

## Reducing Maltreated Children's Reluctance to Answer Hypothetical Oath-Taking Competency Questions

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*Before allowing child witnesses to testify, courts routinely require children to describe what would happen to them if they lied. However, young children often refuse to reason hypothetically if they view the premises as implausible or undesirable, and might be more willing to discuss the consequences of lying if they are asked about another child rather than themselves. On the other hand, children might view themselves as invulnerable to punishment, and therefore believe that whereas other children will be punished for lying, they will not be. In this study, 64 maltreated 5- and 6-year-old children were asked to describe the consequences of lying to three professionals (a judge, a social worker, and a doctor). Participants in the "self" condition were asked what would happen to them if they lied, whereas participants in the "other" condition were asked to describe what would happen to a story child if he or she lied. Asking children about "other" children increased responsiveness, and did not reveal perceptions of invulnerability. The results suggest that young children's understanding that they will be punished for lying may make them reluctant to discuss the consequences of lying, leading to underestimation of their oath-taking competency.*

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Although many states and the federal courts in the United States have liberalized the prerequisites for children's testimony, most American courts still require that all witnesses make some sort of affirmation that they will tell the truth before taking the stand (Myers, 1997). In order for such an affirmation to be meaningful to the witness, the witness must understand the difference between the truth and lies, and understand his or her obligation to tell the truth. Therefore, child witnesses are routinely questioned about their understanding of the truth and lies before being allowed to testify (McGough, 1994).

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One common approach to testing children's understanding of their obligation to tell the truth is to ask them to describe the consequences of lying. If the child describes some form of punishment, courts will find that she understands the importance of telling the truth. If the child expresses ignorance, refuses to answer, or fails to mention a negative consequence, she may be found incompetent, and not allowed to testify.

Review of appellate decisions reveals that children often have difficulty discussing the consequences of lying, and are found incompetent for their failure to do so. In *Commonwealth v. Corbett* (1989), the 4-year-old witness "indicated that she was aware of the difference between a truthful statement and a lie" (p. 210), but had some difficulty discussing the implications of lying:

- Q. If you tell a lie, will you get into trouble?  
 A. No.  
 Q. You won't get into trouble?  
 A. But I am not going to tell a lie.  
 Q. Have you ever told a lie?  
 A. No.  
 Q. If you don't tell the truth, do you know what will happen to you?  
 A. Well, I can tell you just what happened.  
 Q. What happened?  
 A. He just looked down my privates and touched me down there. . . .  
 Q. Do you know if it is wrong to tell the truth in a court like where we are in this courtroom now?  
 A. No. . . .  
 Q. [Regarding the color of an object] Is that green or it is blue?  
 A. Green.  
 Q. And what if I said it was blue?  
 A. It is not the truth. . . .  
 Q. And if you said it were blue, what would happen to you?  
 A. Well, then I will say it is a different color (pp. 212–214).

The appellate court upheld the trial court's finding that the girl was incompetent to testify. In *Commonwealth v. R.P.S.* (1998), the 6-year-old witness "clearly understood the difference between the truth and a lie," but "seemed unable to understand his duty to tell the truth" because, although he stated he "would get in trouble" for telling a lie, he answered "I don't know" to "do you think you could be punished if you told a lie?" and "Who would punish you . . . if you told a lie?" The appellate court upheld the trial court's finding that the child was incompetent to testify. In *Pace v. State* (1981), the 8-year-old witness answered that it is wrong to tell a lie, but answered "no" to "Do you know what would happen to you if you don't tell the truth when someone asks you a question" and to "Have you ever told lies, made up stories?" The appellate court held that the trial court erred in finding her competent to testify. In *People v. Smith* (1984), the 8-year-old witness answered "no" to the question "If you promise to tell the truth, if you swear to tell the truth, can you break that promise?," but also answered "no" to a series of questions asked by the judge, including "Do you know what would happen if you didn't tell the truth, if you told a lie?," "Do you know if you would be punished?," and "Do you ever not tell your mother the truth?" (p. 880). The appellate court held that the child should have been found incompetent to testify.

