



Truth-Lie Conversations in Forensic Interviews of Children **Selected Bibliography**

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Scope

This bibliography covers literature of multiple aspects of truth telling, oath-taking, child development, and the truth-lie discussion in forensic interviews of children. It is a selected bibliography, not comprehensive.

Organization

Entries are arranged in date descending order and alphabetically by first author within each year of publication, years 1984-2012.

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Truth Lie Conversations in Forensic Interviews of Children

A Selected Bibliography

Lyon, T. D., Carrick, N., & Quas, J. A. (2012). Right and righteous: Children's incipient understanding and evaluation of true and false statements. *Journal of Cognition and Development* (in press) Retrieved from <http://works.bepress.com/cgi/viewcontent.cgi?article=1087&context=thomaslyon>

Two studies examined young children's early understanding and evaluation of truth-telling and lying, and the role that factuality plays in their judgments. Study 1 (104 2- to 5-year-olds) found that even the youngest children reliably accepted true statements and rejected false statements, and that older children's ability to label true and false statements as "truth" and "lie" emerged in tandem with their positive evaluation of true statements and "truth" and their negative evaluation of false statements and "lie." The findings suggest that children's early preference for factuality develops into a conception of "truth" and "lie" that is linked both to factuality and moral evaluation. Study 2 (128 3- to 5-year-olds) found that, whereas young children exhibited good understanding of the association of true and false statements with "truth," "lie," "mistake," "right," and "wrong," they showed little awareness of assumptions about speaker knowledge underlying "lie" and "mistake." The results further support the primacy of factuality in children's early understanding and evaluation of truth and lies.

Talwar, V., & Crossman, A. M. (2012). Children's lies and their detection: Implications for child witness testimony. *Developmental Review*, 32(4), 337-359.

The veracity of child witness testimony is central to the justice system where there are serious consequences for the child, the accused, and society. Thus, it is important to examine how children's lie-telling abilities develop and the factors that can influence their truthfulness. The current review examines children's lie-telling ability in relation to child witness testimony. Although research demonstrates that children develop the ability to lie at an early age, they also understand that lie-telling is morally unacceptable and do not condone most types of lies. Children's ability to lie effectively develops with age and is related to their increasing cognitive sophistication. However, even children's early lies can be difficult to detect. Greater lie

elaboration requires greater skill and children's ability to lie effectively improves with development and as a function of cognitive skill. Different methods of promoting children's truthful reports as well as the social and motivational factors that affect children's honesty will be discussed.

Wandrey, L., Quas, J. A., & Lyon, T. D. (2012). Does valence matter: Effects of negativity on children's early understanding of the truth and lies. *Journal of Experimental Child Psychology*, 113(2), (in press) Retrieved from <http://works.bepress.com/cgi/viewcontent.cgi?article=1091&context=thomaslyon>

Early deceptive behavior often involves acts of wrongdoings on the part of children. As a result, it has often been assumed, although not tested directly, that children are better at identifying lies about wrongdoing than lies about other activities. We tested this assumption in two studies. In Study 1, 67 3- to 5-year-olds viewed vignettes in which a character truthfully or falsely claimed to have committed a good or bad act. Children were biased to label claims that the character had committed a good act as the truth and claims that the character had committed a bad act as lies. In Study 2, 51 4- to 6-year-olds viewed vignettes in which characters either admitted or denied committing a good or bad act. Children were better at identifying truth-tellers and liars when the acts were good. Results suggest that young children initially overgeneralize the concept of lie to include all negative acts and the concept of the truth to include all good acts and only gradually make a distinction between act valence and honesty. As a result, including wrongdoing in scenarios to test children's early understanding of the meaning of lying is likely to underestimate children's abilities.

Warren, K. L., Dodd, E., Raynor, G., & Peterson, C. (2012). Detecting children's lies: Comparing true accounts about highly stressful injuries with unprepared, prepared, and coached lies. *Behavioral Sciences and the Law*, 30(3), 329-341.

In this investigation, 514 university students judged whether children were telling the truth about highly emotional events. Eight children (half female, half 8-9 and the remainder 12-14 years old) had been injured seriously enough to require emergency room treatment and were interviewed a few days later. Each was yoked to three other children matched in age and gender

who fabricated accounts under one of three conditions: lies that were unprepared, prepared (24 hours to prepare), and coached by parents. Participants were at chance when judging true accounts as well as unprepared and prepared lies. However, 74% of the coached lies were judged as true. Participants' confidence in their judgments, age, experience with children, and relevant coursework/training did not improve judgments. Copyright © 2011 John Wiley & Sons, Ltd.

