13.47	236791	4161760007
Medium	-6.93 (5.12)	0.00	0.001	22.28
Confidence	-3.25 (2.25)	0.00	0.04	3.19
CBCA	-0.24 (0.34)	0.40	0.79	1.54
Medium by person	-1.92 (1.16)	0.02	0.15	1.44
Confidence by person	-0.09 (0.66)	0.25	0.91	3.34
CBCA by person seen	-0.49 (0.16)*	0.45	0.61	0.84
Medium by confidence	1.67 (0.70)*	1.35	5.28	20.69
CBCA by medium	0.07 (0.17)	0.78	1.07	1.49
CBCA by confidence	0.09 (8.69)	0.92	1.10	1.31

Note. ** $p < .001$; * $p < .05$.

CI = confidence interval.

Table 3

Rate of Choosing (%) for Participants Across Conditions

Condition	<i>M</i>	<i>SD</i>
True stories	55.56	0.50
Adult truth	41.67	0.50
Child lie	53.23	0.50
Child true	69.44**	0.46
Adult transcript	31.58*	0.47
Adult audio	52.94	0.51
Child transcript	63.27**	0.49
Child audio	64.86	0.48
Child video	54.05	0.48

** *t*-test is significant at the .01 level comparing accuracy to chance levels (50%).

* *t*-test is significant at the .05 level comparing accuracy to chance levels (50%).

Table 4

Correlations Between Use of CBCA Criteria and Accuracy Across Conditions

	Condition		
	Adult truth	Child truth	Child lie
CBCA criteria			
Logic	.36**	.30*	-.42**
Coherence	.39**	.35**	-.29*
Digression	-.49**	-.17	.15
Details	.27*	.32**	-.22
Level of complication	-.33**	-.09	.22
Unusual details	-.47**	-.20	.19
Unnecessary details	-.49**	-.18	.48**
Emotional state	-.28*	.06	.13
Corrections	-.31*	.05	.29

** Correlation is significant at the .01 level (2-tailed).

* Correlation is significant at the .05 level (2-tailed).

Appendix A

Recruitment Message

“As a part of meeting the requirements for my honours thesis in Psychology I am conducting an online survey. Participants must be at least 19 years of age or be students at a university or college. My survey is about lie detection. You will be asked to assess the believability of a person who is telling a truth or a lie and to complete the online survey. The survey is short and should only take less than 10 minutes. If you are interested in participating, follow the link below and thank you so much for your help, it really is appreciated!”

Appendix B
Re: Video Permission

JS

Joey Salads <joeyсалads1@hotmail.com>

Reply

Tue 11-01, 7:44 PM

Young, Makiyah R.

Inbox

Sure go for it

From: Young, Makiyah R. <mry155@grenfell.mun.ca>

Sent: Monday, October 31, 2016 6:15:14 PM

To: joeyсалads1@hotmail.com

Subject: Video Permission

Hey Joey!

I'm a student at Grenfell Campus, Memorial University of Newfoundland and I'm completing my honours thesis this year. I would love to use one of your videos for the study I'm conducting, but of course I need the proper permissions. Which is why I'm emailing you. I would love it if you'd allow me to use your video as a stimulus in my study. Of course it is completely voluntary and up to you. Let me know either way, thank you so much.

Makiyah

Appendix C

Does Practice Make Perfect? Judging the Truthfulness of Child and Adult Stories

You have just read/listened to/watched a story told by a person who is telling the truth or a lie about seeing a **video** where someone was potentially abducted. Please answer the following questions based on that story.

Was the person telling a truth or a lie?

Truth _____ Lie _____

How confident are you in your decision?

1	2	3	4	5
Not at all		Somewhat		Very
confident		confident		confident

What led you to come to your decision?

Was the story you were told logical? (i.e., did it make sense?)

1	2	3	4	5
Not at all		Somewhat		Very

Was the story you were told coherent (i.e., could you understand what was being said)?

1	2	3	4	5
Not at all		Somewhat		Very

Did the person digress (branch off and talk about another subject) at any point in the story?

1	2	3	4	5
Not at all		Somewhat		Definitely

Was the story detailed?

1	2	3	4	5
Not at all		Somewhat		Very

Was the story complicated?

1	2	3	4	5
Not at all		Somewhat		Very

Did the story have unusual details?