The child witnesses in these cases may have been truly ignorant of the consequences of lying or may have believed that they would not be punished for lying.

However, we suspect that the children were aware of the wrongfulness and negative consequences of lying, but reluctant to describe those consequences. In order to convince the trial court of their understanding, the children were asked hypothetically to discuss the personal consequences of lying. Children's fears of the consequences of lying and their difficulty in understanding the questions that adults ask may make them resistant to answer such questions.

Young children's ability to reason counterfactually appears to be dependent on the way in which researchers pose their questions. By 2 years of age, children reason hypothetically about situations contrary to reality through their pretend play and through the use of words such as "almost" and "wish" (which refer to counterfactual states) (Au, 1992; Bates, 1976; Bowerman, 1986). Nevertheless, several researchers have found that preschool children often perform poorly when asked to reason with premises they find unacceptable. Reilly (1986) found that up to 4 years of age, children asked "what if" questions would simply reject implausible or undesirable premises, treating such questions as suggestions rather than hypotheticals. Hawkins, Pea, Glick, and Scribner (1984) found that 4- to 5-year-olds' ability to reason deductively was impaired when the premises contradicted their practical knowledge.

Although children's difficulty on these tasks has sometimes been interpreted as reflecting cognitive limits to their ability to reason counterfactually, other research suggests that their difficulty is attributable to a failure to understand the pragmatics of the adult's hypothetical questions. Young children's hypothetical reasoning performance in response to adult prompts improves when adults encourage them to pretend or when reasoning with fantasy content (Dias & Harris, 1988, 1990; Hawkins et al., 1984; Kuczaj, 1981; Reilly, 1986). Harris and his colleagues have recently demonstrated that young preschool children can reason about counterfactual premises even without an invitation to pretend, either by questioning about how negative outcomes could have been avoided, which appears to evoke spontaneous counterfactual thinking, or "by further instruction merely encouraging them simply to think about the content of the initial premise, without any make-believe prompt" (Harris & Leever, in press). Harris and Leever conclude that the "reasoning context of the traditional experimental setting is pragmatically anomalous, with the experimenter stating untruths but with little indication of how these untruths should be handled" (Harris & Leever, in press, p. 16). When directly asked to assess the mental state of a speaker who uses the word "if," children as old as 6 years are poor at inferring that the speaker is uncertain about (or does not believe) the premises (Wing & Scholnick, 1981). Hence children may misinterpret "what if you told a lie" as a challenge rather than as a neutral question.

Children who believe that the consequences of lying are negative will view hypothetical questions about lying as presenting undesirable premises and may refuse to answer them. Such children might find it easier to describe the consequences when other children lie. Children might find it less implausible that another child would lie on the stand or less undesirable to think about another child doing so. Notably, research documenting young children's early understanding of the negative consequences of lying has not directly asked children to describe the consequences to themselves. Peterson, Peterson, and Seeto (1983) found that 90% of 5-year-olds provided an appropriate response when asked "What happens when people tell

lies?"; 80% mentioned punishment and 10% mentioned the destruction of trust. Flin, Stevenson, and Davies (1989) found that virtually all of their 6-year-olds (28/30) provided an appropriate answer to "How important is it to tell the truth in court—and why?"; children mentioned imprisonment or punishment. Lyon and Saywitz (1999) found that by 5 years of age, most maltreated children understood that story children depicted as liars "get in trouble," have done something "bad," and will make authority figures "mad."

