

## Effects of Social Support on Children's Eyewitness Reports: A Test of the Underlying Mechanism

Suzanne L. Davis<sup>1</sup> and Bette L. Bottoms<sup>2,3</sup>

---

*Research on children's eyewitness testimony demonstrates that interviewer-provided social support given during a mock forensic interview helps children resist an interviewer's misleading suggestions about past events. We proposed and tested 1 potential mechanism underlying support effects: "Resistance Efficacy," or children's perceived self-efficacy for resisting an interviewer's suggestions. Eighty-one 6- and 7-year-old children experienced a play event, then were interviewed about the event with misleading and specific questions. Consistent with prior research, children interviewed by a supportive person were more resistant to misleading suggestions than were those interviewed by a nonsupportive person. Although Resistance Efficacy did not mediate the effects of interviewer support in the full sample, additional analyses revealed that Resistance Efficacy may be a mediator for older, but not younger, children. Contrary to predictions, children's preexisting social support reserves were not related to children's interview accuracy nor to perceived Resistance Efficacy. Implications for psychological theory are discussed, as well as implications for understanding and improving children's eyewitness reports.*

---

### INTRODUCTION

Over the past two decades, child abuse has steadily gained recognition as a major societal and legal problem, which has brought many children into contact with the legal system (Goodman, Emery, & Haugaard, 1998; Myers, 1992). When children enter our legal system, a system designed for adults, alarming issues are raised. One particularly troubling issue is the reliability of children's testimony. Given the inherently private nature of child sexual abuse, there is often no evidence of abuse other than a child's report (Myers, 1992). Children's reports can prompt investigations that lead to the discovery and prosecution of actual child

<sup>1</sup>DecisionQuest, Inc., 700 Rockmead Drive, Suite 214, Kingwood, Texas 77339.

<sup>2</sup>Department of Psychology, The University of Illinois at Chicago, Chicago, Illinois.

<sup>3</sup>To whom correspondence should be addressed at Department of Psychology, The University of Illinois at Chicago, Chicago, Illinois 60607-7137; e-mail: bbottoms@uic.edu.

abuse, or investigations that target innocent adults for abuse they did not commit. As in any legal case built primarily on eyewitness testimony—adult or child testimony—there is the potential for justice or injustice, depending on the accuracy of the testimony.

To approach the ultimate goals of uncovering truth and reaching just outcomes in child abuse cases, we can turn to social science for help. There we find a growing body of research aimed at understanding children's capabilities and discovering techniques for maximizing the accuracy of their reports (for reviews, see Ceci & Bruck, 1993; Davis, 1998; Goodman et al., 1998; Goodman & Bottoms, 1993; Shaaf et al., *in press*; Warren & McGough, 1996). One factor found to influence the accuracy of children's reports is social support, a socioemotional variable conceptualized as a form of social interaction or communication that fosters a feeling of well-being in the target (Burleson, Albrecht, Goldsmith, & Sarason, 1994).

There is good reason to investigate the effects of social support on children's eyewitness reports. The interview settings children encounter such as pretrial forensic interviews or the courtroom can be either socially supportive or intimidating. For example, children may be questioned by a cold, intimidating interviewer or by a friendly, warm person. Conventional wisdom about the effects of interviewer-provided social support is mixed: Some professionals argue for child-friendly interview techniques (e.g., Wood, McClure, & Birch, 1996), reasoning that social support will be emotionally calming and therefore conducive to accurate reports. Others have discussed the possibility that support may be distracting at best and suggestive at worst, and that children who are interviewed in a socially supportive manner may want to give answers that will please their friendly interrogator rather than answers that are accurate (see Bull, 1998, for a discussion).

Research in other domains suggests that the accuracy of children's reports will benefit from social support. For example, perceived social support enhances children's psychological well-being and perceived ability to cope with stress (Cohen & Wills, 1985; Sarason, Sarason, & Pierce, 1990; Wolchick, Sandler, & Braver, 1990), as well as academic performance and short-term recall (Harris & Rosenthal, 1985; Kelley & Gorham, 1988; Rosenthal & Jacobson, 1968). These findings would be predicted by current developmental theories that stress the importance of environmental support for children to reach their maximum levels of cognitive performance (e.g., Fischer, 1980; Vygotsky, 1934/1978). In light of such research and theory, children's testimony researchers have theorized that social support will help, not hinder, children's report accuracy.

Some researchers have operationalized social support as the presence of a peer (Greenstock & Pipe, 1996, 1997; Moston, 1992). Results from this research have been mixed and may not be very helpful in understanding how children respond during many actual forensic interviews. That is, although children who testify in court may request that support persons accompany them (Myers, 1996), they are rarely given pretrial forensic interviews with peers, siblings, or others present. Instead, a child and an interviewer usually interact in a closed social situation. Because many more children undergo pretrial forensic interviews than ever testify in court, it is

arguably of greater importance in terms of ecological validity to explore the effects of interviewer-provided social support.

### **Interviewer-Provided Social Support**

There have been several investigations of interviewer support on the accuracy of children's reports. In some of these studies, support has been operationally defined in terms of interviewer identity (Goodman, Sharma, Thomas, & Constadine, 1995; Ricci, Beal, & Dekle, 1996; Tobey & Goodman, 1992). These studies generally have found that children interviewed by a supportive person (e.g., the child's mother) are more accurate on some interview questions than are those interviewed by an intimidating person (e.g., a stranger or a police officer). Each of these studies, however, necessarily confounded interviewer identity with supportiveness. Other studies have eliminated this confound by operationalizing support in terms of the behaviors exhibited by unfamiliar interviewers. For example, Goodman, Bottoms, Rudy, and Schwartz-Kenney (1991) tracked 3- to 4-year-olds and 5- to 7-year-olds who received routine inoculations at a medical clinic. Children were interviewed after 2 and 4 weeks about their clinic visit with free recall, misleading, and specific (less leading) questions. For half of the children, the interviewer acted in a supportive manner by giving the children a snack, smiling frequently, and complimenting them periodically without regard for accuracy. The remaining children were interviewed in a more neutral way. Support reduced the number of inaccuracies in children's free recall, and, after a 4-week delay, social support also reduced younger children's errors in response to misleading questions and questions that incorrectly suggested that abuse had occurred. Even so, support increased younger children's omission errors to misleading questions concerning peripheral characteristics of the clinic setting.

Carter, Bottoms, and Levine (1996) investigated the effects of interviewer-provided support on 5- to 7-year-olds' immediate reports about a play session. Social support and intimidation were operationalized in terms of specific behaviors noted in the clinical literature to convey emotional warmth or the lack thereof (Kelley & Gorham, 1988; Mehrabian, 1969). Their manipulation produced more consistent and specific effects than those reported by Goodman et al. (1991), perhaps because the nonsupportive condition was operationalized as more "intimidating" than "neutral." Compared to children in the nonsupportive condition, children in the supportive condition were more resistant to misleading questions. Support had no effect on children's responses to specific or free recall questions.

In contrast, Imhoff and Baker-Ward (1999) found no effects of interviewer support on younger children's accuracy. Three- and 4-year-olds were individually interviewed about a classroom demonstration after a 2-week delay. Interviewer support had no effect on children's responses to specific or misleading questions about the event, probably because Imhoff and Baker-Ward's nonsupportive condition was neutral rather than intimidating. In fact, we would characterize it as somewhat supportive, because interviewers sometimes smiled at the children and complimented them on their performance.

What psychological mechanism could be responsible for the effects found by Goodman et al. (1991) and Carter et al. (1996)? Citing developmental theories that stress the importance of environmental support for children to perform at their optimal level (e.g., Fischer, 1980), Goodman et al. theorized that interviewer support would decrease children's intimidation, and in turn, decrease their suggestibility. Carter et al. (1996) theorized that interviewer support increased children's resistance to misleading information by decreasing children's anxiety, lessening intimidation, and increasing feelings of empowerment. Peer-support researchers Moston and Engelberg (1992) also proposed that support may alleviate children's interview anxiety, although Greenstock and Pipe (1996, 1997) found no evidence that anxiety mediates the effect of peer-provided support on children's accuracy.

We believe previous speculations about the mechanism underlying support effects are largely accurate, but need refinement. That is, Carter et al.'s and Goodman et al.'s results suggest that interviewer support decreases intimidation (Carter et al., 1996; Goodman et al., 1991), which leads to resistance to misleading questions. If this were not the case, interviewer support would have increased children's accuracy on all dependent measures (free recall, specific, and misleading questions). In fact, in Carter et al.'s study, support only affected children's performance on the highly coercive misleading questions—questions to which children had to contradict the interviewer directly to provide a correct answer. Further, Goodman et al.'s effects were most robust for measures of suggestibility. To understand the mechanism underlying interviewer support effects, we have drawn on social psychological theory, specifically, self-efficacy theory.

### **A Self-Efficacy Explanation for the Effects of Interviewer-Provided Support**

We theorize that interviewer support makes children feel better able to resist an interviewer, which in turn leads to increased resistance to misleading questions. Such an interpretation clearly indicates the social psychological construct of perceived self-efficacy; that is, "people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances" (Bandura, 1986, p. 391) in specific situations that may contain novel, unpredictable, and possibly stressful features (Bandura, 1977, 1982). Unlike judgments about one's stable dispositions, efficacy judgments are transient and altered by social contexts. Efficacy judgments are good predictors of behavior in a variety of situations for adults (Bandura, 1997) and children. For example, perceived self-efficacy predicts children's academic and achievement-oriented behavior (e.g., math problems; Schunk, 1986, 1991). Importantly, self-efficacy remains a significant predictor of behavior even when other self-relevant cognitions that might covary with efficacy (e.g., performance anxiety) are statistically controlled (Bandura, 1997; Schunk, 1989, 1991).

We tested a new type of self-efficacy unique to forensic interviews: "Resistance Efficacy," or children's perceived self-efficacy for resisting an interviewer's suggestions. We theorize that during a forensic interview, children derive efficacy information from the interviewer and make cognitive appraisals of their Resistance Efficacy. We also theorize that interviewer support would increase children's Resistance Efficacy, which in turn would increase their resistance to misleading questions. That

is, when an interviewer is supportive, children would feel empowered and able to contradict directly misleading suggestions. In contrast, when an interviewer is not supportive, children would feel intimidated and less able to resist suggestions, and in turn, be more suggestible. Consistent with self-efficacy theory, Resistance Efficacy should predict the degree to which children resist an interviewer's misleading questions. When children's Resistance Efficacy is high, they should be more resistant to an interviewer's suggestions than when their Resistance Efficacy is low. Finally, Resistance Efficacy should not predict accuracy in response to free recall or nonmisleading questions, because only on misleading questions must children overtly resist (i.e., disagree with) an interviewer to answer correctly or say "I don't know."<sup>4</sup>

Thus, we predicted that Resistance Efficacy would mediate the relation between interviewer support and resistance to misleading questions, even when children's anxiety during the interview was held constant (a technique that is standard in self-efficacy research because anxiety is the classic competing mediator to self-efficacy in social psychological research). Note that, although it is not the primary focus of this research, our study is the first to examine the relation between interviewer support and anxiety. Effects of support on anxiety would be interesting in and of themselves and would have important forensic implications.

### **Social Support Reserves and Resistance Efficacy**

We also investigated the possibility of interactions between interviewer support and social support reserves (i.e., the amount of social support already existing in children's lives). Carter et al. (1996) theorized that social support reserves would moderate effects of interviewer support on children's suggestibility. They reasoned that children who are high in support reserves would already be predisposed to feel empowered, but children low in support reserves would not feel empowered and might be more sensitive to variations of supportiveness in their environment. Thus, we predicted that children low in preexisting support reserves would experience larger increases in resistance to false suggestions under supportive interview conditions relative to those who are already high in support reserves. In fact, research has shown that compared to adults who are high in support reserves, those whose reserves are low exhibit greater gains in performance on anagram tasks when offered help from an experimenter (Sarason & Sarason, 1986). Other research shows that grade-school children who are high in support reserves are predisposed to have high self-efficacy for new situations (Cowen, Work, Hightower, Wyman, & Lotyczewski, 1991).