1	2	3	4	5
Not at all		Somewhat		Definitely

Did the story have unnecessary details?

1

2

3

4

5

Not at all

Somewhat

Definitely

Did the person tell you how he/she felt during the story?

1

2

3

4

5

Not at all

Somewhat

Definitely

Did the person make corrections during his/her story?

1

2

3

4

5

Not at all

Somewhat

Definitely

Demographics

To end off your participation I would like you to answer some demographic questions.

Data will only analyzed on a group basis; individual answers will not be examined.

How old are you? _____

What is your gender? Male ____ Female ____ Other ____

What is your nationality/ethnicity? _____

Thank you for participating in this study. The purpose is to assess the believability of a person's story and whether that changes if people see, hear or read it. The individual whose story you were given may have been telling the truth or a lie about seeing a video of a potential child abduction. No child was actually abducted. This individual would have either been shown a video of an abduction or been told to pretend he/she had seen a video of a child abduction. We simply want to know how accurate people are when judging the truths and lies of people who are telling their accounts of potentially criminal events. Again, thank you for your participation in our research. If there are any questions or if you would like to know the results of this study, contact Kelly Warren at kwarren@grenfell.mun.ca.

Appendix D

Informed Consent Form (Online)

Does Practice Make Perfect? Judging the Truthfulness of Child and Adult Stories

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 Makiyah Young as part of the course requirements for Psychology 4959. I am under the supervision of Dr. Kelly Warren.

Purpose: The study is designed to investigate how believable people are when telling a truth versus a lie. The results will be used to write a thesis. The study may also be published in the future.

Task Requirements: You will be asked to complete the online survey assessing the believability of a person who is telling a truth or a lie. You may omit any questions you do not wish to answer.

Duration: The online survey will take approximately 10 minutes to complete.

Risks and Benefits: There are no obvious risks or benefits involved with your participation in this study.

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

individual responses cannot be identified. Although I am not collecting any identifying information, the online survey company, Survey Monkey, hosting this survey is located in the United States and as such is subject to U.S laws. The U.S Patriot Act allows authorities access to the records of internet service providers. Therefore, anonymity and confidentiality cannot be guaranteed. If you choose to participate in this survey, you understand that your responses to the survey questions will be stored and may be accessed in the USA. The security and privacy policy for the web survey company can be found at the following link: <https://www.surveymonkey.com/mp/policy/privacy-policy/>

Right to Withdraw: Your participation in this research is totally voluntary and you are free to stop participating at any time. However, once you complete this survey and click submit, your data cannot be removed because we are not collecting any identifying information and therefore we cannot link individuals to their responses.

Contact Information: If you have any questions or concerns about the study, please feel free to contact my supervisor, Dr. Kelly Warren, at kwarren@grenfell.mun.ca. As well, if you are interested in knowing the results of the study, please contact Dr. Kelly Warren after May 2017. Results will also be presented at the student undergraduate research conference next semester.

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.

By proceeding to the next page, consent is implied as is the fact that you are 19 years of age or older or a student in college or university.

Appendix E

Transcripts

#1 Truth

Interviewer: Okay, so can you tell me what happened?

Parent: Sure. Um, there were two boys out, it looked like on the road. I'm not sure if it was their driveway, it looked like they were on a cul-de-sac, and the basketball net was kind of in this-, back by the curb, and they were playing basketball. They didn't look any older than probably 8 or 9. 8, 9,10. Two boys, uh, they were, uh, dribbling the basketball and a yellow car-, they noticed a car, it was a yellow sports car pulled up and one of the boys yelled "look at the car, there's a car there." The guy actually rolled down his window and said "hey, do you want a ride? This car is just like the transformer car, like in the movie, like transformer." And uh, the boys dropped their basketball and went over to the car. He said "now someone has to ride shotgun" so one of the kids got in back and I guess the one who called shotgun got in front. And the last thing I remember is the man saying how fast the car is, and he drove off.

Interviewer: Okay. And can you remember what the car looked like?

Parent: It was yellow, um, two-door, uh, sports car, low to the ground, don't know what kind of car it was. If I was to guess maybe a Trans Am or something. Um... the man was young who was driving. Probably like mid-thirties I would guess, mid-... even late twenties. It didn't seem to me that the boys knew them, knew him, they were more curious about the car and how fast it was, and it was-, it looked like the transformer. I think it was-, I'm saying this on my own but "Bumblebee" in the transformer, the yellow transformer that changed into a car. Um, yeah I can't think of... I think that's it.