Children are likely to be particularly resistant to imagining the consequences of lying in court. Children questioned about testifying in court frequently believe that "the witness was actually on trial as well as or instead of the accused" (Flin et al., 1989, p. 295). Competence questions in which children are asked about various misdeeds and alternative forms of punishment surely reinforce such a belief (e.g., *Commonwealth v. Brusgulis*, 1986, in which the child was asked about spanking, a licking, a whipping, and being a "bad girl"). Moreover, children often have an overinclusive conception of lying, which may make them feel that they do not have complete control over whether their statements are lies. Children define "lie" on the basis of factuality before they recognize that unintentionally making a false statement is not a lie (Peterson et al., 1983; Strichartz & Burton, 1990; Wimmer, Gruber, & Perner, 1984; but see Siegal & Peterson, 1996). If the consequences of a hypothetical are extremely negative, then it is likely that older children will refuse to reason hypothetically. Even adults are reluctant to drink from containers marked "cyanide" despite awareness that the contents are in fact sugar (Rozin, Millman, & Nemeroff, 1986).

If children reject hypothetical questions about the consequences to themselves of lying, perhaps attorneys who wish to assess oath-taking competence accurately ought to ask about other children. On the other hand, it might be objectionable to limit questioning to the consequences of lying for others. Children may think that other children will be caught and punished for lying, but that they will not be. Like adults, children believe that they are less likely to experience negative events than their peers (Whalen et al., 1994a, b). Children who believe themselves invulnerable would describe negative consequences for others, but if asked about themselves, would claim that nothing bad would occur.

In this study we asked two groups of 5- to 6-year-old children questions about the consequences of lying. We tested the hypothesis that young children find it easier to discuss the negative consequences of lying if they are asked about a story child rather than themselves. We also assessed an alternative possibility: that children believe that others will be punished for lying, but that they themselves will not be. One group (the "self" condition) was directly asked what would happen to them if they lied, whereas the other group (the "other" condition) was asked to discuss the consequences to a story character. We asked children in both groups whether they would ever lie to an authority figure, as a rough measure of whether the two groups differed in their personal reactions to lying. Finally, we administered a test of productive vocabulary because we suspected that children's ability to define words would be related to their ability to generate explanations on our tasks.

Unlike most research examining children's evaluation of truth telling, our subjects were maltreated children awaiting a dependency court appearance. Maltreated

children may have special difficulty with competence examinations. Abused children often lag behind nonreferred children in cognitive and linguistic development (Hoffman-Plotkin & Twentyman, 1984). Moreover, maltreated children's performance may be adversely affected "by pre-existing emotional disorders that affect concentration, motivation, self-esteem, and mood, like clinical depression or negative psychological effects from abuse" (Saywitz & Snyder, 1993, p. 122). Because they are at increased risk of exposure to harsh discipline, maltreated children may be particularly reluctant to discuss misdeeds and punishment.

We predicted that children in the "other" group would be more willing to respond to our questions and therefore less likely than children in the "self" group to fail to respond or answer "I don't know." In order to test for perceptions of invulnerability, we also examined whether responsive children were more likely to mention negative consequences in the "other" group than in the "self" group.

## METHOD

### Participants

Participants in this study were awaiting a court appearance in the Los Angeles County Juvenile Court, Dependency Division. Each participant had been removed from the custody of his or her parent or guardian due to allegations of abuse and/or neglect and had been transported from a foster care placement to an area called "shelter care" in the court building. The Department of Children and Family Services (DCFS) and the Presiding Judge of the Juvenile Court gave permission for participants to participate, with the exception of children whose attorneys objected to their participation in the study. Spanish-speaking participants were excluded only if they were clearly incapable of communicating with the researcher in English or if they were officially recognized as Spanish-speaking either by social services or by the Juvenile Court. Participants were also excluded if they were awaiting an adjudication hearing (at which the allegations of abuse or neglect are adjudicated) on the day of their appearance in shelter care due to concerns expressed by children's attorneys that if they testified at such a hearing, it would be the second time in one day they had been questioned about their understanding of the truth and lies. We asked 68 children to participate, and 64 agreed to do so. The final sample consisted of 64 5- and 6-year-old children (31 girls and 33 boys) ranging in age from 5-0 to 6-11 years (mean 5-10 years). The ethnic composition of the sample was 42% Latino, 31% African American, 23% White, and 2% other (including Asian and Native American).