In light of this research, we predicted that children's support reserves would moderate effects of interviewer support on Resistance Efficacy, which in turn would affect resistance to misleading questions. Specifically, when an interviewer is supportive, children low in support reserves would judge themselves to be higher in Resistance Efficacy than when the interviewer is nonsupportive. Children high in support

<sup>4</sup>It is important to distinguish these predictions from those that would derive from Gudjonsson's theory of interrogative suggestibility (Gudjonsson, 1992). According to Gudjonsson, when interviewees doubt their memories for any reason, they may comply with or accept an interrogator's misleading suggestion. Our concern here is with children's ability to resist suggestion, not in children's perceived memory abilities per se.

reserves should experience smaller gains in Resistance Efficacy as a result of interviewer support than children low in support reserves.

### Overview

We designed this study to (a) replicate results from prior research investigating the effects of interviewer support on children's reports of a prior event (i.e., Carter et al., 1996; Goodman et al., 1991), (b) explore Resistance Efficacy as a mediator of interviewer support effects, and (c) explore social support reserves as a moderator of the effect of interviewer support on Resistance Efficacy.

Six- to 7-year-old children engaged in a play session (in a special "dinosaur room") with an unfamiliar adult (the "babysitter"). Immediately afterwards, children were given a mock forensic interview by an interviewer who acted in either a supportive or a nonsupportive manner. To test the mediating role of Resistance Efficacy and to rule out anxiety as an alternative mediator, children were given developmentally appropriate scale measures of their Resistance Efficacy and anxiety. Parents completed a scale measure of their children's social support reserves to test the moderating effect of support reserves.

## METHOD

### Participants

Eighty-one 6- to 7-year-old children participated (range = 72–92 months,  $M = 82$  months; 39 girls, 42 boys). Four participants were African American, 71 were Caucasian, 3 were Latino, and 2 were of other ethnicities. Children were of upper-middle socioeconomic status (SES), as measured by the Hollingshead (1975) SES scale ( $M$  SES score = 49.08, range = 8 [*lowest SES status*] to 66 [*highest SES status*]). Children were recruited from a participant pool consisting of families from Chicago and its suburbs as well as undergraduate students who agreed to participate with their child or with their mother and younger sibling.

### Materials

#### *Demographic Questionnaire*

This parent questionnaire assesses information useful for sample description, including ethnicity, family income (Hollingshead, 1975), and parent's marital status.

#### *Social Support Reserves Scale (Zelkowitz, 1989)*

The parent form of the Zelkowitz (1989) social support inventory requires mothers to report about the types of interactions between their children and various support persons (e.g., parents, other family members, friends, teachers). It correlates significantly with preschoolers' and kindergartners' own perceptions of their social support. Internal consistency and test-retest reliability are high (Wolchik et al.,

1990; Zelkowitz, 1989). Because children derive social support chiefly from family members and close friends (e.g., Cauce, Reid, Landesman, & Gonzales, 1990; Furman & Buhrmester, 1985), we assessed support only from those sources. On a scale from 1 (*never*) to 5 (*always*), parents indicate how often their child turns to each nuclear family member and to close friends for various types of support (e.g., "talks with about problems or worries," "wants to be with when feeling unhappy or upset"). Parents also rate each person's relationship with their child on a scale from 1 (*not close at all*) to 7 (*very close*). An overall support score is calculated by summing all ratings. Higher numbers indicate more emotional support in children's lives. Our participants' scores were similar to scores in other research (Zelkowitz, 1989) and ranged from 33 to 206,  $M = 161.40$ ,  $Mdn = 162$ .

#### *Resistance Efficacy Scale (RES)*

The specially constructed RES consists of six items designed to tap the degree to which children feel they can resist the interviewer. Items are modeled after other efficacy scales used with children 8 years old and older (Cowen et al., 1991; Schunk, 1981; Wheeler & Ladd, 1982; see Appendix A for entire scale and instructions). Children are given two practice items to verify that they understand the question and response format, then are given the six items. For each item children are asked to select one of four statements that best describes how they feel. For example, children are given stems such as "What if Rich (the interviewer) is wrong about something that happened, *and you know he's wrong*. How easy or hard will it be for you to tell him he's wrong?" Then children respond by pointing to items on a 4-point scale ranging from 1 (*REALLY HARD!*, indicating low efficacy) to 4 (*REALLY EASY!*, indicating high efficacy). Responses are averaged for each child, yielding an overall RES score. The statistical properties of the RES for this sample were acceptable: Cronbach  $\alpha = .83$ , mean interitem  $r = .44$ .

#### *A-State Scale of the State-Trait Anxiety Inventory for Children* (STAIC; Spielberger, 1979)

The A-State scale of the STAIC consists of 20 items that assess children's anxiety about a recent experience. It is reliable, internally consistent, and correlates significantly with other indices of anxiety such as the Manifest Anxiety Scale for Children (Castaneda, McCandless, & Palermo, 1956; Spielberger, 1979). In the interest of saving time, we used only 11 of the 20 STAIC items: calm, upset, nervous, scared, relaxed, worried, frightened, happy, good, bothered, and nice. For each item, children are asked to point to one of three statements that best represents how they felt during the forensic interview; for example, "I felt 1 (*not scared*), 2 (*scared*), or 3 (*very scared*)," or "I felt 1 (*very happy*), 2 (*happy*), or 3 (*not happy*). Children's responses are averaged, yielding an overall anxiety score. Higher numbers indicate elevated anxiety. The abbreviated scale was reliable,  $\alpha = .91$ , mean interitem  $r = .50$ .

### *Mock Forensic Interview*

Our interview consisted of one free recall and 34 detailed questions similar to those used in numerous other child witness studies (e.g., Carter et al., 1996; Goodman et al., 1991; Goodman, Bottoms, Rudy, Davis, & Schwartz-Kenney, 2001; Rudy & Goodman, 1991; Saywitz, Goodman, Nicholas, & Moan, 1991; see Appendix B for all questions). To control for possible response biases, the detailed questions were approximately balanced for whether they prompted a “yes” or “no” answer. Questions varied on two general dimensions: suggestiveness and abuse relevance. Regarding *suggestiveness*, half of the questions were designed to be misleading, and half were designed to be specific, or less leading, more direct questions (operationalized as in previous interviewer support studies, e.g., Carter et al., 1996; Goodman et al., 1991). Misleading questions suggested an incorrect response, for example, “What color was the robe you put on?” (children did not don a robe during the play session). Specific questions were not designed to be misleading or to suggest a particular answer; for example, “Did she (the babysitter) touch a Barbie doll?” when this was done during the play session.

To increase the ecological validity of the study, misleading and specific questions were also classified according to *abuse relevance*, or their similarity to questions that might be asked in an actual investigation to determine if sexual abuse had occurred. Nine abuse-related questions focused on behaviors that might be considered abusive, including picture-taking because child sexual abuse sometimes involves pornography (e.g., “Did she take a picture of you with your shirt off?”). These questions were included because of the importance of determining whether children will falsely report being abused when they have not been.

### **Procedure**

Parents and children came to the university one pair at a time and were greeted by an experimenter. Parents privately reviewed and approved all measures and procedures, including the fact that the entire session was videotaped. Parents were invited to eliminate any items from the interview that they did not want their children to be asked. Only three parents eliminated items. In each case it was an abuse-related question. After parental consent and child assent had been obtained, children were escorted to the “dinosaur room,” where each child played with a woman research assistant described as the “babysitter.” (Three women alternated playing this role.) The babysitter engaged the child in various activities with pictures, stories, balloons, bubbles, a Barbie doll (which “accidentally” broke during the play session), a Polaroid camera, puppets (during a staged puppet show, a ladybug puppet bit another puppet on the behind), and activities that involved innocuous touching (the babysitter traced the child’s body on a large piece of paper and touched the child’s biceps and shoulder). Meanwhile, parents completed the demographic questionnaire and the support reserves scale. At all times, parents could see their children via closed-circuit television.

After the play session, the babysitter led the child to a new room where the child was greeted by a man interviewer. (Three men alternated playing this role.) He explained that he was the babysitter’s boss, and he wanted to ask the child some



questions about what happened during the play session because he wanted to make sure the babysitter did a good job. He then administered the interview under one of two support conditions modeled after those used by Carter et al. (1996). In the *supportive* condition, the interviewer displayed behaviors demonstrated by communication research to be supportive and emotionally warm: He implicitly communicated that he was not in a position of power by introducing himself and spending several minutes building rapport (Tannen, 1990), he maintained supportive eye contact with the child (Kelley & Gorham, 1988), smiled often (Andersen, 1985; Mehrabian, 1972), and used warm intonational vocal contours (i.e., a happy, kind voice; DePaulo & Coleman, 1986; Labov & Fanshel, 1977). Further, he displayed body language noted in the clinical literature to be supportive: He sat in close proximity to the child (Kelley & Gorham, 1988) and assumed a relaxed, supportive body posture (Andersen, 1985; Kendon, 1977; Patterson & Edinger, 1987). In contrast, in the *non-supportive* condition, the interviewer did not engage in supportive behaviors. At the beginning of the interview, he did not introduce himself or build rapport. Instead, he sat in an intimidating silence and flipped through his interview pages. Throughout the interview, he avoided eye contact with the child, did not smile, used a monotone voice, and maintained a formal body posture.<sup>5</sup>

After the interview, the woman experimenter who had initially greeted the family entered the interview room and said, "It's time for a break now. Rich (the interviewer), I know you've got some more questions to ask, but you really should take your break now. See you in a few minutes." In reality, the interview *was* over, but it was important for children to think it was not over, so they would report their present feelings of efficacy, anxiety, and liking-of-interviewer in anticipation of future interaction with the interviewer. The woman experimenter, who was blind to children's experimental condition and who acted in a socially supportive manner, administered the RES and the anxiety scale in random order. Note that in the self-efficacy literature, self-efficacy is generally measured before and after an intervention to demonstrate definitively mediator effects. For practical reasons, however, we could not measure Resistance Efficacy both before and after the support manipulation was implemented. That is, pretesting children's Resistance Efficacy by giving children the RES before the interview might have itself functioned as an intervention—sending a message to children that resisting the interviewer's suggestions was important. This could have altered children's responses. Instead, the RES was given at only one time, after the interview. Even so, our methods ensured that children believed the interview was not over when Resistance Efficacy was measured. They expected for the interview to continue; thus, they were focusing on their anticipated future performance. In fact, Skinner (1996) has suggested that when researchers initially test whether variables such as self-efficacy are present in given contexts, it is best not to pretest for them.

Afterward, children and their parents were reunited, debriefed, and thanked for their participation. Children were given two toys and a certificate of achievement, and parents were paid \$10 ( $N = 73$ ) or, if university students, given course credit ( $N = 8$ ).

<sup>5</sup> As a manipulation check, six independent raters were asked to identify the experimental condition for two randomly selected interviews from each condition for each interviewer. Their accuracy rate was 88%.

## RESULTS

We present analyses in five major sections: (a) preliminary analyses, (b) analyses examining effects of interviewer support and support reserves on children's interview accuracy and suggestibility, (c) analyses testing the proposed mediational model, (d) analyses exploring effects associated with anxiety, and (e) analyses exploring children's performance on abuse-related questions.