Interviewer: Can you remember what he was wearing?

Parent: The man?

Interviewer: Yeah, in the car.

Parent: I only saw the top part, I think it was a black shirt, he had short hair, clean shaven... That's all I can remember.

Interviewer: Okay, can you remember what the boys looked like who were at the...

Parent: Um, one had darker hair than the other. They both had dark hair I do believe. One was brown, one was lighter. Um, like I said if I was to guess their ages probably 9 or 10. Gosh, I think one was wearing shorts. Um. Yeah, that's all I can remember.

Interviewer: Mhm. Do you remember the colours they were wearing or anything like that?

Parent: I think the boy who noticed the car first was wearing a gray shirt.

Interviewer: Okay.

Parent: And I believe he had shorts on, like dark coloured shorts.

Interviewer: Mhm. Okay. Can you remember what the area looked like where they were?

Parent: It looked like... It looked like a cul-de-sac, like it was on a road. To me, it looked like a cul-de-sac. Like a quiet neighbourhood, um, it wasn't like a city or anything. It was... a few houses in the background and the net, to me, looked like it was on the road but against the curb.

Interviewer: Okay. Alright. Is there anything else you can remember?

Parent: Other than the man pushing up the seat for the two door seat and lettin' the little boy, the first boy, in; the backseat, holding back the seat. And the other guy getting shotgun and tellin' him how fast the car is and then they sped off.

Interviewer: Okay. Can you start right at the beginning and then go right to the end and just tell me all the events that happened in the video?

Parent: Okay. So first, uh, the first thing I noticed was the boys playing basketball, like I said they were probably only 9 or 10. Um, it looked like it was on a road, or a driveway it was hard to tell but to me it looked like a road and that's why that was against the curb. Um, and they were playing and the yellow sports car pulled up. Uh, and one of the boys noticed the car and the gentleman who was drivin' had called out and said "yeah it's like the transformers car," like the 'Bumblebee.' Uh, which intrigued the boys I guess and asked them did they wanna go for a ride. So the boys went over and they-, the man said "someone gotta call shotgun, someone's gettin' in front" so he opened the door and pulled down the-, or the door opened and he pulled down the seat to let the younger boy, or sorry not the younger boy, one of the boys in the back and the other one got in front and the last thing he said was "this car is fast."

Interviewer: Okay.

Parent: And I think he was wearing a black shirt, like I said cleanly shaved. He was probably mid-thirties, late twenties.

Interviewer: Alright, is there anything else?

Parent: I don't think so.

Interviewer: Okay.

#2 Coached Lie

Interviewer: Alright. So can you tell me what you remember?

Child: Okay. So, these two boys, they looked about 9 or 10 years old, they were playing basketball on this, like, cul-de-sac at the end of the road. And the basketball net was against the curb of the road. Um, they were playing basketball, one of the boys had a gray shirt and black sh-, uh, gray shirt and black shorts, and dark hair. And the other one had lighter hair, I'm not sure what he was wearing. Um, and then this yellow sports car pulled up, it looked like a Corvette or a Camaro. Um, it like... It was a two door sports car and the man, this young man, rolled down the window. He had like um, no beard, no moustache and he was wearing a black shirt and he looked like late twenties, early thirties. And uh, he said "do you like the car? It looks like the one in transformers, like Bumblebee." And he said "do you want to go for a ride?" So the boys just dropped the basketball and ran in and he said "someone has to call shotgun to get in the front," and one of the boys uh, called shotgun so the guy-, the man pulled down the seat. Uh, one of the boys got in the back and one of the boys got in the front and-, and then the guy said "let's see how fast this can go" and he drove away.

Interviewer: Okay. Can you remember which boy was in the front?

Child: Um, I'm pretty sure it was the dark haired kid, but I'm not 100% sure.

Interviewer: Okay, can you remember what the area looked like where this happened?

Child: Um, it was like, at a-, around a cul-de-sac and I'm pretty sure there was like, houses around it and they were playing basketball and the basketball net was like, up against the curb.

Interviewer: Okay, can you remember anything else about what the boys looked like?

Child: Um, well the um, guy with the dark hair. He had like, uh, dark hair and he had a gray shirt on and black shorts. And the other guy had uh, lighter hair and I'm not sure what he was wearing.