Previous research with this population examined the participants' court files to determine the type of maltreatment alleged in the dependency petition (Lyon & Saywitz, 1999). Most petitions contained more than one allegation: nearly 90% alleged failure to provide for the child's needs, half of all petitions alleged inadequate supervision, about one third alleged physical abuse, about one third alleged exposure to domestic violence, and about 10% alleged sexual abuse. In this study, we reviewed each participant's court records to determine the number of times the child's placement had been changed and the amount of time the child had been under the

supervision of the juvenile court. The records of placement changes may have underestimated movements from one foster home to another, but would capture movements from the parent's custody to that of relatives or foster placement. The average child had moved three times ( $M = 3.06$ ,  $SD = .30$ ); 31.3% had moved four or more times. The amount of time the child was under the supervision of the juvenile court was determined by calculating the time between the filing of the first petition filed on behalf of the child and the date the child was interviewed (subtracting any time between dismissal of one petition or termination of jurisdiction under one petition and the filing of a subsequent petition). Whereas 22.2% were new to the system, 27.0% had been under the jurisdiction of the court more than 2 years ( $M = 557$  days,  $SD = 78$  days).

Participants were given the vocabulary subtest of the Wechsler Preschool Scale of Intelligence Revised (WPPSI-R), a measure of productive vocabulary that is highly correlated with other measures of verbal intelligence. Excluding those whose scores were too low to reliably code ( $n = 2$ , with scaled scores of zero), participants' mean scaled score on the vocabulary subtest of the WPPSI-R was 6.9 ( $SD = 2.83$ ), which is equivalent to a standard score of 77, or approximately one and one-half standard deviations below the mean, placing the average child in the sixth percentile. Participants thus exhibited serious delays in productive vocabulary.

### Materials and Procedure

The experimenter interviewed the participant in a private room adjoining the shelter care area. The experimenter first administered the WPPSI. The experimenter then assigned the participant to the "self" condition or the "other" condition so as to ensure that the groups were comparable in terms of age, gender, and an approximation of their WPPSI score. Children in the "self" condition were asked about the consequences they would suffer should they lie, whereas children in the "other" condition were asked about the consequences a story child would suffer.

An experimenter showed each participant pictures of three professionals (a judge, a social worker, and a doctor), explained the role the professional plays (e.g. "The judge listens to what everyone says and then decides how to keep children safe and healthy"), and said that the professional wanted to know if someone had hurt "you" (for participants in the "self" group) or "this boy" or "this girl" (for participants in the "other" group). Children in the "self" group were shown pictures of the professionals alone, whereas children in the "other" group were shown pictures of the professionals facing a child of the opposite gender as the participant.

For each professional, the experimenter asked the child a series of questions about the consequences of lying to the professional. The first two questions asked the participant what "would happen" and what the professional "would do" if the child lied. The third question asked the child where the professional would "make the [child] go" if the child lied, and was asked only with reference to the judge and the social worker (who have the power to make decisions regarding children's placement). The fourth and fifth questions asked the participant what the child's mother would do and what God would do if the child lied. (Child witnesses are often

asked similar questions in competency evaluations; e.g., *Commonwealth v. Polston*, 1992; *State v. Ford*, 2000). Children in the “self” group were asked about themselves (e.g., “If you told a lie to the judge, what would the judge do?”) and children in the “other” group were asked about the depicted child (e.g., “If this boy told a lie to the judge, what would the judge do?”). A final question asked children in both the “self” and “other” groups whether they “would ever lie to” the professional. The order in which the professionals were presented was counterbalanced using a Latin square design, so that each professional appeared first, second, or third an equal number of times across participants.