Evans, A. D., & Lyon, T. D. (2011). Assessing children's competency to take the oath in court: The influence of question type on children's accuracy. *Law and Human Behavior*, 36(3), 195-205.

This study examined children's accuracy in response to truth–lie competency questions asked in court. The participants included 164 child witnesses in criminal child sexual abuse cases tried in Los Angeles County over a 5-year period (1997–2001) and 154 child witnesses quoted in the U.S. state and federal appellate cases over a 35-year period (1974–2008). The results revealed that judges virtually never found children incompetent to testify, but children exhibited substantial variability in their performance based on question-type. Definition questions, about the meaning of the truth and lies, were the most difficult largely due to errors in response to “Do you know” questions. Questions about the consequences of lying were more difficult than questions evaluating the morality of lying. Children exhibited high rates of error in response to questions about whether they had ever told a lie. Attorneys rarely asked children hypothetical questions in a form that has been found to facilitate performance. Defense attorneys asked a higher proportion of the more difficult question types than prosecutors. The findings suggest that children's truth–lie competency is underestimated by courtroom questioning and support growing doubts about the utility of the competency requirements.

Ahern, E. C., Lyon, T. D., & Quas, J. A. (2011). Young children's emerging ability to make false statements: Brief report. *Developmental Psychology*, 47(1), 61-66.

This study examined the origins of children's ability to make consciously false statements, a necessary component of lying. Children 2 to 5 years of age were rewarded for claiming that they saw a picture of a bird when viewing pictures of fish. They were asked outcome questions (“Do you win/lose?”), recognition questions (“Do you have a bird/fish?”), and recall questions (“What

do you have?”), which were hypothesized to vary in difficulty depending on the need for consciousness of falsity (less for outcome questions) and self-generation of an appropriate response (more for recall questions). The youngest children (2½ to 3½ years old) were above chance on outcome questions, but it was not until age 3½ that children performed above chance on recognition questions or were capable of maintaining false claims across question types. Findings have implications for understanding the emergence of deception in young children.

Evans, A. D., & Lee, K. (2010). Promising to tell the truth makes 8-to 16-year olds more honest. *Behavioral Sciences and the Law*, 28(6), 801-811.

Techniques commonly used to increase truth-telling in most North American jurisdiction courts include requiring witnesses to discuss the morality of truth- and lie-telling and to promise to tell the truth prior to testifying. While promising to tell the truth successfully decreases younger children's lie-telling, the influence of discussing the morality of honesty and promising to tell the truth on adolescents' statements has remained unexamined. In Experiment 1, 108 youngsters, aged 8–16 years, were left alone in the room and asked not to peek at the answers to a test. The majority of participants peeked at the test answers and then lied about their transgression. More importantly, participants were eight times more likely to change their response from a lie to the truth after promising to tell the truth. Experiment 2 confirmed that the results of Experiment 1 were not solely due to repeated questioning or the moral discussion of truth- and lie-telling. These results suggest that, while promising to tell the truth influences the truth-telling behaviors of adolescents, a moral discussion of truth and lies does not. Legal implications are discussed.

Lyon, T. D., Carrick, N., & Quas, J. A. (2010). Young children's competency to take the oath: Effects of task, maltreatment, and age. *Law and Human Behavior*, 34(2), 141-149.

This study examined maltreated and non-maltreated children's (N = 183) emerging understanding of “truth” and “lie,” terms about which they are quizzed to qualify as competent to testify. Four- to six-year-old children were asked to accept or reject true and false (T/F) statements, label T/F statements as the “truth” or “a lie,” label T/F statements as “good” or “bad,” and label “truth” and “lie” as “good” or “bad.” The youngest children were at

ceiling in accepting/rejecting T/F statements. The labeling tasks revealed improvement with age and children performed similarly across the tasks. Most children were better able to evaluate “truth” than “lie.” Maltreated children exhibited somewhat different response patterns, suggesting greater sensitivity to the immorality of lying.