### Preliminary Analyses

Between-groups *t* tests revealed that children in the supportive ( $M = 47.85$ ) and nonsupportive ( $M = 50.22$ ) conditions were equivalent with respect to SES,  $t(77) = 0.91$ ,  $p = .37$ . Further, separate series of 2 (child gender)  $\times$  3 (interviewer identity) analyses of variance (ANOVAs) conducted on all dependent measures revealed no significant main effects or interactions involving child gender or interviewer identity, all  $F_s(2, 75) \leq 3.66$ ,  $p_s \geq .06$ , with one exception: children's anxiety,  $F(2, 75) = 3.23$ ,  $p < .05$ . Pairwise comparisons revealed that one interviewer induced significantly lower anxiety scores ( $M = 1.35$ ) than the other two interviewers,  $M = 1.63$ ,  $F(1, 75) = 8.00$ ,  $p < .01$ ; and  $M = 1.55$ ,  $F(1, 75) = 4.00$ ,  $p < .05$ , who did not induce significantly different scores from each other,  $F(1, 75) = 1.00$ ,  $p = .21$ . Thus, we collapsed across SES status, child gender, and interviewer identity in all subsequent analyses, except for analyses involving anxiety scores as a dependent variable, in which we included interviewer identity as a covariate.<sup>6</sup>

### Effects of Interviewer-Provided Social Support and Support Reserves on Interview Responses

For all analyses reported below, social support reserves was dichotomized by a median split on the support reserves scale.<sup>7</sup>

#### *Free Recall*

Children's free recall responses were transcribed and coded for correct and incorrect units of information, identical to procedures used in other child witness studies (e.g., Carter et al., 1996; Goodman et al., 1991). For example, the statement "I played with a doll" was scored as three correct units of information: one for acknowledging that something was played with, one for identifying a doll as the item played with, and one for identifying that it was the child who played. Redundant responses, incomprehensible responses, and responses that could not be verified from the play session videotape were not scored. Two raters, blind to experimental

<sup>6</sup>Between-groups *t* tests also revealed that children in the supportive ( $M = 110$ ) and nonsupportive ( $M = 109$ ) interview conditions were equivalent with respect to receptive vocabulary scores, as measured by the Peabody Picture Vocabulary Test – Revised (Dunn & Dunn, 1981),  $t(79) = -0.23$ ,  $p = .82$ .

<sup>7</sup>We also conducted a series of regression analyses, treating social support reserves as a continuous variable, which could increase our statistical power. Results were the same as those we present here.

**Table 1.** Mean Numbers of Correct and Incorrect Items Freely Recalled as a Function of Interviewer Support and Support Reserves

Response type	Interviewer support condition					
	Supportive			Nonsupportive		
	Low reserves	High reserves	<i>M</i>	Low reserves	High reserves	<i>M</i>
Correct responses	28.89 (8.68)	31.18 (19.93)	30.04 (15.75)	27.76 (11.41)	35.10 (20.89)	31.43 (16.91)
Incorrect responses	1.67 (1.88)	0.95 (1.29)	1.31 (1.60)	0.90 (1.22)	0.65 (0.81)	0.78 (1.04)

*Note.* Standard deviations are in parentheses.

condition, independently scored 20% of all statements. Proportion of agreement was high (97%). Disagreements between raters were resolved by discussion, and one rater scored the remaining interviews.

Children's free recall statements were generally quite accurate as would be expected given the lack of delay between the play session and interview. Statements ranged from brief answers such as "She did a puppet show. We played games" to more elaborate descriptions such as "When I was there, she was like asking me questions on these green pages. And then she showed me a Barbie doll with her head broke, so she just put it back and she just took this fox and this rabbit and she had a firefly and the ladybug. And the ladybug bit the rabbit's butt. And then she made a picture of me on the paper on the floor. And then we did bubbles and that's all. I got a prize and took a picture of me, too."

We analyzed the number of correct and incorrect responses to the free-recall question in separate 2 (interview condition: supportive or nonsupportive)  $\times$  2 (support reserves: high or low) between-subjects ANOVAs. As predicted, there were no significant main effects of interviewer support on the number of correct responses,  $F(1, 77) = 0.15$ ,  $p = .70$ ,  $\eta^2 = .00$ , or incorrect responses,  $F(1, 77) = 3.21$ ,  $p = .08$ ,  $\eta^2 = .04$  (see Table 1). There were also no significant main effects of support reserves on the number of correct responses,  $F(1, 77) = 1.75$ ,  $p = .19$ ,  $\eta^2 = .02$ , or incorrect responses,  $F(1, 77) = 2.64$ ,  $p = .11$ ,  $\eta^2 = .03$ , nor significant interviewer support  $\times$  support reserves interactions on the number of correct responses,  $F(1, 77) = 0.48$ ,  $p = .49$ ,  $\eta^2 = .01$ , or incorrect responses,  $F(1, 77) = 0.59$ ,  $p = .45$ ,  $\eta^2 = .01$ .

### Detailed Questions

As in similar research (e.g., Carter et al., 1996; Goodman et al., 1991; Rudy & Goodman, 1991; Saywitz et al., 1991), each response to a detailed question (specific or misleading) was coded as a correct response, an omission error (failing to acknowledge something that did occur), a commission error (saying something happened when it did not), or a "don't know" response. Dependent measures were the proportion of correct responses, omission errors, commission errors, and don't know responses, calculated as the total number of correct responses, omission errors, commission errors, and don't responses each separately divided by the total number of

**Table 2.** Mean Proportions of Correct, Incorrect, and Don't Know Responses to Specific and Misleading Questions as a Function of Interviewer Support and Support Reserves

Response type	Interviewer support condition					
	Supportive			Nonsupportive		
	Low reserves	High reserves	<i>M</i>	Low reserves	High reserves	<i>M</i>
Correct responses <sup>a</sup>						
Specific	0.86 (0.07)	0.88 (0.06)	0.87 (0.07)	0.88 (0.04)	0.88 (0.09)	0.88 (0.07)
Misleading <sup>b</sup>	0.68 (0.09)	0.63 (0.13)	0.66 (0.12)	0.58 (0.14)	0.60 (0.13)	0.59 (0.14)
Omission errors						
Specific	0.04 (0.05)	0.03 (0.04)	0.03 (0.04)	0.02 (0.04)	0.02 (0.03)	0.02 (0.03)
Misleading	0.24 (0.07)	0.24 (0.07)	0.24 (0.07)	0.23 (0.07)	0.23 (0.10)	0.23 (0.09)
Commission errors <sup>a</sup>						
Specific <sup>c</sup>	0.03 (0.03)	0.04 (0.04)	0.04 (0.04)	0.06 (0.04)	0.03 (0.04)	0.05 (0.05)
Misleading <sup>b</sup>	0.05 (0.06)	0.08 (0.11)	0.07 (0.09)	0.15 (0.13)	0.11 (0.09)	0.13 (0.11)
Don't know responses						
Specific	0.07 (0.05)	0.05 (0.07)	0.06 (0.06)	0.04 (0.04)	0.07 (0.07)	0.05 (0.06)
Misleading	0.02 (0.05)	0.05 (0.09)	0.04 (0.08)	0.04 (0.07)	0.06 (0.09)	0.05 (0.08)

Note. Standard deviations are in parentheses.

<sup>a</sup>Significant multivariate main effect of interviewer support, all  $F(2, 76) \geq 3.50$ ,  $ps < .05$ .

<sup>b</sup>Significant univariate main effect of interviewer support, all  $F(1, 77) \geq 6.21$ ,  $ps < .05$ .

<sup>c</sup>Significant univariate interaction of interviewer support and support reserves,  $F(1, 77) = 3.91$ ,  $p < .05$ .

correct plus incorrect (commission and omission errors) plus don't know responses.<sup>8</sup> Each of these responses to misleading and specific questions was analyzed in four separate series of 2 (interview condition: supportive or nonsupportive)  $\times$  2 (support reserves: high or low) multivariate analyses of variance (MANOVAs). That is, the first 2 (interview condition)  $\times$  2 (support reserves) MANOVA was performed on the mean proportion of correct responses to misleading and specific questions; the second MANOVA was performed on the mean proportion of omission errors to misleading and specific questions, and so on. (In the analyses presented next, we collapsed across the dimension of abuse-relatedness because our predictions regarding social support and its mediators are relevant only for the specific versus misleading question-type designation.)

There was a significant multivariate main effect of interviewer support on the proportion of correct responses made, multivariate  $F(2, 76) = 3.50$ ,  $p < .05$ ,  $\eta^2 = .08$ . Univariate tests revealed that, as predicted, children in the nonsupportive condition,  $M = 0.59$ , gave fewer correct responses to misleading questions than children in the supportive condition,  $M = 0.66$ ,  $F(1, 77) = 6.21$ ,  $p < .05$  (see Table 2). Interviewer support did not significantly affect the proportion of correct responses to specific questions, univariate  $F(1, 77) = 0.45$ ,  $p = .50$ .

There was also a significant multivariate main effect of interviewer support on the proportion of commission errors made,  $F(2, 76) = 4.12$ ,  $p < .05$ ,  $\eta^2 = .10$  (see Table 2). Again, as predicted, univariate tests revealed that this effect held

<sup>8</sup>Additional analyses were performed using the proportion of correct plus don't know responses as a dependent variable, because saying "don't know" to a misleading question could indicate resistance. Results of these analyses were the same as analyses of the proportion correct responses, and so we have only reported the latter.

only for misleading questions. Compared to children in the supportive condition,  $M = 0.07$ , those in the nonsupportive condition,  $M = 0.14$ , made significantly more errors of commission to misleading questions, univariate  $F(1, 77) = 8.29$ ,  $p < .01$ . Interviewer support did not affect the proportion of commission errors to specific questions, univariate  $F(1, 77) = 0.91$ ,  $p = .34$ . There were no significant main effects of interviewer support on the proportion of omission errors, multivariate  $F(2, 76) = 1.36$ ,  $p = .26$ ,  $\eta^2 = .04$ ; univariate  $F_s(1, 77) \leq 2.67$ ,  $ps \geq .11$ , or don't know responses, multivariate  $F(2, 76) = 2.04$ ,  $p = .14$ ,  $\eta^2 = .05$ ; univariate  $F_s(1, 77) \leq 3.44$ ,  $ps \geq .07$ .

Finally, there were no significant main effects of children's support reserves on correct responses, multivariate  $F(2, 76) = 0.27$ ,  $p = .77$ ,  $\eta^2 = .01$ ; univariate  $F_s(1, 77) \leq 0.22$ ,  $ps \geq .61$ , commission errors, multivariate  $F(2, 76) = 0.06$ ,  $p = .94$ ,  $\eta^2 = .00$ ; univariate  $F_s(1, 77) \leq 0.13$ ,  $ps \geq .72$ , omission errors, multivariate  $F(2, 76) = 0.62$ ,  $p = .54$ ,  $\eta^2 = .02$ ; univariate  $F_s(1, 77) \leq 1.26$ ,  $ps \geq .27$ , or don't know responses, multivariate  $F(2, 76) = 0.54$ ,  $p = .59$ ,  $\eta^2 = .01$ ; univariate  $F_s(1, 77) \leq 1.08$ ,  $ps \geq .30$ . There were also no Significant Interviewer Support  $\times$  Support Reserves interactions on correct responses, multivariate  $F(2, 76) = 0.83$ ,  $p = .44$ ,  $\eta^2 = .02$ ; univariate  $F_s(1, 77) \leq 1.34$ ,  $ps \geq .25$ , omission errors, multivariate  $F(2, 76) = 0.41$ ,  $p = .66$ ,  $\eta^2 = .11$ ; univariate  $F_s(1, 77) \leq 0.82$ ,  $ps \geq .37$ , or don't know responses, multivariate  $F(2, 76) = 0.80$ ,  $p = .46$ ,  $\eta^2 = .02$ ; univariate  $F_s(1, 77) \leq 1.17$ ,  $ps \geq .28$ .

Although there was no significant multivariate interviewer support  $\times$  support reserves interaction on commission errors, multivariate  $F(2, 76) = 2.19$ ,  $p = .12$ ,  $\eta^2 = .05$ , univariate tests revealed a significant interviewer support  $\times$  support reserves interaction for specific commission errors, univariate  $F(1, 77) = 3.91$ ,  $p < .05$  (see Table 2). As predicted, simple effects analyses revealed that children with low support reserves made significantly more errors of commission to specific questions in the nonsupportive condition than in the supportive condition,  $F(1, 37) = 4.20$ ,  $p < .05$ . The proportion of errors made by children with high support reserves was not affected by support condition,  $F(1, 37) = 0.37$ ,  $p = .55$ . There was no significant interviewer support  $\times$  support reserves interaction for misleading commission errors, univariate  $F(1, 77) = 2.14$ ,  $p = .15$ .