If a participant failed to answer or stated “I don’t know,” the experimenter said “What do you think?” and then repeated the question. Experimenters prompted children for explanations if they provided an ambiguous response that was specified on a list generated through pilot testing. Such responses included vague references to actions such as putting, taking, or letting the child “go back” or “somewhere” (e.g., in response to “If you told a lie to the judge, where would the judge make you go?”), or statements such as “something” or “saying something” or “same thing” (e.g., in response to “If you told a lie to the social worker, what would the social worker do?”). The list was created to reduce the likelihood that the researchers would differentially prompt children knowing their group status (“self” vs. “other”). Participants were prompted only once.

Experimenters responded to participant’s answers with a noncommittal “oh” or “I see,” and repeated the participant’s response to ensure accurate transcription. All participants were tested by one of two female experimenters, who interviewed roughly equal numbers of children in each condition.

The sessions were videotaped and the tapes transcribed by one of three transcribers, all of whom were blind to the hypotheses of the study. A coder blind to the hypotheses of the study independently coded all of the responses to the questions regarding the consequences of lying. The coder determined whether the child failed to respond (either “I don’t know” or no response), and, when the participant did provide a response, whether the response was incomprehensible, ambiguous as to valence, or was negatively valenced (e.g., “he’ll take you to jail,” “whip his bottom,” “put me down with the devil and send me to hell”). A reliability coder independently coded all of the responses; coders agreed that a response was negatively valenced 92% of the time,  $\kappa = .82$ .

## RESULTS

Participants’ responses were analyzed with respect to three dependent variables: “no response”—the number of times (out of 14) the child refused to respond or responded “I don’t know” when asked the consequences of lying (even after prompting); “negative outcome”—the proportion of questions in which the child referred to a negative outcome, out of all questions for which the child provided an answer; and “would lie”—the number of times (out of three) the child responded “yes” to the question “Would you ever lie to the [professional]?”

### Preliminary Analyses

Analyses revealed no effects of age in years (5 versus 6), ethnicity, professional (judge, doctor, or social worker), or order of professional on the three dependent variables, and further analyses were collapsed across these factors. Gender differences were not significant for “no response,” but were for “negative outcome” and “would lie.” Girls referred to negative outcomes more often than boys and stated that they would ever lie to a professional less often than boys. Where gender was significant, it was retained in the subsequent analyses, and is reported below. Preliminary analyses also indicated that the “self” and “other” groups were comparable with respect to gender, ethnicity, experimenter, school attendance (days per week), and language spoken at home. WPPSI-R scores were entered as a covariate in each of the analyses.

### Nonresponsiveness: Self versus Other

We first tested whether children in the “self” group failed to respond to our questions more often than children in the “other” group, which would support the hypothesis that asking children about themselves rather than others makes them reluctant to discuss the consequences of lying. A one-way analysis of covariance (ANCOVA) on “no response” with condition (self vs. other) as a between-subjects factor and the participants’ standardized WPPSI-R scores as a covariate revealed a significant main effect for condition,  $F(1,61) = 6.93$ ,  $p = .01$ , and a significant effect due to the covariate,  $F(1,61) = 5.01$ ,  $p < .05$ . Examination of the means revealed that children in the “self” group refused to respond or responded “I don’t know” to more questions ( $M = 2.09$ ,  $SD = 3.9$ ) than children in the “other” group ( $M = .50$ ,  $SD = .95$ ), and that children with lower WPPSI-R scores were also more inclined to fail to respond or answer “I don’t know.” The large standard deviation among children in the “self” group is due to a small number of children who were particularly disinclined to respond to the questions: the 5 children in the study who were most reticent (failing to respond to 6 or more questions) were all in the “self” group.

### References to Negative Outcome: Self versus Other

We next examined whether children referred to negative consequences more often when talking about others than when talking about themselves. This would suggest that children believe that they are relatively invulnerable to negative consequences when lying. A two-way ANCOVA on “negative outcome” with condition (self vs. other) and gender as between-subjects factors and standardized WPPSI-R score as a covariate revealed a significant main effect for gender,  $F(1,59) = 5.33$ ,  $p < .05$ , and a significant effect due to the covariate,  $F(1,59) = 5.44$ ,  $p < .05$ , but no significant effect due to condition,  $F(1,59) < 1$ , and no significant interactions. Among children who gave responses, girls more often referred to the negative consequences of lying ( $M = .83$ ,  $SD = .16$ ) than boys ( $M = .65$ ,  $SD = .33$ ), but children in the “self” condition were no less (or more) likely to refer to the negative consequences of lying ( $M = .77$ ,  $SD = .264$ ) than children in the “other” condition

( $M = .72$ ,  $SD = .26$ ). Children with lower WPPSI-R scores referred less often to negative consequences.