Xu, F., Bao, S., Fu, G., Talwar, V., & Lee, K. (2010). Lying and truth-telling in children: From concept to action. *Child Development, 81*(2), 581-596.

Although there has been extensive research on children’s moral knowledge about lying and truth-telling and their actual lie- or truth-telling behaviors, research to examine the relation between these two is extremely rare. This study examined one hundred and twenty 7-, 9-, and 11-year-olds’ moral understanding of lies and their actual lying behaviors in a politeness situation. Results revealed that as age increased, children increasingly evaluated others’ lying in politeness situations less negatively and were more inclined to tell lies in such situations themselves. Contrary to previous findings, children’s sociomoral knowledge about lying was significantly related to their actual behaviors, particularly when children’s rationales underlying their moral judgments were consistent with their motives for actual lie- or truth-telling in the politeness situation.

Talwar, V., Crossman, A. M., Gulmi, J., Renaud, S., & Williams, S. (2009). Pants on fire? Detecting children’s lies. *Applied Developmental Science, 13*(3), 119-129.

While there has been much research on adults’ abilities to detect deception, there have been very few studies examining both children’s and adults’ abilities to detect children’s real, spontaneous lies. The present study asked both children and adults to make judgments of children’s true and false reports. Participants (N=156) were shown videotaped sessions of children who were either spontaneously lying or telling the truth. Results indicate that both children’s and adults’ accuracy for detecting children’s true statements was below chance. However, older children were significantly better at detecting lies than both younger children and adults.

Xu, F., Luo, Y. C., Fu, G., & Lee, K. (2009). Children's and adults' conceptualization and evaluation of lying and truth-telling. *Infant and Child Development*, 18(4), 307-322.

The present study examined children's and adults' categorization and moral judgment of truthful and untruthful statements. 7-, 9- and 11-year-old Chinese children and college students read stories in which story characters made truthful or untruthful statements and were asked to classify and evaluate the statements. The statements varied in terms of whether the speaker intended to help or harm a listener and whether the statement was made in a setting that called for informational accuracy or politeness. Results showed that the communicative intent and setting factors jointly influence children's categorization of lying and truth-telling, which extends an earlier finding (Lee & Ross, 1997) to childhood. Also, we found that children's and adults' moral judgments of lying and truth-telling were influenced by the communicative intent but not the setting factor. The present results were discussed in terms of Sweetser's (1987) folkloristic model of lying.

Lyon, T. D., & Dorado, J. S. (2008). Truth induction in young maltreated children. The effects of oath-taking and reassurance on true and false disclosures. *Child Abuse and Neglect*, 32(7), 738-748.

Two studies examined increased disclosure among children who would qualify as competent to take the oath. In Study 2 neither the oath nor reassurance increased false reports among children who would qualify as competent, whether yes/no questions or tag questions were asked. Among non-competent children, reassurance (but not the oath) increased false reports. Children were more likely to accuse the confederate of the transgression than to implicate themselves. The results suggest that a promise to tell the truth may increase true disclosures without increasing false allegations. Reassurance that specifically mentions the target activity also increases true disclosures, but may increase acquiescence among some children. A child-friendly version of the oath may be a useful addition to child interviews. The effects of the oath or reassurance ("truth induction") on 5- to 7-year-old maltreated children's true and false reports of a minor transgression. In both studies an interviewer elicited a promise to tell the truth, reassured children that they would not get in trouble for disclosing the transgression, or gave no instructions before

questioning the child. In Study 1, children were encouraged to play with an attractive toy by a confederate, who then informed them that they might get in trouble for playing. In Study 2, a confederate engaged children in play, but did not play with the attractive toy. In Study 1, the oath and reassurance

Lyon, T. D., Malloy, L. C., Quas, J. A., & Talwar, V. (2008). Coaching, truth induction, and young maltreated children's false allegations and false denials. *Child Development*, 79(4), 914-929.

This study examined the effects of coaching (encouragement and rehearsal of false reports) and truth induction (a child-friendly version of the oath or general reassurance about the consequences of disclosure) on 4- to 7-year-old maltreated children's reports (N = 198). Children were questioned using free recall, repeated yes – no questions, and highly suggestive suppositional questions. Coaching impaired children's accuracy. For free-recall and repeated yes – no questions, the oath exhibited some positive effects, but this effect diminished in the face of highly suggestive questions. Reassurance had few positive effects and no ill effects. Neither age nor understanding of the meaning and negative consequences of lying consistently predicted accuracy. The results support the utility of truth induction in enhancing the accuracy of child witnesses' reports.