### Explaining Interviewer Support Effects: A Test of the Proposed Model

Mediation analyses, as recommended by Baron and Kenney (1986), were conducted to test whether (a) children's Resistance Efficacy mediated the effect of interviewer support on children's resistance to misleading questions, and (b) children's support reserves moderated the effect of interviewer support on children's Resistance Efficacy judgments. Analyses were done separately for correct responses and commission errors, the only measures significantly affected by interviewer support.

Although the RES and the anxiety scale were not significantly correlated,  $r = -.18$ ,  $p = .12$ , we needed to determine whether Resistance Efficacy mediated the effect of interviewer support on resistance to misleading questions independently of anxiety. Thus, anxiety scores were entered in the first block as covariates for all models

reported below. Note that Baron and Kenney (1986) recommend multiple regression analyses—without hierarchical blocking—for testing mediation. We slightly modified this method by using hierarchical analyses solely for the purpose of removing variation associated with anxiety. That is, the covariates were entered on the first block, then Baron and Kenney's procedures were applied.

If Resistance Efficacy mediates the effect of interviewer support on resistance to misleading questions, then (a) interviewer support must predict RES scores, and (b) when both RES scores and interviewer support are included in the same analysis, the effect of interviewer support on resistance to misleading questions should be reduced or eliminated. Further, if children's support reserves moderate the effect of interviewer support on Resistance Efficacy, there should be a significant interviewer support  $\times$  support reserves interaction on RES scores.<sup>9</sup>

### *Correct Responses*

First, we examined the effect of interviewer support on the proportion of correct responses to misleading questions. After anxiety scores were entered in the first block as a covariate,  $R^2_{\text{adj}} = .00$ ,  $F(1, 79) = 1.16$ ,  $p = .29$ , interviewer support was a significant predictor of correct responses,  $B = 0.27$ ,  $t(78) = 2.40$ ,  $p < .05$ , model  $F(2, 78) = 3.49$ ,  $p < .05$ ,  $\Delta R^2 = .07$ ,  $\Delta F = 5.74$ ,  $p < .05$ . Next, an analysis examining effects of interviewer support, support reserves, and their interaction on RES scores revealed that after anxiety scores were entered in the first block,  $R^2_{\text{adj}} = .02$ ,  $F(1, 79) = 2.51$ ,  $p = .12$ , neither interviewer support,  $B = 0.15$ ,  $t(77) = 1.35$ ,  $p = .18$ , nor support reserves,  $B = 0.02$ ,  $t(77) = 0.17$ ,  $p = .87$ , were significant predictors of Resistance Efficacy, model  $F(3, 77) = 1.46$ ,  $p = .23$ ,  $\Delta R^2 = .02$ ,  $\Delta F = 0.94$ ,  $p = .40$ . The interviewer support  $\times$  support reserves interaction term, which was entered in the third block, was also not a significant predictor of Resistance Efficacy,  $B = -0.02$ ,  $t(76) = -0.08$ ,  $p = .94$ , model  $F(4, 76) = 1.08$ ,  $p = .37$ ,  $\Delta R^2 = .00$ ,  $\Delta F = 0.01$ ,  $p = .94$ .

Finally, we examined the effects of both interviewer support and RES scores on correct responses in the same analysis, after anxiety scores were entered in the first block,  $R^2_{\text{adj}} = .00$ ,  $F(1, 79) = 1.16$ ,  $p = .29$ . Interviewer support,  $B = 0.25$ ,  $t(77) = 2.19$ ,  $p < .05$ , was a significant predictor of correct responses (although the beta value was reduced from .29 to .26), but RES scores were not,  $B = 0.13$ ,  $t(77) = 1.20$ ,  $p = .23$ , model  $F(3, 77) = 2.82$ ,  $p < .05$ ,  $\Delta R^2 = .08$ ,  $\Delta F = 3.61$ ,  $p < .05$ . Thus, Resistance Efficacy did not mediate effects of interviewer support on correct responses to misleading questions.

<sup>9</sup>Additional exploratory analyses were conducted to examine the role of other theoretically interesting potential mediators, in keeping with classic self-efficacy research. Specifically, scales measuring children's Memory Efficacy, or perceived ability to remember details from the play session (with items such as "How easy or hard is it for you to remember what you did in the dinosaur room?"), and Liking-of-Interviewer (with items such as "Some kids like Rich and some kids don't like him. How do you feel?") were entered into similar mediation analyses. Scale reliability for the specially constructed Memory Efficacy scale was somewhat low, but adequate ( $\alpha = .62$ ), with mean interitem  $r = .25$ ; scale reliability for the Liking-of-Interviewer scale was acceptable ( $\alpha = .87$ ), with mean interitem  $r = .64$ . Neither of these constructs mediated the effect of interviewer support on children's resistance to misleading questions.

### *Commission Errors*

Similar analyses tested the model for the proportion of commission errors to misleading questions. After anxiety scores were entered in the first block,  $R^2_{\text{adj}} = -.01$ ,  $F(1, 79) = 0.04$ ,  $p = .85$ , interviewer support was a significant predictor of commission errors,  $B = -0.34$ ,  $t(78) = -3.10$ ,  $p < .01$ , model  $F(2, 78) = 4.82$ ,  $p < .01$ ,  $\Delta R^2 = .11$ ,  $\Delta F = 9.60$ ,  $p < .01$ . As reported above, interviewer support was not a significant predictor of RES scores, and support reserves did not moderate that effect. Finally, when we examined the effects of both interviewer support and RES scores on commission errors in the same analysis, after anxiety scores were entered in the first block,  $R^2_{\text{adj}} = -.01$ ,  $F(1, 79) = 0.04$ ,  $p = .85$ , interviewer support,  $B = -0.32$ ,  $t(77) = -2.87$ ,  $p < .01$ , but not RES scores,  $B = -0.15$ ,  $t(77) = -1.33$ ,  $p = .19$ , was a significant predictor of commission errors, model  $F(3, 77) = 3.83$ ,  $p < .01$ ,  $\Delta R^2 = .13$ ,  $\Delta F = 5.72$ ,  $p < .01$ . Thus, although children with lower RES scores made more commission errors to misleading questions than did those with higher RES scores, Resistance Efficacy did not mediate effects of interviewer support on their commission errors.

### **Exploring Age Differences in the Proposed Model**

Analyses on the entire sample failed to support our model. We had several good reasons to believe, however, that the model might hold for the older but not the younger children in our sample. First, older children may be more sophisticated than younger children at (a) quantifying their feelings on the RES, (b) understanding the construct of perceived self-efficacy, and (c) recognizing the effect of an interviewer's behavior on their own feelings. This is supported by developmental research demonstrating linear age trends in children's self-consciousness, ability to explain behavior, and understanding of affect (Corrigan, 1995; Karinol, 1995; Ruble & Dweck, 1995). Second, interviewer support may not increase younger children's perceived Resistance Efficacy, although it does increase their resistance to suggestion. Finally, the mediator of the effect of interviewer support on resistance may be different for older and younger children. That is, there may be some other, unmeasured mediator that explains younger children's resistance.

For these reasons, we tested our model for older and younger children separately. We divided the sample into the older two thirds (79–92 months old) and younger one third (72–78 months old) to remove only the youngest children—those younger than  $6\frac{1}{2}$  years old, who may be most likely to have difficulty using and understanding the RES. (All results presented below were the same when we divided the sample into upper and lower halves and upper and lower quarters of the age distribution.)

#### *Correlations Between RES Scores and Resistance to Misleading Questions for Older and Younger Children*

First, to determine whether the relation between Resistance Efficacy and suggestibility differed for older and younger children, we computed correlations between RES scores and the proportion of correct responses and commission errors

to misleading questions. For the older children, as perceived Resistance Efficacy increased, the proportion of commission errors to misleading questions decreased significantly,  $r = -.33$ ,  $p < .05$ , and there was a nonsignificant trend for the proportion of correct responses to misleading questions to also increase,  $r = .20$ ,  $p = .08$ . But for younger children, there was virtually no relation between RES scores and commission errors,  $r = .02$ ,  $p = .93$ , or correct responses,  $r = .01$ ,  $p = .95$ .

### *Scale Reliabilities for Older and Younger Children*

To examine whether there were age differences in children's ability to use the efficacy scale, we computed scale reliabilities and mean interitem correlations for the RES separately for older and younger children. Scale reliabilities and mean interitem correlations for older ( $\alpha = .85$ , mean interitem  $r = .48$ ) and younger children ( $\alpha = .82$ , mean interitem  $r = .42$ ) were similar, as they were for the anxiety scale (for older children,  $\alpha = .92$ , mean interitem  $r = .53$ ; for younger children,  $\alpha = .87$ , mean interitem  $r = .45$ ). Thus, older and younger children appeared to be equally adept at using the scales. This does not necessarily mean, however, that older and younger children understood the meaning of the efficacy items in the same way (i.e., that the scale had construct validity for both age groups). Rather, it means that older and younger children understood that the scale items were similar and answered them similarly.

### *Intercorrelations Among the RES and Anxiety Scale for Older and Younger Children*

The RES was not significantly correlated with the anxiety scale for older,  $r = -.17$ ,  $p = .24$ , or younger children,  $r = -.19$ ,  $p = .32$ . This indicates that the RES measured a construct discrete from anxiety.

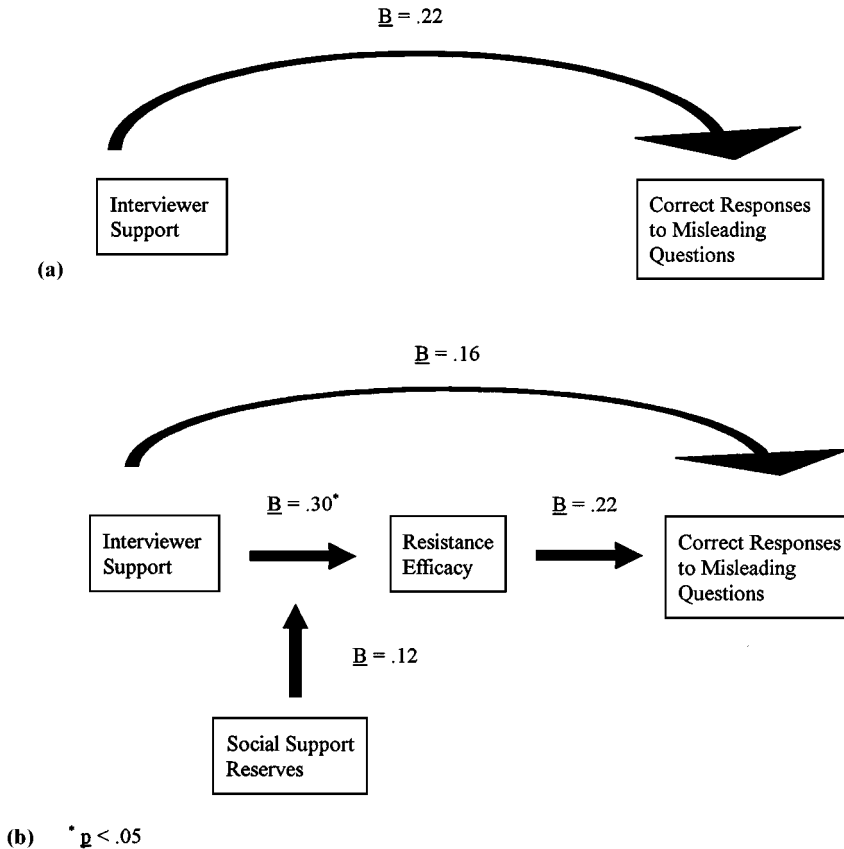
### **Test of the Proposed Model for Older Children**

We tested the mediational model separately for older and younger children for the proportion of correct responses and commission errors in response to misleading questions. As we suspected, our model did not hold for the younger children. For older children, however, our predictions were partially supported.