### **Acknowledgment of Lying: Self versus Other**

In response to the three questions asking if they would ever lie to a professional, children responded “yes” 7% of the time ( $M = .22$ ,  $SD = .58$ ). A two-way ANCOVA with condition and gender as between-subject factors and WPPSI-R as a covariate revealed a significant effect due to gender,  $F(1,59) = 4.11$ ,  $p < .05$ , but no significant effect due to condition,  $F(1,59) < 1$  or covariate  $F(1,59) < 1$ , and no significant interaction. Children in the “other” group were no less likely to state that they would ever lie to a professional than children in the “self” group. Girls were less inclined to state that they would ever lie ( $M = .07$ ) than boys ( $M = .38$ ). In order to determine whether the group of children who stated they would lie to professionals (one or more times) were less likely to refer to lying as negative, we performed a one-way ANCOVA on “negative outcome” with a between-subjects variable that classified children as ever admitting they would lie or never admitting they would lie, and the standardized WPPSI-R score as a covariate. There was a significant group effect,  $F(1,61) = 7.77$ ,  $p < .01$ , and a significant effect due to the covariate,  $F(1,61) = 5.98$ ,  $p < .05$ . Children who stated at least once that they would lie to a professional were less likely to refer to the negative consequences of lying ( $M = .51$ ,  $SD = .34$ ) than children who never stated they would lie ( $M = .77$ ,  $SD = .24$ ).

## **DISCUSSION**

Our prediction regarding children’s willingness to respond to questions about lying was supported. Children were less likely to respond “I don’t know” or fail to respond if they were asked about a story child than if they were asked about themselves. The effect seemed to be particularly pronounced among a small group of children in the “self” group. Therefore, although few children persistently refused to respond to our questions, the most reluctant were asked questions about themselves.

We found no evidence of a perception of invulnerability among our subjects because responsive children in the “self” group were no less likely to mention negative consequences than responsive children in the “other” group. Once children overcome a resistance to discuss lying, they seem no less inclined to acknowledge that lying has negative consequences.

It is notable that most of our children responded to most of the questions, even in the “self” group. This might suggest that children in court will exhibit little reluctance to answer questions about lying. However, we asked the questions in a nonthreatening context. Although participants were awaiting a court appearance, our research assistants emphasized as part of the assent process that they were not from the court, and children were questioned in an interview room and not the courtroom. Moreover, the tone of the questioning was friendly and supportive so as to minimize any potential negative effects. Children were given lots of opportunities

to respond to the questions, and initial “I don’t know” and failures to respond were followed up with a prompt. Reluctance to respond would likely be magnified in the context of courtroom testimony, which has been demonstrated to increase children’s inclination to respond “I don’t know” (Hill & Hill, 1987; Saywitz & Nathanson, 1993).

Children in general were disinclined to state that they would ever lie to a professional. Children in the “other” group were no more inclined to do so than children in the “self” group, which attests to the similarity of the groups and also suggests that discussing consequences to a hypothetical child rather than themselves does not reduce children’s reluctance to state that they would ever lie. Children who stated they would lie were less likely to describe lying as negative, which may reflect a lacking understanding of negative consequences (but could also reflect more general difficulty in comprehending the task).