Cronch, L., Viljoen, J. L., & Hansen, D. J. (2006). Forensic interviewing in child sexual abuse cases: Current techniques and future directions. *Aggression and Violent Behavior*, 11(3), 195-207.

In child sexual abuse cases, skillful forensic interviews are important to ensure the protection of innocent individuals and the conviction of perpetrators. Studies have examined several factors that influence disclosure during interviews, including both interviewer and child characteristics. Numerous interviewing techniques have received attention in the literature, including allegation blind interviews, open-ended questioning, cognitive interviewing, the Touch Survey, truth–lie discussions, and anatomical dolls. Recent studies have examined new directions in forensic interviewing, such as structured interview protocols and the extended forensic evaluation model.

In addition, the child advocacy center model has been established as a strategy to prevent repeated interviewing. Child Advocacy Centers provide a safe, child-friendly atmosphere for children and families to receive services. Limitations of the research are discussed and empirically based recommendations for interviewers are provided.

Russell, A. (2006). Best practices in child forensic interviews: Interview instructions and truth-lie discussions. *Journal of Public Law and Policy*, 28(1), 99-130.

There is minimal empirical evidence that providing interview instructions at the beginning of a forensic interview is the most effective way to enable children to resist social expectations that may undermine truthfulness. Although children may be able to resist suggestion or indicate when they do not know an answer during pre-interview instructions, these skills may not be transferred to performance during the interview itself. Research on truth-lie discussions with children shows that this practice gives the child the message that there are "right" and "wrong" answers expected from the child. This conflicts with the recommended approach of accepting the child's answers for what they are, without the child feeling that the interviewer is testing his/her answers. Case law may provide guidance on whether to use a truth-lie scenario during a forensic interview. In *Crawford v. Washington* (2004), the U.S. Supreme Court held that "examinations...[that have] an essentially investigative and prosecutorial function" produce testimonial information. Pursuant to the confrontation clause of sixth amendment of the U.S. Constitution, these testimonial statements must be accompanied in court by a witness for the purpose of cross-examination. Subjection of a child to a truth-lie ritual may influence a child's perception of the status of the interview, which in turn may influence the court's determination of the interview's testimonial nature. This may impact whether a videotaped statement of a child may be admitted into court without the child's testimony.

Vrij, A., Akehurst, L., Brown, L., & Mann, S. (2006). Detecting lies in young children, adolescents, and adults. *Applied Cognitive Psychology*, 20(9), 1225-1237.

The ability of teachers, social workers, police officers and laypersons (undergraduate and postgraduate students) to detect truths and lies told by 5–6 year-olds, adolescents and adults was

tested in the present experiment. Lie detectors judged the veracity of statements from 18 liars and 18 truth tellers belonging to these three age groups. Accuracy scores were around 60% for each of these three age groups, both for detecting truths and for detecting lies. No occupational differences emerged. Moreover, judgements made by teachers, social workers and police officers showed an overlap, suggesting that an erroneous decision made by a member of one group may not easily be detected by a member of the other groups. The lie detectors were inclined to judge cues of nervousness, cognitive demand and attempted behavioural control as cues to deceit, even when truth tellers were displaying these cues.

Wagland, P., & Bussey, K. (2005). Factors that facilitate and undermine children's beliefs about truth telling. *Law and Human Behavior*, 29(6), 639-655.

This study examined the extent to which children believe that truth telling is compromised by negative outcome expectancies. It also investigated the efficacy of two types of appeals, externally and internally directed, for encouraging truth telling. Seventy-two children from three age groups (5, 7, and 10 years of age) participated in a vignette study designed to examine these issues. Results showed that children believed that truth telling about an adult's transgression would be more likely if negative outcomes were not expected than if they were expected. Further, children believed that either externally or internally focused encouragement would facilitate truth telling when negative outcomes were expected for truth telling. Beliefs about the propensity for truth telling were associated more with positive evaluations of truth telling than with negative evaluations of lying. These results have important implications for court cases in which children testify about an adult who has sworn them to secrecy and they are afraid to speak the truth.