#### *Correct Responses*

As shown in Fig. 1(a), after anxiety scores were entered in the first block,  $R^2_{\text{adj}} = .00$ ,  $F(1, 50) = 1.09$ ,  $p = .30$ , interviewer support was not a significant predictor of older children's correct responses,  $B = 0.22$ ,  $t(49) = 1.53$ ,  $p = .13$ , model  $F(2, 49) = 1.73$ ,  $p = .19$ ,  $\Delta R^2 = .05$ ,  $\Delta F = 2.35$ ,  $p = .13$ . However, an analysis examining effects of interviewer support and support reserves on RES scores revealed that after anxiety scores were entered in the first block,  $R^2_{\text{adj}} = .01$ , model  $F(1, 50) = 1.44$ ,  $p = .24$ , interviewer support was a significant predictor of older children's RES scores,  $B = 0.30$ ,  $t(48) = 2.09$ ,  $p < .05$ , but support reserves were not,  $B = 0.08$ ,  $t(47) = 0.57$ ,  $p = .57$ , model  $F(3, 48) = 2.06$ ,  $p = .12$ ,  $\Delta R^2 = .09$ ,  $\Delta F = 2.33$ ,  $p = .11$ . As predicted, children in the supportive interview condition rated themselves

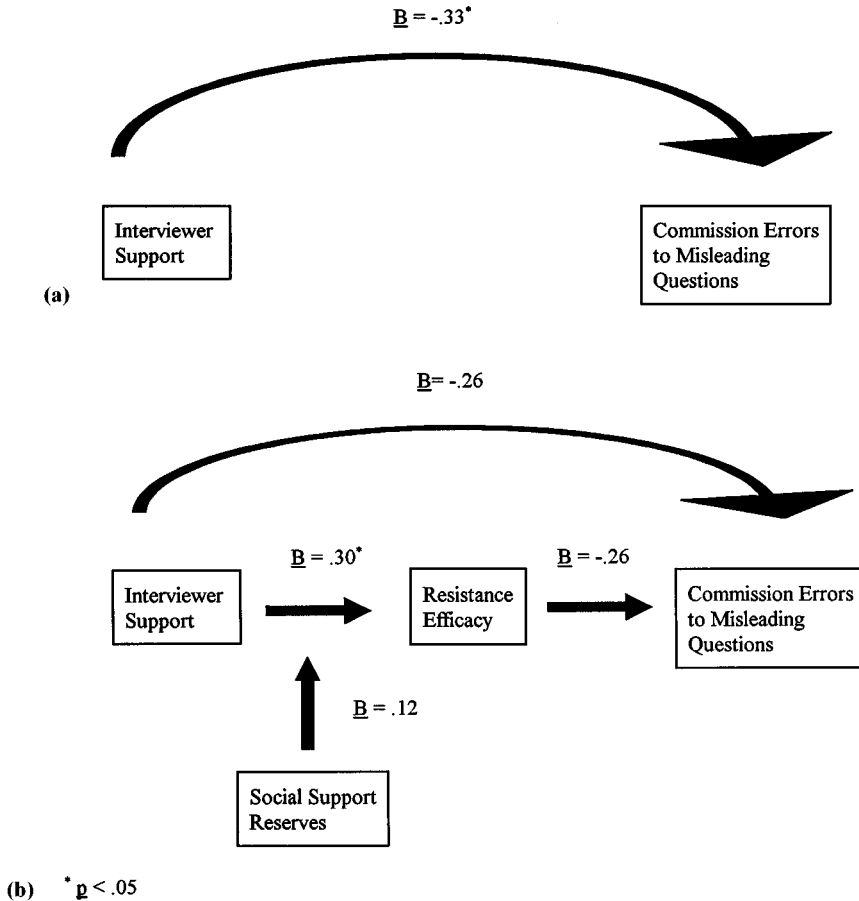




**Fig. 1.** (a) Effect of interviewer support on the proportion of correct responses to misleading questions for older children only ( $N = 52$ ). (b) Test of model on the proportion of correct responses to misleading questions for older children only ( $N = 52$ ).

as higher in Resistance Efficacy ( $M = 3.12$ ) than did those in the nonsupportive condition,  $M = 2.58$ . The interviewer support  $\times$  support reserves interaction term, which was entered in the third block, was not a significant predictor of RES scores,  $B = 0.12$ ,  $t(47) = 0.53$ ,  $p = .60$ , model  $F(4, 47) = 1.59$ ,  $p = .19$ ,  $\Delta R^2 = .01$ ,  $\Delta F = 0.28$ ,  $p = .60$ . Thus, interviewer support increased older children's perceived Resistance Efficacy, but support reserves did not moderate this effect.

Finally, we examined effects of both interviewer support and RES scores on correct responses in the same analysis, after anxiety scores were entered in the first block,  $R^2_{\text{adj}} = .00$ ,  $F(1, 50) = 1.09$ ,  $p = .30$ . As shown in Fig. 1(b), neither RES scores,  $B = 0.22$ ,  $t(48) = 1.61$ ,  $p = .11$ , nor interviewer support,  $B = 0.16$ ,  $t(48) = 1.04$ ,  $p = .30$ , model  $F(3, 48) = 1.99$ ,  $p = .13$ ,  $\Delta R^2 = .09$ ,  $\Delta F = 2.41$ ,  $p = .10$ , approached significance as predictors of correct responses. Thus, Resistance Efficacy did not significantly mediate the effect of interviewer support, but in light of our relatively small sample size, it is worth noting that the  $B$  values were in the predicted



**Fig. 2.** (a) Effect of interviewer support on the proportion of commission errors to misleading questions for older children only ( $N = 52$ ). (b) Test of model on the proportion of commission errors to misleading questions for older children only ( $N = 52$ ).

direction, and, importantly, when interviewer support and RES scores were included in the same analysis, the effect of interviewer support on correct responses dropped (from  $B = 0.22$  to  $B = 0.16$ ).

### *Commission Errors*

Next, we tested the model on the proportion of commission errors older children made to misleading questions. As shown in Fig. 2(a), after anxiety scores were entered in the first block,  $R^2_{adj} = .02$ , model  $F(1, 50) = 0.10$ ,  $p = .76$ , interviewer support was a significant predictor of older children's commission errors,  $B = -0.33$ ,  $t(49) = -2.34$ ,  $p < .05$ , model  $F(2, 49) = 2.79$ ,  $p = .07$ ,  $\Delta R^2 = .10$ ,  $\Delta F = 5.47$ ,  $p = .02$ . As shown in Fig. 2(b), and as reported above, interviewer support was a significant

predictor of children's RES scores; however, support reserves did not moderate the effect of interviewer support on RES scores.

Finally, as illustrated in Fig. 2(b), we examined the effects of both interviewer support and RES scores on commission errors in the same analysis, after anxiety scores were entered in the first block,  $R^2_{\text{adj}} = -.02$ , model  $F(1, 50) = 0.10$ ,  $p = .76$ . RES scores were a marginally significant predictor of misleading commission errors,  $B = -0.26$ ,  $t(48) = -1.83$ ,  $p = .07$ . Children with the highest RES scores made the fewest commission errors. Of most importance, with the inclusion of RES scores in the analysis, the effect of interviewer support on commission errors became nonsignificant,  $B = -0.26$ ,  $t(48) = -1.77$ ,  $p = .08$ , model  $F(3, 48) = 3.07$ ,  $p < .05$ ,  $\Delta R^2 = .16$ ,  $\Delta F = 4.55$ ,  $p < .05$ , indicating that older children's perceived Resistance Efficacy mediated the effect of interviewer support on their resistance to misleading questions.

### **The Relation of Resistance Efficacy to Other Dependent Variables**

We predicted that children's Resistance Efficacy would be related only to their resistance to misleading questions and not to other, less suggestive, types of questions. To test this prediction, we computed correlations between the RES and all interview responses (for the full sample and for older and younger children separately). As predicted, RES scores and the proportion of commission errors older children made to misleading questions were significantly negatively correlated. Unexpectedly, however, older children's Resistance Efficacy was negatively correlated with their commission errors to specific questions,  $r = -.35$ ,  $p < .05$ , and younger children's Resistance Efficacy was negatively correlated to their don't know responses to specific questions,  $r = -.40$ ,  $p < .05$ . Because there was no direct effect of interviewer support on children's responses to specific questions, however, Resistance Efficacy did not mediate effects of interviewer support on children's responses to specific questions. Resistance Efficacy was not significantly related to any other dependent variables.

### **Effects Associated With Anxiety**

To examine the effect of interviewer support on children's anxiety, we conducted a hierarchical multiple regression analysis with interviewer identity entered in the first block as a covariate,  $R^2_{\text{adj}} = .00$ , model  $F(1, 79) = 0.63$ ,  $p = .43$ . Children in the nonsupportive condition,  $M = 1.60$ , rated themselves as more anxious during the interview than did those in the supportive condition,  $M = 1.40$ ,  $B = -0.23$ ,  $t(78) = -2.16$ ,  $p < .05$ , model  $F(2, 78) = 2.67$ ,  $p = .08$ ,  $\Delta R^2 = .06$ ,  $\Delta F = 4.68$ ,  $p < .05$ .

Correlations between anxiety scores and interview responses revealed that anxiety was related to younger children's free recall but not to older children's free recall nor to any other measure of younger or older children's accuracy. Specifically, the more anxious younger children were, the fewer correct ( $r = -.42$ ,  $p < .05$ ) and the more incorrect ( $r = .42$ ,  $p < .05$ ) information they reported. Thus, interviewer support reduced children's anxiety during the interview, and for younger children, anxiety was associated with decreased free recall accuracy.

Finally, because we predicted that Resistance Efficacy would be the only mediator of the effect of interviewer support on resistance to misleading questions, we conducted separate analyses to test the model replacing RES scores with anxiety scores. Anxiety did not mediate the effect of interviewer support on children's resistance to misleading questions.

### Children's Accuracy on Abuse-Related Questions

Because of the forensic relevance of children's performance on the abuse-related questions, children's accuracy in response to abuse-related and non-abuse-related interview questions (collapsing across the specific/misleading designations) was examined with separate series of 2 (interview condition: supportive or nonsupportive)  $\times$  2 (support reserves: high or low) MANOVAs. Four separate MANOVAs were performed on each of the following dependent variables: mean proportion of correct responses, omission errors, commission errors, and don't know responses to abuse-related and nonabuse questions. That is, a 2 (interview condition)  $\times$  2 (support reserves) MANOVA was performed on the mean proportion of correct responses to abuse-related and nonabuse interview questions; a second MANOVA was performed on the mean proportion of omission errors in response to abuse-related and nonabuse interview questions, and so on.