The practical implications of our findings are evident: if professionals feel it is important to test a child’s understanding of the consequences of lying, they should ask the child about hypothetical others rather than child herself (e.g., “If this boy told a lie to the judge, what would the judge do?”). Our results also suggest, however, that even the questions in the “other” condition are unnecessarily difficult for many young maltreated children. Children’s productive vocabulary abilities predicted performance in both the “self” and “other” groups, highlighting the fact that our questions required children to generate explanations. Children’s superior performance on forced-choice questions about the consequences of lying (e.g., “Is it good or bad to tell a lie?”) (Lyon & Saywitz, 1999) suggests that they understand the vocabulary necessary for describing consequences, but understand more than they can explain.

One might attempt to avoid hypothetical questions by asking children questions like “What happens when you lie?” However, children may be as resistant to these sorts of questions; recall that in several of the cases discussed in the introduction, the child witnesses denied that they had ever lied (*Commonwealth v. Corbett*, 1989; *Pace v. State*, 1981; *People v. Smith*, 1984; see also *State v. McNeely*, 1985 [5-year-old]; *Strickland v. State*, 1982 [5-year-old]). Indeed, a majority of children up to 11 years of age will deny ever having told a lie (Peterson et al., 1983). Another option, although we did not directly test it, is to ask the child to discuss the consequences of lying to people in general (e.g. “What happens when people tell lies?”).

The results of this study are consistent with hints in other research with maltreated children that motivational difficulties may mask children’s early oath-taking competence. Children’s reluctance to discuss lying may interfere with their apparent understanding of what lying is. When asked to label statements spoken by a researcher as the “truth” or a “lie,” 4- and 5-year-old maltreated children were better at identifying truthful statements as such than lies as such, suggesting a disinclination to label statements as lies. Similarly, when asked if they knew what it meant to tell a truth and what it meant to tell a lie, 4- to 7-year-old children who answered “yes” to one question, but “no” to the other disproportionately claimed to know what the “truth” means, but not to know what “lies” are (Lyon & Saywitz, 1999).

The serious delays in productive vocabulary exhibited by our maltreated participants, coupled with the consistent relation between productive vocabulary and performance on our tasks, underlines the importance of testing children actually appearing in court. Research on nonreferred children from predominantly

upper-middle-class homes may be inapplicable to many child witnesses. Maltreated children are likely to experience special difficulty in qualifying as competent. Our findings emphasize the need for practitioners to be sensitive to child witnesses' unique vulnerabilities and for researchers to be attentive to the effect of their participants' backgrounds on their performance.

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### REFERENCES

- Au, T. K. (1992). Counterfactual reasoning. In K. Fiedler & G. R. Semin (Eds.), *Language, interaction, and social cognition* (pp. 194–213). London: Sage.
- Bates, E. (1976). *Language and context: The acquisition of pragmatics*. New York: Academic Press.
- Bowerman, M. (1986). First steps in acquiring conditionals. In E. C. Traugott, A. ter Meulen, J. S. Reilly, & C. A. Ferguson (Eds.), *On conditionals* (pp. 285–308). Cambridge: Cambridge University Press.
- Commonwealth v. Brusgulis, 496 N.E.2d 652 (Mass. App. 1986).
- Commonwealth v. Corbett, 533 N.E.2d 207 (Mass. App. 1989).
- Commonwealth v. Polston, 616 A.2d 669 (Pa. Sup. Ct. 1992).
- Commonwealth v. R.P.S., 737A.2d 747 (Pa. Sup. Ct. 1998).
- Dias, M. G. & Harris, P. L. (1988). The effect of make-believe play on deductive reasoning. *British Journal of Developmental Psychology*, 6, 207–221.
- Dias, M. G. & Harris, P. L. (1990). The influence of the imagination on reasoning by young children. *British Journal of Developmental Psychology*, 8, 305–318.
- Flin, R. H., Stevenson, Y., & Davies, G. M. (1989). Children's knowledge of court proceedings. *British Journal of Psychology*, 80, 285–297.
- Harris, P. L. & Leivers, H. J. (In press). Reasoning from false premises. In P. Mitchell & K. Riggs (Eds.), *Children's reasoning and the mind*. Hove, UK: Psychology Press.
- Hawkins, J., Pea, R. D., Glick, J., & Scribner, S. (1984). "Merds that laugh don't like mushrooms:" Evidence for deductive reasoning by preschoolers. *Developmental Psychology*, 30, 584–594.
- Hill, P. E. & Hill, S. M. (1987). Videotaping children's testimony: An empirical view. *Michigan Law Review*, 85, 809–833.
- Hoffman-Plotkin, D. & Twentyman, C. T. (1984). A multi-modal assessment of behavioral and cognitive deficits in abused and neglected preschoolers. *Child Development*, 55, 794–802.
- Kuczaj, S. A. (1981). Factors influencing children's hypothetical reference. *Journal of Child Language*, 8, 131–137.
- Lyon, T. D. & Saywitz, K. J. (1999). Young maltreated children's competence to take the oath. *Applied Developmental Science*, 3, 16–28.