Lipian, M. S., Mills, M. J., & Brantman, A. (2004). Assessing the verity of children's allegations of abuse: A psychiatric overview. *International Journal of Law and Psychiatry*, 27(3), 249-263.

This overview will address the assessment of allegations of physical and sexual abuse made by children. As is true of similar false allegations made by adults, misrepresentations by children

can theoretically be the result of one of three different scenarios: (1) the false claims are the result of submission to suggestion by powerful authority figures; (2) the false statements are products of “pseudomemories” or unintentional cognitive distortions; or (3) the false allegations are the product of intentional prevarications. Each of these differential scenarios will be reviewed. The mechanisms and motivations potentially underlying the development of false accusations will also be explored, including how children’s development may play a role, how emotional effects may influence cognition, the particular ways in which memory functions in children, as well as the suggestibility and reliability of children. Theoretical analysis will be supplemented with practical suggestions to aid in the evaluation that one must perform in attempting to analyze whether a child’s allegation is meritorious or meritless. Such an evaluation is critical if one is to properly serve the child, as well as the accused offender, in either the clinical or the legal arena.

McCarron, A. L., Ridgway, S., & Williams, A. (2004). The truth and lie story: Developing a tool for assessing child witnesses’ ability to differentiate between truth and lie. *Child Abuse Review*, 12(1), 42-50.

Within the court arena, the credibility and competency of child witnesses often comes under scrutiny and the decision whether a child is considered to be credible or not strongly influences whether their evidence will be heard by the court. A child’s ability to demonstrate that they understand the difference between truth and lies and the importance of telling the truth is synonymous with competency. Research suggests that many professionals undertaking the task of establishing competency find it very difficult, especially with younger children (Aldridge and Wood, 1997, cited in Aldridge and Wood, 1998). This paper describes the process involved in developing an innovative tool for helping professionals assess whether a child understands the difference between truth and lies. The development of the tool arose from the concerns of officers from Northumbria Police Force (in the UK) relating to interviews following the protocol of the government’s Memorandum of Good Practice (Home Office and Department of Health, 1992) on interviewing child witnesses, and the need to establish whether child witnesses can differentiate between truth and lies.

Broomfield, K. A., Robinson, E. J., & Robinson, W. P. (2002). Children's understanding about white lies. *British Journal of Developmental Psychology*, 20(1), 47-65.

In three experiments, children suggested and justified a verbal response for a story character who received a disappointing gift. In Experiment 1, responses suggesting falsely that the recipient liked the gift were increasingly common over the ages 4–9 years. Children who suggested false responses judged that the giver would believe the gift was liked and would be happy following the falsehood. They also predicted that the giver would be unhappy had the truth been told, and passed a test of second-order false belief. However, many children who suggested truthful responses, that the gift was disliked, also revealed a full understanding of the consequences of giving true and false responses, and also passed second-order false belief. Mental-state understanding was developmentally prior to suggesting a false response. In Experiment 2, involving 6-, 8- and 10-year-olds, more children suggested false verbal than false facial responses. In Experiments 2 and 3, giving children the pro-social reason for falsifying increased the incidence of false responses, even amongst children who appeared not to be able to handle second-order mental states. In Experiment 3, 6-year-olds suggested truthful responses just as frequently, whether the speaker was an adult or a child. Many young children apparently place more weight on truth-telling than on protecting the feelings of a gift-giver.

London, K., & Nunez, N. (2002). Examining the efficacy of truth/lie discussions in predicting and increasing the veracity of children's reports. *Journal of Experimental Child Psychology*, 83(2), 131-147.

This study investigated whether children's ability to reason about truths and lies influenced their truth-telling behavior. Four–six-year-old children ($n=118$) played a game that was intended to motivate children to use deception to hide a minor transgression. Next, an interviewer gave children one of four preliminary discussions. Children received a typical forensic truth/lie discussion (TLD), a developmentally appropriate and more elaborate TLD, or one of two discussions that controlled for the time spent conversing with children. Children were interviewed about the event. The results revealed that children's performance on the truth/lie questions did not predict their truth-telling behavior. Regardless of their performance

on truth/lie questions, children who received TLD's gave more honest reports than children who did not receive TLD's. These results suggest that discussing truths and lies with children may promote truth-telling behavior. However, the results cast doubt on the validity of using children's performance on truth/lie questions as a measure of competency.