As shown in Table 3, there was a significant multivariate main effect of interviewer support on commission errors, multivariate  $F(2, 76) = 4.82, p < .01, \eta^2 = .11$ . Univariate tests revealed that this effect held only for nonabuse questions. Compared to children in the supportive condition ( $M = 0.06$ ), children in the nonsupportive condition ( $M = 0.11$ ) made significantly more errors of commission to nonabuse

**Table 3.** Mean Proportions of Correct, Incorrect, and Don't Know Responses to Abuse-Related and Nonabuse Questions as a Function of Interviewer Support and Support Reserves

Response type	Interviewer support condition					
	Supportive			Nonsupportive		
	Low reserves	High reserves	<i>M</i>	Low reserves	High reserves	<i>M</i>
Correct responses						
Abuse-related	0.81 (0.05)	0.78 (0.09)	0.79 (0.08)	0.78 (0.08)	0.79 (0.08)	0.78 (0.08)
Nonabuse	0.75 (0.06)	0.75 (0.09)	0.75 (0.08)	0.71 (0.09)	0.72 (0.11)	0.72 (0.10)
Omission errors						
Abuse-related	0.18 (0.05)	0.18 (0.06)	0.18 (0.06)	0.20 (0.05)	0.16 (0.07)	0.18 (0.07)
Nonabuse	0.13 (0.06)	0.11 (0.05)	0.12 (0.05)	0.10 (0.05)	0.11 (0.06)	0.11 (0.05)
Commission errors <sup>a</sup>						
Abuse-related	0.00 (0.00)	0.04 (0.08)	0.02 (0.06)	0.02 (0.05)	0.02 (0.06)	0.02 (0.06)
Nonabuse <sup>b</sup>	0.05 (0.06)	0.07 (0.08)	0.06 (0.07)	0.13 (0.09)	0.09 (0.06)	0.11 (0.08)
Don't know responses						
Abuse-related	0.01 (0.03)	0.01 (0.02)	0.01 (0.02)	0.01 (0.04)	0.02 (0.08)	0.02 (0.06)
Nonabuse	0.06 (0.05)	0.07 (0.08)	0.06 (0.07)	0.05 (0.05)	0.08 (0.08)	0.06 (0.07)

Note. Standard deviations are in parentheses.

<sup>a</sup>Significant multivariate main effect of interviewer support,  $F(2, 76) = 4.82, p < .01$ .

<sup>b</sup>Significant univariate main effect of interviewer support,  $F(1, 77) = 8.59, p < .01$ .

questions,  $F(1, 77) = 8.59$ ,  $p < .01$ . Interviewer support did not affect commission errors to abuse questions, univariate  $F(1, 77) = 0.01$ ,  $p = .93$ .

There were no significant main effects of interviewer support on correct responses, multivariate  $F(2, 76) = 1.66$ ,  $p = .20$ ,  $\eta^2 = .04$ ; univariate  $F_s(1, 77) \leq 3.23$ ,  $ps \geq .08$ , omission errors, multivariate  $F(2, 76) = 0.86$ ,  $p = .43$ ,  $\eta^2 = .02$ ; univariate  $F_s(1, 77) \leq 1.57$ ,  $ps \geq .21$ , or don't know responses, multivariate  $F(2, 76) = 0.70$ ,  $p = .50$ ,  $\eta^2 = .02$ ; univariate  $F_s(1, 77) \leq 1.30$ ,  $ps \geq .26$ . Thus, as Carter et al. (1996) found, interviewer support did not affect children's ability to answer abuse-relevant questions.

There were also no significant main effects of support reserves on correct responses, multivariate  $F(2, 76) = 0.21$ ,  $p = .81$ ,  $\eta^2 = .01$ ; univariate  $F_s(1, 77) \leq 0.37$ ,  $ps \geq .54$ , commission errors, multivariate  $F(2, 76) = 2.94$ ,  $p = .10$ ,  $\eta^2 = .06$ ; univariate  $F_s(1, 77) \leq 2.86$ ,  $ps \geq .10$ , omission errors, multivariate  $F(2, 76) = 0.63$ ,  $p = .54$ ,  $\eta^2 = .02$ ; univariate  $F_s(1, 77) \leq 1.28$ ,  $ps \geq .26$ , or don't know responses, multivariate  $F(2, 76) = 0.62$ ,  $p = .60$ ,  $\eta^2 = .01$ ; univariate  $F_s(1, 77) \leq 1.03$ ,  $ps \geq .31$ . Finally, there were no significant interviewer support  $\times$  support reserves interactions for correct responses, multivariate  $F(2, 76) = 0.93$ ,  $p = .40$ ,  $\eta^2 = .02$ ; univariate  $F_s(1, 77) \leq 1.88$ ,  $ps \geq .18$ , commission errors, multivariate  $F(2, 76) = 1.77$ ,  $p = .18$ ,  $\eta^2 = .05$ ; univariate  $F_s(1, 77) \leq 3.21$ ,  $ps \geq .08$ , omission errors, multivariate  $F(2, 76) = 1.84$ ,  $p = .17$ ,  $\eta^2 = .05$ ; univariate  $F_s(1, 77) \leq 1.37$ ,  $ps \geq .24$ , or don't know responses, multivariate  $F(2, 76) = 0.27$ ,  $p = .76$ ,  $\eta^2 = .07$ ; univariate  $F_s(1, 77) \leq 0.38$ ,  $ps \geq .54$ .

The errors children made in response to abuse questions are worth closer examination. In most cases, children failed to report that the babysitter had touched them on the shoulder, arm, and hand. One child also failed to correctly report that the ladybug puppet bit another puppet on the behind during the play session puppet show. A small number of children made commission errors in response to abuse questions: Seven children agreed that the ladybug puppet bit them on their (the children's) behind, two agreed that the babysitter kissed them, three agreed that the babysitter hugged them, and two agreed that the babysitter took a picture of them with their shirt off. Children were debriefed and told that such events did not occur.

## DISCUSSION

Consistent with prior research (Carter et al., 1996; Goodman et al., 1991) and with developmental theories that stress the importance of environmental support on children's cognitive performance (e.g., Fischer, 1980; Vygotsky, 1934/1978), interviewer support given during a mock forensic interview improved children's resistance to misleading information after no delay. These results dispute concerns that so-called "child-friendly" interviewing tactics will lead children to fabricate details or entire allegations to please socially supportive interviewers. Our results suggest that forensic interviewers can help guard against false reports by acting in a supportive, nonintimidating manner. Of course, avoidance of misleading questions is also advised, but because children's responses to open-ended and specific questions

are often brief, and because forensic interviewers do not know what really happened during target events, it would be impossible for interviewers to avoid all detailed, even pointed questions.

### **Mediators of Interviewer-Provided Social Support**

#### *Resistance Efficacy*

Emotional support from an interviewer led the older children in our study to have higher Resistance Efficacy, and in turn, they made fewer commission errors to misleading questions. Theoretically, these results are important because they support the basic tenets of self-efficacy theory—that perceptions of efficacy are altered by the social context and that efficacy predicts behavior (Bandura, 1997). Thus, for the first time, we measured children's appraisals of their interview-related self-efficacy, and we found that Resistance Efficacy accounted for unique variance in older children's responses to misleading questions when anxiety was statistically controlled.

Even so, for several important reasons, our results must be considered preliminary and in need of replication before we gain a complete understanding of the underlying mechanisms responsible for the positive effects of social support. For example, although statistically significant, our effect sizes were relatively small. In addition, the predicted mediating function of Resistance Efficacy was detected for only the older children in our sample, not the full sample, something we did not expect. Although there are good theoretical reasons for testing our predictions on the two age groups in our sample separately, this procedure also led us to conduct a relatively large number of statistical analyses, and it is possible that our significant results emerged by chance. Interviewer support was unrelated to younger children's Resistance Efficacy, even though younger and older children were aided by interviewer support and even though there were adequate scale reliabilities for both age groups. More research is needed to understand whether we failed to measure younger children's feelings of Resistance Efficacy accurately, or whether there are other psychological mechanisms underlying the effect of interviewer support on younger children's resistance to misleading questions. We believe that our failure to find stronger relations is a measurement issue, given the great difficulty of measuring complex psychological constructs in young children, the compelling way in which research and theory point to the construct of Resistance Efficacy as the mediator, and the fact that we ruled out the most plausible alternative mediators (anxiety, memory efficacy, degree of liking for the interviewer). Finally, caution is warranted given the way in which we measured self-efficacy. Although it was sensible to measure self-efficacy after the children's interview in this preliminary test of the model, future studies should test the mediation in the more standard manner, by measuring Resistance Efficacy both before and after the support intervention. This would rule out the possibility that, when given a measure of Resistance Efficacy after the interview, a child might think back to how he or she actually responded to questions and use that information to estimate Resistance Efficacy.

Two unexpected findings require explanation. Specifically, we predicted that Resistance Efficacy would be related to misleading questions only. Generally, this was true: In the full sample of children, Resistance Efficacy was unrelated to children's free-recall responses and to the proportion of correct responses, omission errors, and don't know responses to specific questions. Resistance Efficacy led to fewer don't know responses for younger children, however. This may be an unreliable finding, given the overall low number of don't know responses and the relatively small subsample. Resistance Efficacy also led to fewer commission errors to specific questions in the full sample, perhaps because specific questions are slightly leading in and of themselves. Specific and misleading questions differ along a continuum of suggestibility, ranging from the least leading (specific) questions to the most coercive (misleading) questions. The specific questions we used may have been more suggestive than intended (i.e., more like misleading questions), accounting for the significant correlation between specific questions and Resistance Efficacy. More research examining the relation between Resistance Efficacy and children's responses to questions along the entire continuum of suggestibility is needed to determine how coercive interview questions have to be for perceived Resistance Efficacy to predict accuracy in response to them.

Our results have interesting applied implications. Results demonstrating the importance of perceived Resistance Efficacy on interview accuracy suggest that some version of the RES or of its general principles might be a useful tool for front-line forensic interviewers. For example, interviewers could administer questions similar to the RES items to assess, and perhaps increase, older children's ability to tell an interviewer when he or she is wrong about something (e.g., "If I said that something happened, but you know it didn't happen, how easy or hard would it be for you to tell me that I'm wrong about that? It's OK for you to tell me if I'm wrong about something."). Developing such a practical intervention is a worthwhile future goal. Our research is a first step toward that goal.

### *Children's Anxiety*

For the first time, we found that interviewer support increased children's well-being by decreasing their anxiety during a mock forensic interview. This important finding gives yet another reason why children should always be interviewed under socially supportive conditions. Even so, in the full sample, anxiety was not in turn associated with children's report accuracy and did not mediate the effect of interviewer support on resistance to suggestion as theorized by previous researchers (Carter et al., 1996; Greenstock & Pipe, 1996, 1997). For younger children, however, anxiety was associated with decreased free recall accuracy, although interviewer support was not. Even though we found no evidence that anxiety mediates effects of support, it would be premature to rule out the possibility that anxiety may be a mediator under some circumstances. In particular, we may not have tested the mediation of anxiety very effectively, because it is doubtful that our child participants were terribly anxious in the first place, given the ethical constraints of our research paradigm.

### **Effects of Individual Differences on Children's Report Accuracy**

We predicted that children who were low in support reserves would be more sensitive to interviewer support than those who were high in support reserves. Our hypotheses were largely unsupported. In fact, the only support for this emerged from analyses of commission errors in response to specific questions, contrasting Sarason and Sarason's findings (Sarason & Sarason, 1986) with adult participants. In line with our predictions, children low in support reserves made more commission errors to specific questions when they had a nonsupportive, as compared to supportive, interviewer. Interviewer support did not affect the accuracy of children who were already high in support reserves. It is unclear why this interaction emerged for specific, but not misleading questions.

It is possible that our parent-report measure of children's support reserves may not have adequately reflected children's perceived support reserves. That is, if children are dissatisfied with the amount and type of social support they receive from their parents and other family members, their parents may not know it. Further, social desirability concerns may have motivated parents to report that their children perceive high amounts of social support in their family. In research currently underway, we are using a child-report measure (Harter, 1985) to further test the effects of children's perceived support reserves on their interview accuracy and Resistance Efficacy. We are also exploring possible interactions between other individual differences and interviewer support. For example, given that abused children—many of the very children who undergo forensic interviews—often suffer from low self-esteem and general withdrawal (e.g., Kaufman & Cicchetti, 1989), we are investigating whether temperamentally shy children or those with low self-esteem benefit more than others from social support.