- McGough, L. S. (1994). *Child witnesses: Fragile voices in the American legal system*. New Haven, CT: Yale University Press.
- Myers, J. E. B. (1997). *Evidence in child abuse and neglect cases* (3rd ed.). New York: Wiley.
- Pace v. State, 278 S.E.2d 90 (Ga. App. 1981).
- People v. Smith, 481 N.Y.S.2d 879 (N.Y. 1984).
- Peterson, C. C., Peterson, J. L., & Seeto, D. (1983). Developmental changes in ideas about lying. *Child Development, 54*, 1529–1535.
- Reilly, J. S. (1986). The acquisition of temporals and conditionals. In E. C. Traugott, A. ter Meulen, J. S. Reilly, & C. A. Ferguson (Eds.), *On conditionals* (pp. 309–331). Cambridge: Cambridge University Press.
- Rozin, P., Millman, L., & Nemeroff, C. (1986). Operation of the laws of sympathetic magic in disgust and other domains. *Journal of Personality and Social Psychology, 50*, 703–712.
- Saywitz, K. J. & Nathanson, R. (1993). Children's testimony and their perceptions of stress in and out of the courtroom. *Child Abuse and Neglect, 17*, 613–622.
- Saywitz, K. J. & Snyder, L. (1993). Improving children's testimony with preparation. In G. Goodman & B. Bottoms (Eds.), *Understanding and improving children's testimony* (pp. 117–146). New York: Guilford Press.
- Siegal, M. & Peterson, C. C. (1996). Breaking the mold: A fresh look at children's understanding of questions about lies and mistakes. *Developmental Psychology, 32*, 322–334.
- Spencer, J. R. & Flin, R. (1990). *The evidence of children: The law and the psychology*. London: Blackstone.
- State v. Ford, 525 S.E.2d 218 (N.C. Ct. App. 2000).
- State v. McNeely, 333 S.E.2d 738 (N.C. 1985).
- Strichartz, A. F. & Burton, R. V. (1990). Lies and truth: A study of the development of the concept. *Child Development, 61*, 211–220.
- Strickland v. State, 297 S.E.2d 491 (Ga. 1982).
- Whalen, C. K., Henker, B., O'Neill, R., Hollingshead, J., Holman, A., & Moore, B. (1994a). Optimism in children's judgments of health and environmental risks. *Health Psychology, 13*, 319–325.
- Whalen, C. K., Henker, B., O'Neill, R., Hollingshead, J., Holman, A., & Moore, B. (1994b). Preadolescents' perceptions of AIDS before and after Earvin Magic Johnson's announcement. *Journal of Pediatric Psychology, 19*, 3–17.
- Wimmer, H., Gruber, S., & Perner, J. (1984). Young children's conception of lying: Lexical realism–moral subjectivism. *Journal of Experimental Child Psychology, 37*, 1–30.
- Wing, C. S. & Scholnick, E. K. (1981). Children's comprehension of pragmatic concepts expressed in 'because', 'although', 'if' and 'unless.' *Journal of Child Language, 8*, 347–365.