Talwar, V., Lee, K., Bala, N., & Lindsay, R. C. L., (2002). Children's conceptual knowledge of lying and its relation to their actual behaviors: Implications for court competence examinations. *Law and Human Behavior*, 26(4), 395-415.

Child witnesses must undergo a competence examination in which they must show appropriate conceptual understanding of lying and truth-telling, and promise to tell the truth. Three experiments (Ns = 123, 103, 177) were conducted to address the assumptions underlying the court competence examination that (1) children who understand lying and its moral implications are less likely to lie and (2) discussing the conceptual issues concerning lying and having children promising to tell the truth promotes truth-telling. Both measures of lying and understanding of truth- and lie-telling were obtained from children between 3 and 7 years of age. Most children demonstrated appropriate conceptual knowledge of lying and truth-telling and the obligation to tell the truth, but many of the same children lied to conceal their own transgression. Promising to tell the truth significantly reduced lying. Implications for legal systems are discussed.

Vrij, A., Akehurst, L., Soukara, S., & Bull, R. (2002). Will the truth come out? The effect of deception, age, status, coaching, and social skills on CBCA scores. *Law and Human Behavior*, 26(3), 261-283.

The impact of Veracity, Age, Status (witness or suspect), Coaching (informed or uninformed regarding CBCA), and Social Skills (social anxiety, social adroitness, and self-monitoring) on Criteria-Based Content Analysis scores was examined. Participants (aged 5–6, 10–11, 14–15, and undergraduates) participated in a “rubbing the blackboard” event. In a subsequent interview they told the truth or lied about the event. They were accused of having rubbed the blackboard

themselves (suspect condition) or were thought to have witnessed the event (witness condition), and were or were not taught some CBCA criteria prior to the interview. CBCA scores discriminated between liars and truth tellers in children, adults, witnesses, and suspects. However, truth tellers obtained higher CBCA scores than liars only when the liars were uninformed about CBCA. CBCA scores were correlated with social skills. It is argued that these findings should caution those who believe that the validity of CBCA has been conclusively demonstrated.

Pina, A. A., Silverman, W. K., Saavedra, L. M., & Weems, C. F. (2001). An analysis of the RCMAS lie scale in a clinic sample of anxious children. *Journal of Anxiety Disorders*, 15(5), 443-457.

Examined Revised Children's Manifest Anxiety Scale (RCMAS) Lie scores in a sample of 284 anxious children. Lie scores were examined in relation to children's age, ethnicity/race, and gender, and in relation to Total Anxiety scores. The utility of Lie scores also was examined in terms of whether they were predictive of children's anxiety levels as rated by children themselves, parents, and clinicians. Between-group differences in children's Lie scores were examined as well. Results indicated that younger children had significantly higher Lie scores than older children, and Hispanic American children had significantly higher Lie scores than European American children. There were no significant gender differences in Lie scores, and no significant relation was found between RCMAS Lie scores and Total Anxiety scores for the total sample. Subgroup analyses indicated that Lie scores were predictive of children's anxiety levels. Results also indicated that Lie scores were significantly different between children who presented with anxiety disorders and children who presented with anxiety and externalizing disorders. Findings are discussed in terms of the usefulness of RCMAS Lie scores.

Bussey, K., & Grimbeek, E. J. (2000). Children's conceptions of lying and truth-telling: Implications for child witnesses. *Legal and Criminological Psychology*, 5(2), 187-199.

This study investigated children's lying and truth-telling competence using developmentally appropriate assessment and questioning procedures. Specifically, it addressed children's

knowledge about and evaluation of lies and truths. Children were presented with six vignettes in which the story character either lied or told the truth about having committed a misdeed. After each vignette, they were asked if the statement was a lie or a truth (definition), how certain they were about their categorization of the statement, and to rate the goodness and badness of the statement (evaluation). Seventy-two children participated in the study. Twelve boys and 12 girls were randomly drawn from each of three ages: 4-, 7- and 10-year-olds. The design was a 2 (Sex of Participant) \times 3 (Age: 4, 7, 10) \times 2 (Statement Type: Lie, Truth-within-subjects factor). Seven- and 10-year-old children classified all false statements as lies and true statements as truths, whereas 4-year-olds correctly classified 88% across both statement types. They were equally accurate in their classification of lies (89%) and truths (87%). All children appreciated the seriousness of lying; lies were rated more negatively than truths. However, 4-year-olds were less likely to appreciate the goodness of truth-telling over lying than the two older age groups. Only the older children rated truths more positively than lies. The results show that 4-year-olds have a sufficient understanding of lying and truth-telling competence to participate effectively in the legal system.

