

University of Southern California Law

From the SelectedWorks of Thomas D. Lyon

September 2013

30. Ahern, E.C., & Lyon, T.D. (in press). Facilitating maltreated children's use of emotional language. *Journal of Forensic Social Work*

Contact
Author

Start Your Own
SelectedWorks

Notify Me
of New Work



Available at: <http://works.bepress.com/thomaslyon/86>

Facilitating Maltreated Children's Use of Emotional Language

Elizabeth C. Ahern

University of Cambridge

Thomas D. Lyon

University of Southern California

In press, *Journal of Forensic Social Work*

Preparation of this article was supported in part by National Institute of Child Health and Human Development Grant HD047290. Correspondence concerning this article should be addressed to Elizabeth C. Ahern, University of Cambridge, Department of Psychology, Free School Lane, Cambridge, CB2 3RQ, United Kingdom. E-mail: eca35@cam.ac.uk

Abstract

This study examined the effects of rapport (emotional, NICHD) and prompt type (what-next, cued-action, cued-emotion, what-think) on 142 4-9-year-old maltreated children's spontaneous and prompted emotional language. Children in the emotional-rapport condition narrated the last time they felt good and the last time they felt bad on the playground. Children in the NICHD-rapport condition narrated their last birthday party and what happened yesterday. Following rapport, all children were presented a series of story stems about positive and negative situations. Emotional-rapport minimally affected children's use of emotional language. Cued-emotion prompts were most productive in eliciting emotional language. Overall, there were few effects due to age. Children often produced less emotional language when describing negative events, particularly with respect to their spontaneous utterances, suggesting reluctance. These differences largely disappeared when children were asked additional questions, particularly cued-emotion questions. The results offer support for cued-emotion prompts as a means of increasing maltreated children's use of emotional language.

Keywords: child sexual abuse, children's eyewitness testimony, interviewing children

Facilitating Maltreated Children's Use of Emotional Language

When describing abuse in forensic contexts, many children do not mention the emotional impact of abuse (Westcott & Kynan, 2004; Lyon, Scurich, Choi, & Handmaker, 2012; Lamb, et al., 1997) and most do not appear visually upset (Sayfan, Mitchell, Goodman, Eisen, & Qin, 2008; Gray, 1993). The lack of emotional information children provide fails to reflect the emotional impact of abuse (Putnam, 2003) and may compromise the perceived credibility of children's allegations (e.g., Myers et al., 1999).

The purpose of the present study was to examine means to increase maltreated children's use of emotional language. We focused on two major questions: Can the rapport phase of the forensic interview be manipulated to facilitate children's emotional language? Can prompts referencing emotional content increase children's emotional language? To address these questions, we examined two interviewing interventions: emotional rapport, in which children were asked to narrate positive and negative events, and cued-emotion prompts, in which children were asked to elaborate on emotions.

Only a few studies have examined the emotional content children mention when describing past events, showing that children's emotional reporting is infrequent and brief (Sales, Fivush, & Peterson, 2003; Walton, Harris, & Davidson, 2009). On average, children mention zero to four emotion words per narrative (Butler, Gross, & Hayne, 1995; Fivush, Sales, & Bohanek, 2008). Most studies report no age differences despite wide age ranges, indicating that older children report as few emotion words as preschoolers (Ackil, Van Abbema, & Bauer, 2003; Fivush, Hazzard, Sales, Sarfati, & Brown, 2003). Studies on maltreated populations show that many children fail to

describe their subjective reactions to abuse in investigative interviews (Lamb et al., 1997 [51%]; Westcott & Kynan, 2004 [80%]).

Why Don't Maltreated Children Spontaneously Use Emotional Language?