### **Generalizability to Forensic Interview Situations**

We achieved a great deal of experimental realism in our study. We examined children's reports about real-life, engaging events as opposed to memory for stories, slides, or videotapes as used in other work (e.g., Cassel, Roebbers, & Bjorklund, 1996; Ricci et al., 1996). We also used forensically relevant questioning techniques. Despite these strengths, however, there are several points that should be weighed in considering the generalizability of our data to real-world forensic interviews. First, participants in our study were, for the most part, White, middle-class children. Although Goodman et al. (1991) did not find racial differences in their social support research with Hispanic, White, and African American children, our results should be replicated in studies including children of diverse ethnic and socioeconomic backgrounds. Second, the interview questions we used were less leading than those used in some investigations and no doubt more leading than in others. Third, there may be limits to the positive effects of interviewer support. We demonstrated that support given without regard to children's accuracy improved their reports. Support used as a positive reinforcer for incorrect answers may have detrimental effects on children's accuracy (Garven, Wood, Malpass, & Shaw, 1998).



Fourth, as did Carter et al. (1996), we must characterize our results as tentative without replication "under conditions that are sometimes encountered in actual abuse cases . . . multiple interviews or long delays" (p. 351). The advent of organized, interdisciplinary responses to child abuse allegations (like those coordinated at children's advocacy centers; Sorenson, Bottoms, & Perona, 1997) has reduced the number of interviews children undergo and the delay between alleged incidents and forensic interviews. Even so, some alleged victims are still questioned repeatedly in forensic settings, sometimes after a significant delay (Gray, 1993; Steward & Steward, 1996). In addition, suspected child abuse victims may participate in multiple therapy sessions in which a therapist will ask them about alleged abuse in a warm and supportive manner. Will multiple exposures to socially supportive interviews be beneficial or have detrimental effects? What is the impact of interviewer support after a significant delay?

Goodman et al. (1991) conducted the only known examination of repeated exposure to interviewer support. Children in that study received either one or two interviews (which were either both supportive or both neutral). Support effects were sporadic across the two interviews, and there were no interviewer support  $\times$  number of interview interactions (which would indicate either a positive or negative effect of repeated exposure to support). The effects of interviewer support over the course of more interviews is not known. Although critics and courts (e.g., *State v. Michaels*, 1993) have voiced concern that multiple supportive interviews will increase suggestibility, psychological research and theory we have reviewed suggest that positive effects across multiple interviews would be expected, perhaps even an additive effect as repeated exposure to a supportive interviewer builds a child's Resistance Efficacy.

Regarding the variable of delay, interviewer support would probably have its strongest effect after a significant delay, when children doubt their own memory. In fact, Goodman et al. (1991) found the strongest effects of interviewer support after a 4-week delay as compared to a 2-week delay. Our research was a first step toward understanding the psychological reasons for the effects of interviewer support, which is why we interviewed children after no delay. We are currently investigating the effects of interviewer support over a longer delay.

## CONCLUSION

We (a) replicated prior research demonstrating positive effects of interviewer support on children's resistance to misleading interview questions, (b) found preliminary evidence that for older children, the effect of interviewer support on children's reports may be mediated by feelings of Resistance Efficacy, and (c) demonstrated that lack of emotional support from an interviewer increases children's anxiety during forensic interviews. As such, we have made significant contributions to both psychological theory and to the body of research investigating the practical issue of children's eyewitness accuracy. Researchers should continue to address social support, a variable that is of significant theoretical interest to psychology, but also of

applied importance because it is an easily implemented intervention that may have measurable effects on the accuracy and well-being of child witnesses.

## APPENDIX A: RESISTANCE EFFICACY SCALE

Response format: These figures are shown to child for all practice and RES items:

**REALLY  
EASY!**

sort of  
easy.

sort of  
hard.

**REALLY  
HARD!**

*Practice Item 1:* There are some things we think are easy to do, and some things we think are hard to do. Tell me how easy or hard you think it would be for you to jump all the way up to the ceiling. Will it be:

- \_\_\_ REALLY EASY for you to jump this high?
- \_\_\_ SORT OF EASY for you to jump this high?
- \_\_\_ SORT OF HARD for you to jump this high? or
- \_\_\_ REALLY HARD to for you to jump this high?

*Practice Item 2:* You're doing great. Now tell me how easy or hard you think it would be for you to jump this high—just above your ankle, right here. (Same answer choices as above are given.)

(Correctional feedback is given until child answers both practice items correctly.)

Rich is coming back in a few minutes to ask you more questions. Before he comes back, I want to ask *you* some questions about *him*. I want to know what you think you'll do when he asks you more questions. There are no right or wrong answers, and he won't get into trouble. I just want to know how you feel.

1. When you talk to Rich again, what if he's wrong about something that happened, *and you know he's wrong*?
2. When you talk to Rich again, what if he's all mixed up about what happened?
3. If Rich tries to make you to say that something happened *and you know it didn't happen*.
4. Did the babysitter kiss you when you were in the dinosaur room?<sup>10</sup> [let child answer] What if Rich tells you that the babysitter kissed you when you were in the dinosaur room?
5. Did you break the Barbie doll in the dinosaur room?<sup>10</sup> [let child answer] What if Rich tells you that *you* broke the Barbie doll?
6. Did you eat lunch in the dinosaur room? [let child answer] What if Rich tries to make you say you ate lunch in the dinosaur room?

<sup>10</sup> All children answered these question correctly.

*Note.* All items except #2 are followed by these verbal response options and the boxes pictured above:

- (4) \_\_\_Will it be REALLY EASY for you to tell him he's wrong?
- (3) \_\_\_Will it be SORT OF EASY for you to tell him he's wrong?
- (2) \_\_\_Will it be SORT OF HARD for you to tell him he's wrong? or
- (1) \_\_\_Will it be REALLY HARD for you to tell him he's wrong?

Item 2 response options are similar, except that "... to tell him he's wrong" is replaced with "... to tell him he's all mixed up."

## APPENDIX B: MOCK FORENSIC INTERVIEW

Free recall question:

I need to ask you some questions about what happened when you were in the dinosaur room a few minutes ago. Remember when you were in the dinosaur room just a few minutes ago? I'm the babysitter's boss, and I want to make sure she's doing a good job. I want you to answer all my questions by telling me the truth, ok? I wasn't there so I don't know what happened. You're the only person who knows the answers. Tell me everything that happened when you were in the dinosaur room with the babysitter—everything you can remember. *Prompt:* What else happened when you were in the dinosaur room? I need to know everything that happened.

Detailed questions:

- |  |                  |
|--|------------------|
| 1. Did you sing songs with the babysitter? <sup>11</sup>                           | (no)             |
| 2. What color were the babysitter's shoes? <sup>11</sup>                           | (varied)         |
| 3. There wasn't a vacuum cleaner in the dinosaur room, was there? <sup>12,13</sup> | (yes, there was) |
| 4. Did she touch a Barbie doll? <sup>11</sup>                                      | (yes)            |
| 5. Was there a picture of puppies on the wall? <sup>11</sup>                       | (no)             |
| 6. You didn't touch the treasure basket, did you? <sup>12,13</sup>                 | (yes, I did)     |
| 7. Rosalie kissed you, right? <sup>12,14</sup>                                     | (no)             |
| 8. Did the ladybug puppet bite the bunny puppet on the behind? <sup>11,14</sup>    | (yes)            |
| 9. Rosalie was wearing a green shirt, wasn't she? <sup>12,13</sup>                 | (no, she wasn't) |
| 10. Did you color with crayons? <sup>11</sup>                                      | (no)             |
| 11. You didn't keep your pants on, did you? <sup>12,13,14</sup>                    | (yes, I did)     |
| 12. Did you put the firefly puppet on? <sup>11</sup>                               | (no)             |

<sup>11</sup>Specific question.

<sup>12</sup>Misleading question.

<sup>13</sup>Because children's responses to these misleading questions may have been ambiguous, a follow-up clarification question was asked (e.g., "Do you mean that there was a vacuum cleaner in there, or that there was not one in there?").

<sup>14</sup>Abuse-related question.

- |   |                       |
|---|-----------------------|
| 13. All the other kids told me they saw a purple dinosaur puppet in there. You saw it too, didn't you? <sup>12,13</sup> | (no, I didn't)        |
| 14. While you were in the dinosaur room, a man came in and broke the Barbie doll, right? <sup>12</sup>                  | (no)                  |
| 15. Were there any boxes in the dinosaur room? <sup>11</sup>  | (yes)                 |
| 16. About how long ago was it when you played with Rosalie? <sup>11</sup>   | (a few minutes ago)   |
| 17. How many puppets were there? <sup>11</sup>  | (four)                |
| 18. There weren't any curtains in the dinosaur room, were there? <sup>12,13</sup>                                       | (yes, there were)     |
| 19. Rosalie didn't break a Barbie doll, did she? <sup>12,13</sup>   | (yes, she did)        |
| 20. Did Rosalie tell you to sit still? <sup>11</sup>  | (yes)                 |
| 21. There was a pencil sharpener in the dinosaur room, right? <sup>12</sup>   | (no)                  |
| 22. Can you tell me one puppet that you put on? <sup>11</sup>   | (bunny or fox)        |
| 23. The ladybug bit <i>you</i> on <i>your</i> behind, didn't she? <sup>12,13,14</sup>                                   | (no, she didn't)      |
| 24. Weren't there three balloons in there? <sup>12</sup>  | (no)                  |
| 25. What color was Rosalie's hair? <sup>11</sup>  | (brown/black)         |
| 26. Did she take a picture of you with your shirt off? <sup>11,14</sup>   | (no)                  |
| 27. There wasn't a plant in the dinosaur room, was there? <sup>12,13</sup>  | (yes, there was)      |
| 28. Did Rosalie hug you? <sup>11,14</sup>   | (no)                  |
| 29. What color was the robe you put on? <sup>12</sup>   | (I didn't put one on) |
| 30. She didn't touch you on your shoulder, did she? <sup>12,13,14</sup>   | (yes, she did)        |
| 31. She didn't touch you anywhere other than your shoulder, did she? <sup>12,13,14</sup>                                | (yes, she did)        |
| 32. Rosalie asked you to draw a picture, right? <sup>12</sup>   | (no)                  |
| 33. Did Rosalie keep her clothes on? <sup>11,14</sup>   | (yes)                 |
| 34. Did Rosalie touch a picture of a panda bear? <sup>11</sup>  | (yes)                 |

*Note.* Rosalie refers to the name of the babysitter. Correct responses are noted parenthetically.

### ACKNOWLEDGMENTS

This paper is based on the first author's doctoral dissertation, which was awarded the Outstanding Dissertation Award by the American Professional Society on the Abuse of Children and The University of Illinois at Chicago Graduate College Dissertation Award. Financial support for this research was provided by grants from the American Psychological Foundation/Council of Graduate Departments of Psychology, the American Psychology–Law Society, Sigma Xi, and the Society for

the Psychological Study of Social Issues. Toys for families were provided by Chuck E. Cheese's, Chicago International Children's Film Festival, Cineplex Odeon, Little Caesars, McDonalds, Organic Touchstone Company, and Taco Bell. We extend special thanks to families who participated in the study; to Patrick K. Ackles for assistance with participant recruitment; to Rosalie B. Guerrero, Andrea L. Krebel, Richard T. Reyes, Jason P. Rohacs, Elaine A. Shreder, and Alon Stein for research assistance; and to Jennifer A. Cooper, Kelley K. Fredericks, Jennifer L. Meyer, and Valorie D. Spivey for assistance with manuscript preparation.