Huffman, M. L., Warren, A. R., & Larson, S. M. (1999). Discussing truth and lies in interviews with children: Whether, why, and how? *Applied Developmental Science*, 3(1), 6-15.

Two studies examined discussions of truth and lying during interviews with children. In Study 1, truth-lie discussions (TLDs) during 132 actual sexual abuse interviews were analyzed, focusing on the types of questions asked and their developmental appropriateness. TLDs, which were fairly common for all ages of children interviewed, typically involved asking children closed-ended questions and did not differ in quality or form by age of child interviewed. Study 2 compared the typical TLDs (found in Study 1) to either no discussion or a more elaborate discussion in their effects on preschoolers' (n = 67) reports of an interactive event. Children given the extended TLD were significantly more accurate than those questioned following a typical or no TLD. The results suggest that discussing truth and lying with young children is effective only if the discussion is more elaborate than those typically conducted in forensic interviews.

Siegal, M., & Peterson, C. C. (1998). Preschoolers' understanding of lies and innocent and negligent mistakes. *Developmental Psychology*, 34(2), 332-341.

It has often been proposed that young children are not capable of distinguishing mistakes from lies and that they do not discriminate between the reactions that are generated by innocent and negligent mistakes. In our investigation, children aged 3 to 5 years were asked to choose whether a perpetrator had made a mistake or had lied about a food's contact with contaminants and were required to indicate whether this choice would produce a neutral or a negative reaction in the facial expression of a bystander. In this context, many children distinguished mistakes from lies and displayed an incipient ability to discriminate between lies and negligent mistakes that often generate negative reactions and innocent mistakes that do not.

Ruck, M. D. (1996). Why children think they should tell the truth in court: Developmental considerations for the assessment of competency. *Legal and Criminological Psychology*, 1(1), 103-116.

This study explored the development of children's understanding of telling the truth in court. Ninety-six children, from 7 to 13 years of age, were presented individually with hypothetical vignettes in which a child had witnessed, or had been involved with a crime and was required to give testimony in court. The vignettes varied in terms of type of crime, whether the child character in the vignette had sworn or promised to tell the truth in court, and type of external influence pressuring the child to withhold the truth in court. Children were interviewed on what the child in the story should say in court and why. Based on the findings a four-level scale was developed to describe children's understanding of telling the truth in court: level 0 (irrelevant or no response), level 1 (concern with negative consequences to self), level 2 (concern with exhibiting good qualities and behaviour), and level 3 (concern with the laws of society). Younger children were more likely to perceive giving truthful testimony in court as a way to avoid punitive consequences, while older children were more concerned with upholding the laws and rules of society. The findings are discussed in terms of age-related considerations and applied implications for the legal system with regard to the assessment of competency examinations for child witnesses.

Freeman, N. H., & Lacohee, H. (1995). Making explicit 3-year-olds' implicit competence with their own false beliefs. *Cognition*, 56(1), 31-60.

Three-year-olds usually fail to recall a previous false belief once they have discovered the true state of affairs. The failure is so dramatic that researchers have treated it as a case of functional retrograde amnesia. We found in a series of studies that the memory trace is indeed available but is inaccessible under traditional testing procedures. We also provided a new prediction that reminding children that they had briefly held a picture of an object would be a more powerful retrieval cue than a reminder that they had held the small object itself. It was further shown that an effective picture was one that reminded children of the content of the target belief and not one that would enable them to reconstruct the contextual cause of why they had held the belief--a case of "recall without insight". However, there was evidence that successful recall was associated with either (a) an insight that the recall was of a thought rather than of a pretence (delayed post-test technique) or (b) a readiness to attach a mentalistic label to the recall (immediate post-test technique). The results serve to narrow an assessment of the competence gap between 3- and 4-year-olds in recall of their own false belief. Rather than a sudden ability to preserve the memory in association with insight into its informational origins, it is only the latter that comes on stream in 4-year-olds. Alternative explanations of the picture facilitation effect suggest different research strategies, each of which aims at a gap in current formulations of false belief recall.