Researchers have claimed that children's capabilities to express their emotions are deficient (Aldridge & Wood, 1998) and interviewers are sometimes cautioned not to ask maltreated children about emotional reactions to abuse because such questions may make children appear incompetent (Aldridge, 1997). However, laboratory and observational studies attest to children's early abilities to understand and verbalize emotions (e.g., Lagattuta & Wellman, 2001; Schleien, Ross, & Ross, 2010; Peng, Johnson, Pollock, & Harris, 1992). Research suggesting deficiencies in maltreated children's emotional understanding (Camras et al., 1990) can be challenged; maltreated children equal their non-maltreated peers when simplified versions of laboratory tasks are used (Smith & Walden, 2001; Sullivan et al., 1995). Evidence from the field shows that maltreated children can use a sophisticated range of emotional reactions when describing their feelings surrounding abuse (e.g., Berliner & Conte, 1990; Lyon, Scurich, Choi, Handmaker, & Blank, 2012; Sas & Cunningham, 1995).

Children's failure to report negative emotions may be due to reluctance rather than inability, especially when they are reporting traumatic events. Children who experience high degrees of anxiety surrounding the target event use less emotional language in their verbal reports than children who experience less anxiety (e.g., Peterson & Biggs, 1998; Wolitzky, Fivush, Zimand, Hodges, & Rothbaum, 2005; Greenhoot, Johnson, & McCloskey, 2005).

Maltreatment exposure may also contribute to children's reluctance to report emotional information (Sayfan et al., 2008). Maltreated children learn that negative expressions of emotions can cause harm to themselves or others (Briere, 1992; Cole, Zahn-Waxler, & Smith, 1994), they often use coping strategies that reduce emotional awareness, and they do not endorse open negative affective displays (Briere, 1992; Harter, 1998; Shipman & Zeman, 2001).

Rapport Phase in Interviews and Emotional Language

The rapport phase of child interviews includes questions children initially receive to establish comfort with the interviewer before being asked about the target event (Walker & Warren, 1995). Most child autobiographical studies do not include practice narratives during the rapport phase (e.g., Fivush et al., 2003; Baker-Ward, Eaton, & Banks, 2005) which may have decreased children's ability to report emotional information. In contrast, field studies using the NICHD structured interview illustrate that children can be trained to provide lengthy narratives about abuse when they participate in episodic memory training during the rapport phase (Hershkowitz, 2009; Sternberg et al., 1997). During the NICHD rapport phase, the interviewer first explores the child's likes and dislikes, and then utilizes episodic memory training to familiarize children with open-ended prompts and demonstrate the level of detail expected of them (Orbach et al., 2000).

No research has examined children's emotional productivity when questioned using the NICHD structured interview, or the potential for modifying the interview as a means to increase emotional productivity. The NICHD rapport phase asks children to

recall past events without cuing children to the emotional significance of the events. The NICHD events include children's birthdays and what happened yesterday. In the present study, we assessed emotional rapport, which asked children to recall explicitly emotional events. Emotional events included the last time children "felt good" and the last time children "felt bad." Other research has used these types of cues to elicit narratives about positive and negative events from children (Marin, Bohanek, & Fivush, 2008). Because NICHD rapport events do not explicitly cue children to the emotionality of events, we anticipated that emotional rapport would increase emotional language.

Prompt Type

Another factor that may influence children's emotional productivity is the type of prompt used to elicit additional information. The extent to which children did not provide emotional information in child autobiographical studies may be due to non-proficient use of open-ended prompts by interviewers. The child autobiographical studies do not report the number or type of prompts used to maximize free recall (Fivush et al., 2003; Baker-Ward et al., 2005). In field studies with maltreated children, open-ended prompts elicited longer responses (Lamb, Hershkowitz, Orbach, & Esplin, 2008; Lamb, Orbach, Hershkowitz, Esplin, & Horowitz, 2007). Thus, the extent to which children received closed-ended rather than open-ended prompts may have reduced children's general productivity.

In the NICHD structured interview, children's initial responses are followed up with cued-invitations (e.g., "You said you [walked]. Tell me more about that.") (Orbach et al., 2000). In contrast, prompts used in many of the autobiographical studies may have

been excessively vague, such as “tell me more about *that*” (Hamond & Fivush, 1991), when the term “that” may have been unclear (Walker, 1993), or “tell me more” (Fivush et al., 2003), when the topic of what to “tell more” about was unspecified (HersHKowitz, 2001).