## REFERENCES

- Andersen, P. A. (1985). Nonverbal immediacy in interpersonal communication. In A. W. Siegman & S. Feldstein (Eds.), *Multichannel integrations of nonverbal behavior* (pp. 1–36). Hillsdale, NJ: Erlbaum.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84, 191–215.
- Bandura, A. (1982). Self-efficacy mechanism in human agency. *American Psychologist*, 37, 122–147.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freeman.
- Baron, R. M., & Kenney, D. A. (1986). The mediator–moderator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51, 1173–1182.
- Bull, R. (1998). Obtaining information from child witnesses. In A. Memon, A. Vrij, & R. Bull (Eds.), *Psychology and law: Truthfulness, accuracy, and credibility* (pp. 188–209). London: McGraw-Hill.
- Burleson, B. R., Albrecht, T. L., Goldsmith, D. J., & Sarason, I. G. (1994). Introduction: The communication of social support. In B. R. Burleson, T. L. Albrecht, & I. G. Sarason (Eds.), *Communication of social support: Messages, interactions, relationships, and community* (pp. xi–xxx). Thousand Oaks, CA: Sage.
- Carter, C. A., Bottoms, B. L., & Levine, M. (1996). Linguistic and socioemotional influences on the accuracy of children's reports. *Law and Human Behavior*, 20, 335–358.
- Cassel, W., Roebbers, C., & Bjorklund, D. (1996). Developmental patterns of eyewitness responses to repeated and increasingly suggestive questions. *Journal of Experimental Child Psychology*, 61, 116–133.
- Castaneda, A., McCandless, B. R., & Palermo, D. S. (1956). The children's form of the Manifest Anxiety Scale. *Child Development*, 27, 317–326.
- Cauce, A., Reid, M., Landesman, S., & Gonzales, N. (1990). Social support in young children: Measurement, structure, and behavioral impact. In B. R. Sarason, I. G. Sarason, & G. R. Pierce (Eds.), *Social support: An interactional view* (pp. 64–94). New York: Wiley.
- Ceci, S. J., & Bruck, M. (1993). Suggestibility of the child witness: A historical review and synthesis. *Psychological Bulletin*, 113, 403–439.
- Cohen, S., & Wills, T. (1985). Stress, social support, and the buffering hypothesis. *Psychological Bulletin*, 98, 310–357.
- Corrigan, R. (1995). How infants and young children understand the causes of events. In N. Eisenberg (Ed.), *Social development* (pp. 1–26). Thousand Oaks, CA: Sage.
- Cowen, E. L., Work, W. C., Hightower, A. D., Wyman, P. A., & Lotyczewski, M. (1991). Toward the development of a measure of perceived self-efficacy in children. *Journal of Clinical Child Psychology*, 20, 169–178.
- Davis, S. L. (1998). Social and scientific influences on the study of children's suggestibility: A historical perspective. *Child Maltreatment*, 3, 186–194.
- DePaulo, B. M., & Coleman, L. M. (1986). Talking to children, foreigners, and retarded adults. *Journal of Personality and Social Psychology*, 51, 945–959.
- Dunn, L. M., & Dunn, L. M. (1981). *Peabody Picture Vocabulary Test – Revised. Manual for Forms L and M*. Circle Pines, MN: American Guidance Service.
- Fischer, K. W. (1980). A theory of cognitive development: The control and construction of hierarchies of skills. *Psychological Review*, 87, 477–531.
- Furman, W., & Buhrmester, D. (1985). Children's perceptions of the personal relationships in their social networks. *Developmental Psychology*, 21, 1016–1024.

- Garven, S., Wood, J. M., Malpass, R. S., & Shaw, J. S. (1998). More than suggestion: The effect of interviewing techniques from the McMartin Preschool case. *Journal of Applied Psychology, 83*, 347–359.
- Goodman, G. S., & Bottoms, B. L. (1993). *Child victims, child witnesses: Understanding and improving testimony*. New York: Wiley.
- Goodman, G. S., Bottoms, B. L., Rudy, L., Davis, S. L., & Schwartz-Kenney, B. M. (2001). Effects of past abuse experiences on children's eyewitness memory. *Law and Human Behavior, 25*, 269–298.
- Goodman, G. S., Bottoms, B. L., Rudy, L., & Schwartz-Kenney, B. M. (1991). Children's testimony about a stressful event: Improving children's reports. *Journal of Narrative and Life History, 1*, 69–99.
- Goodman, G. S., Emery, R. E., & Haugaard, J. J. (1998). Developmental psychology and law: Divorce, child maltreatment, foster care, and adoption. In I. Siegel & A. Renninger (Eds.), *Child Psychology in Practice* (pp. 775–876), in W. Damon (Series Ed.), *Handbook of Child Psychology* (Vol. 4), New York: Wiley.
- Goodman, G. S., Sharma, A., Thomas, S. F., & Constadine, M. G. (1995). Mother knows best: Effects of relationship status and interviewer bias on children's memory. *Journal of Experimental Child Psychology, 60*, 195–228.
- Gray, E. (1993). *Unequal justice: The prosecution of child sexual abuse*. New York: Free Press.
- Greenstock, J., & Pipe, M. E. (1996). Interviewing children about past events: The influence of peer support and misleading questions. *Child Abuse and Neglect, 20*, 69–80.
- Greenstock, J., & Pipe, M. E. (1997). Are two heads better than one? Peer support and children's eyewitness reports. *Applied Cognitive Psychology, 11*, 461–483.
- Gudjonsson, G. (1992). *The psychology of interrogations, confessions, and testimony*. Chichester, England: Wiley.
- Harter, S. (1985). *The social support scale for children*. Unpublished manuscript, University of Denver.
- Harris, M. J., & Rosenthal, R. (1985). Mediation of interpersonal expectancy effects: Thirty-one meta-analyses. *Psychological Bulletin, 97*, 363–386.
- Hollingshead, A. B. (1975). *Four factor index of social status*. Unpublished manuscript.
- Imhoff, M. C., & Baker-Ward, L. (1999). Preschoolers' suggestibility: Effects of developmentally appropriate language and interviewer supportiveness. *Journal of Applied Developmental Psychology, 20*, 407–429.
- Karimol, R. (1995). Developmental and individual differences in predicting others' thoughts and feelings: Applying the transformational rule model. In N. Eisenberg (Ed.), *Social development* (pp. 27–48). Thousand Oaks, CA: Sage.
- Kaufman, J., & Cicchetti, D. (1989). Effects of maltreatment on school-age children's socioemotional development: Assessments in a day-camp setting. *Developmental Psychology, 25*, 516–524.
- Kelley, D. H., & Gorham, H. (1988). Effects of immediacy on recall of information. *Communication Education, 37*, 198–207.
- Kendon, A. (1977). Spatial organization in social encounters: The F-formation system. In A. Kendon (Ed.), *Studies in the behavior of social interaction*. Lisse, Holland: Peter deRidder Press.
- Labov, W., & Fanshel, D. (1977). *Therapeutic discourse: Psychotherapy as conversation*. New York: Academic Press.
- Mehrabian, D. (1969). Some referents and measures of nonverbal behavior. *Behavioral Research Methods and Instruments, 1*, 213–217.
- Mehrabian, D. (1972). *Nonverbal communication*. Chicago: Aldine-Atherton.
- Moston, S. (1992). Social support and children's eyewitness testimony. In H. Dent & R. Flin (Eds.), *Children as witnesses* (pp. 33–46). Chichester, England: Wiley.
- Moston, S., & Engelberg, T. (1992). The effects of social support on children's eyewitness testimony. *Applied Cognitive Psychology, 6*, 61–75.
- Myers, J. E. B. (1992). *Evidence in child abuse and neglect cases*. New York: Wiley.
- Myers, J. E. B. (1996). A decade of international reform to accommodate child witnesses: Steps toward a child witness code. In B. L. Bottoms & G. S. Goodman (Eds.), *International perspectives on child abuse and children's testimony: Psychological research and law* (pp. 221–265). Thousand Oaks, CA: Sage.
- Patterson, M. L., & Edinger, J. A. (1987). A functional analysis of space in social interaction. In A. W. Siegman & S. Feldstein (Eds.), *Nonverbal behavior and communication* (2nd ed., pp. 523–562). Hillsdale, NJ: Erlbaum.
- Ricci, C. M., Beal, C. R., & Dekle, D. J. (1996). The effect of parent versus unfamiliar interviewers on children's eyewitness memory and identification accuracy. *Law and Human Behavior, 20*, 483–500.
- Rosenthal, R., & Jacobson, L. (1968). *Pygmalion in the classroom: Teacher expectation and student intellectual development*. New York: Holt, Rinehart, & Winston.

- Ruble, D. N., & Dweck, C. S. (1995). Self-conceptions, person conceptions, and their development. In N. Eisenberg (Ed.), *Social development* (pp. 109–139). Thousand Oaks, CA: Sage.
- Rudy, L., & Goodman, G. S. (1991). Effects of participation on children's reports: Implications for children's testimony. *Developmental Psychology*, 27, 527–538.
- Sarason, I. G., & Sarason, B. R. (1986). Experimentally provided social support. *Journal of Personality and Social Psychology*, 50, 1222–1225.
- Sarason, B. R., Sarason, I. G., & Pierce, G. R. (Eds.). (1990). *Social support: An interactional view*. New York: Wiley.
- Saywitz, K. J., Goodman, G. S., Nicholas, E., & Moan, S. (1991). Children's memories of physical examination involving genital touch: Implications for reports of child sexual abuse. *Journal of Consulting and Clinical Psychology*, 59, 1–10.
- Schunk, D. H. (1981). Modeling and attributional effects on children's achievement: A self-efficacy analysis. *Journal of Educational Psychology*, 73, 93–105.
- Schunk, D. H. (1986). Vicarious influences on self-efficacy for cognitive skill learning. *Journal of Social and Clinical Psychology*, 4, 316–327.
- Schunk, D. H. (1989). Self-efficacy and achievement behaviors. *Educational Psychology Review*, 1, 173–208.
- Schunk, D. H. (1991). Self-efficacy and academic motivation. *Educational Psychologist*, 26, 207–231.
- Shaaf, J. M., Alexander, K. W., Goodman, G. S., Ghetti, S., Edelstein, R. S., & Castelli, P. (in press). Children's eyewitness memory: True disclosures and false reports. In B. L. Bottoms, M. B. Kovera, & B. D. McAuliff (Eds.), *Children and the law: Social science and policy*. New York: Cambridge.
- Skinner, E. A. (1996). A guide to constructs of control. *Journal of Personality and Social Psychology*, 71, 549–570.
- Sorenson, E., Bottoms, B. L., & Perona, A. (1997). *Intake and forensic interviewing in the children's advocacy center setting: A handbook*. Washington, DC: National Network of Children's Advocacy Centers.
- Spielberger, C. D. (1979). *State-trait anxiety inventory for children*. Palo Alto, CA: Consulting Psychologists Press.
- State v. Michaels, 264 N. J. Super 579, 625 A. D. 2d 489 (N. J. Super ad, 1993).
- Steward, M. S., & Steward, D. S. (1996). Interviewing young children about body touch and handling. *Monographs of the Society for Research in Child Development*, 61(4–5, Serial No. 248).
- Tannen, D. (1990). *You just don't understand: Women and men in conversation*. New York: William Morrow.
- Tobey, A. E., & Goodman, G. S. (1992). Children's eyewitness memory: Effects of participation and forensic context. *Child Abuse and Neglect*, 16, 779–796.
- Vygotsky, L. (1934/1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.
- Warren, A. R., & McGough, L. S. (1996). Research on children's suggestibility: Implications for the investigative interview. In B. L. Bottoms & G. S. Goodman (Eds.), *International perspectives on child abuse and children's testimony: Psychological research and law* (pp. 12–44). Thousand Oaks, CA: Sage.
- Wheeler, V. A., & Ladd, G. W. (1982). Assessment of children's self-efficacy for social interactions with peers. *Developmental Psychology*, 18, 795–805.
- Wolchik, S. A., Sandler, I. N., & Braver, S. L. (1990). Social support: Its assessment and relation to children's adjustment. In N. Eisenberg (Ed.), *Contemporary topics in developmental psychology* (pp. 319–349). New York: Wiley.
- Wood, J. M., McClure, K. A., & Birch, R. A. (1996). Suggestions for improving interviews in child protection agencies. *Child Maltreatment*, 1, 233–230.
- Zelkowitz, P. (1989). Parents and children as informants concerning children's social networks. In D. Belle (Ed.), *Children's social networks and social supports* (pp. 221–237). New York: Wiley.