Haugaard, J. T. (1993). Young children's classification of the corroboration of a false statement as the truth of a lie. *Law and Human Behavior*, 17(6), 645-659.

This article reports on an investigation of children's definitions of the truth that can pertain to their ability to provide accurate information during an investigation or trial: whether corroborating an inaccurate statement made by a parent is lying or telling the truth. Subjects were 133 preschool through third-grade children who were shown a videotape in which either a boy makes a false statement to a neighbor about the neighbor's daughter hitting him and his mother listens passively or a mother makes a similar false statement and the boy corroborates it. None of the children classified the corroboration as the truth. Only a small percent of the preschool and kindergarten children classified the boy's or mother's initial false statement as the truth; all of the

older children classified these statements as a lie. About 20% of the children recalled incorrectly that the neighbor's daughter hit the boy.

Haugaard, J. J., Reppucci, N. D., Laird, J., & Nauful, T. (1991). Children's definitions of the truth and their competency as witnesses in legal proceedings. *Law and Human Behavior, 15*(3), 253-271.

Young children's competency as witnesses in legal proceedings has been debated during the past several years. This has been due in part to greater emphasis on prosecuting perpetrators of child sexual abuse and the consequent increase in the number of children being asked to testify at the trial of their alleged abusers. Little basic research has been done on one component of competency: children's definitions of the truth and lies. In this article, federal and state rules of evidence and case law regarding children's competency are reviewed. Previous investigations of children's definitions of lies are then presented, followed by a description of a more recent experiment. The results of this experiment suggest that children do have definitions of the truth in one regard that make it appropriate for them to be considered competent witnesses. The results also raise concerns about young children's eyewitness ability.

Strichartz, A. F., & Burton, R. V. (1990). Lies and truth: A study of the development of the concept. *Child Development, 61*(1), 211-220.

This study examined the developmental questions of when children begin to use the terms lie and truth, how they understand them, and when their understanding approaches that of adults. 150 subjects in 5 groups (nursery schoolers, preschoolers, first graders, fifth graders, and adults) were presented a series of 8 short puppet plays that systematically varied the presence of absence of the 3 prototype elements: factuality of a statement, the speaker's belief in the factuality or falsity of the statement, and the speaker's intent to deceive the listeners. The interactions of age, factuality, and belief most fully accounted for the use of the terms lie and truth. Persons at different ages differentially weighed the prototypic elements. Responses of fifth graders were

transitional between those of the younger children and adults. The results are interpreted as supporting the development of definitional prototypes for these moral concepts.

Lewis, M., Stanger, C., & Sullivan, M. W. (1989). Deception in 3-year-olds. *Developmental Psychology*, 25(3), 439-443.

Children's ability to deceive was examined in order to determine whether they are able to hide their emotional expression intentionally. Three-year-olds were instructed not to peek at a toy while the experimenter left the room. When asked, the great majority either denied that they peeked or would not answer the question. Facial and bodily activity did not differentiate the deceivers from the truth tellers. Boys were more likely than girls to admit their transgression. These results indicate that very young children have begun to learn how to mask their emotional expressions and support the role of socialization in this process.

Faller, K. C. (1984). Is the child victim of sexual abuse telling the truth? *Child Abuse & Neglect*, 8(4), 473-481.

In order to adequately investigate an allegation of sexual abuse, professionals must both understand the motives of the victim, perpetrator, and victim's mother (in incest cases) to he or tell the truth and possess the techniques for examining the child's story. Children almost never make up stories about being sexually abused. In fact victims are often revictimized in multiple ways for truthfully asserting they have been sexually abused. Perpetrators usually deny their abusive behavior. Mothers may also have reasons for not acknowledging the sexual abuse. Within this larger framework, the evaluator should systematically explore the allegation in order to assure the story is true. First, in examining the story, the evaluator looks for a detailed description of events surrounding the sexual abuse, explicit information about sexual behavior told from a child's viewpoint, and an emotional response consistent with their statement. Second, the evaluator buttresses the information with other data: (1) statements the child has made to other people about the sexual abuse; (2) sexual content in the child's play, picture drawing or story telling; (3) sexual behavior on the child's part; (4) sexual knowledge beyond what one would expect for the child's age; and (5) symptomatic behavior indicative of stress.