Interviewer: Okay. Can you remember anything else about what the driver was wearing?

Child: Um, he was wearing a black shirt and like, you couldn't really see his pants 'cause he was sittin' down in t-, the car, sports car, and you could only see, like, from his waist up.

Interviewer: Okay. Is there anything else you can remember about the car?

Child: Um, well it was a yellow sports car maybe like a Camaro or a Corvette, it was a two door sports car.

Interviewer: Okay. Is there anything else you can remember about anything?

Child: No, I think that's it.

Interviewer: Okay, now I know you've told me a lot there, but can you start right from the beginning and go to the end and tell me all the things that happened in the order that they happened?

Child: 'Kay, so. Two boys, about um 10... 9 or 10 years old, playing on the cul-de-sac, playing basketball and the basketball net was against the curb. And this, uh, one of the boys had dark hair and wore a light gray shirt and a black uh, shorts. And the other boy had light hair and he looked about the same age. And then this yellow sports car pulled up and the man rolled down the window and said um, "do you like the car, it looks like the one in Transformers, Bumblebee" and then he said, "do you guys wanna go in?" and the guys uh, dropped the basketball and ran right to the car and the man uh, said "one of you guys gotta call shotgun" so one of the boys called shotgun. So the man pulled back

the seat, 'cause it was a two-door, and one of the boys got in the back and one of the boys got in the front.

Interviewer: Okay.

Child: And then he said "Um, would you-, let's see how fast this thing can go" and they drove away.

Interviewer: Okay. Can you remember anything else?

Child: No, I think that's all.

Interviewer: Alright.

#3 Truth

Interviewer: Alright, can you tell me what you saw?

Child: Okay, so these two boys were playing, they looked about like, 11... 10 or 11. And one of them had an Air Jordan black shirt on, and um, bla-, and gray uh, sweatpants. And the other kid had a black shirt on and sweatpants. Um, the other kid with the Air Jordan shirt had a-, had brown hair and they were playing basketball on the curb-, on the... like around the end of the road, and it was surrounded by houses and stuff, and trees. And then this yellow sports car pulled up and, um, he, um, the boys just looked at it. And the guy, he had like a black shirt on and he had a beard. And um, he said um, "this car looks like the yellow sports car from the Transformers," and he um, he said um, to the boys "do you want a ride?" And then he said "uh, someone gotta go call shotgun," so one of the boys called shotgun and the other one got in the back.

Interviewer: Mhm.

Child: Then he said "this car is fast," and then he drove away with them.

Interviewer: Okay. Can you remember which boy was in the front?

Child: Um, the guy with the darker hair and the Air Jordan shirt on I'm pretty sure.

Interviewer: Okay. Can you remember anything else about what the boys looked like?

Child: Um, I'm not quite sure what the light-, the other boy had but one of them had dark brown hair, and um, Air Jordan shirt with like red like, right here, and uh, gray sweatpants.

Interviewer: Okay. Can you remember anything else about what the driver looked like?

Child: Um, he had like a brownish coloured beard and hair, and he had like a beard like around there. And he um, he had like a black shirt on and he looked like 20, like 25-30 maybe.

Interviewer: Can you remember anything else about what the car looked like?

Child: Uh, it was a yellow sports car, looked like a Corvette probably, or a Camaro maybe.

Interviewer: Mhm. Can you remember anything else, like what the houses might have looked like that were around?

Child: Uh, one of the houses were like white and they had like a garage door showing.

They had like a walkway up to their house and around the houses there were all trees and everything.

Interviewer: Mhm, okay. Is there anything else you can remember?

Child: Um... No I think that's all.

Interviewer: Okay. Now, I know you've told me a lot there but can you start right at the beginning and go right to the end and tell me everything that happened that you remember?

Child: Okay, so. These two boys were playing basketball at the end of a curb and um, this yellow sports car pulled up. They uh, the guys said um, "do you like the car? It looks like the one in Transformers." And he said um, "do you wanna get in?" So the boys raced over to the car and he pulled back the seat and said, "one of you guys gotta call shotgun." So one of the boys called shotgun and he got in front and then the other one got in the back, and then he, uh, the man said "this car is fast" and he drove away.

Interviewer: Alright. Is there anything else you can remember?

Child: No, I think that's it.

Interviewer: Okay, then I think we're done.