Because children tend to focus on outcomes and actions (Bruchkowsky, 1992; Goldberg-Reitman, 1992; Griffin, 1995), they may need to be cued to provide emotional content. In court testimony and in forensic interviews about abuse, prompts specifically referencing emotion were more likely to elicit emotional content, and the most productive prompts were more open-ended (Lyon et al., 2012). Moreover, the Revised-NICHD Protocol includes prompts encouraging children to expand on their references to emotion (Lamb et al., under review). We anticipated that questions that asked children to elaborate on emotional information would be particularly productive in eliciting additional emotional language.

However, it is possible that asking children about their emotions may have negative effects. Inquiry into negative emotions during rapport may increase reluctance by highlighting children's discomfort and thus compromise children's verbal productivity and comfort with the interviewer (Murray, Lamnin, & Carver, 1989). This may be especially relevant at the end of rapport building when children's trust and cooperation with the interviewer should peak before transitioning into the allegation (HersHKowitz, Orbach, Lamb, Sternberg, & Horowitz, 2006).

Current Study

The research goal was to examine two interviewing methods to increase maltreated children's use of emotional language: emotional rapport and prompts. 142 4- to 9-year-old maltreated children participated in either the NICHD-rapport condition or the emotional-rapport condition and were asked a series of open-ended prompts. The age groups consisted of preschoolers (4- to 5-year-olds), early elementary school (6- to 7-year olds), and young preadolescents (8- to 9- year olds). This age range was selected because four years of age is the youngest age at which open-ended invitations elicit more information from children in forensic interviews (e.g., Lamb et al., 2003) and because studies suggest substantial changes in children's understanding of emotion during the early school years (Harris, 1983; Peng et al., 1992). All children participated in interview instructions (e.g., permission to say "I don't know") and an icebreaker phase (e.g., "tell me about things you like to do", "tell me about things you do not like to do") adapted from the NICHD Protocol. Children in the NICHD-rapport condition were asked to describe what happened on their last birthday and what happened yesterday. Children in the emotional-rapport condition were asked to describe what happened the last time they "felt good" on the playground followed by the last time they "felt bad" on the playground. Emotional-rapport focused on playground experiences to prevent children from potentially making disclosures of maltreatment. In both rapport conditions, children's emotional utterances were followed up with cued-emotion ("You said [emotion]. Tell me more about that") and what-think prompts ("What did you think when [emotion]?").

Following rapport, children completed story stems about events eliciting positive or negative outcomes for protagonists. Similar to the rapport phase, all children were asked what-next, cued-action and cued-emotion prompts to the stories. The negative stories were adapted from the MacArthur Story-Stem Battery (MSSB; Bretherton, Oppenheim, Buchsbaum, Emde, & the MacArthur Narrative Group, 1990) which have been used to assess maltreated children's narratives containing conflictual and moral themes (Toth et al., 2000; Macfie et al., 1999; Toth et al., 1997). The positive stories were developed by the authors and included the same number of characters, objects, verbs, nouns and adjectives as the negative stories. Although traditional use of story stems involve props, none were used in the present study because prop use in abuse investigation is controversial (Brown, Pipe, Lewis, Lamb, & Orbach, 2007).

The Linguistic Inquiry Word Count software program (LIWC) was used to calculate emotional utterances in children's narratives. LIWC has been used widely in research (Tausczik & Pennebaker, 2010), including studies on children (Fivush et al., 2007). Because the LIWC affect dictionary contains terms that may not refer to subjective states of the speaker (Bantum & Owen, 2009), we modified the dictionary to exclude words that can describe objects rather than subjective states (e.g., cool, good), except when those words were clearly used to describe feelings (e.g. "I felt good").

We predicted that children in the emotional-rapport condition would report higher percentages and numbers of emotional words in response to the rapport phase and the story stem phase than children in the NICHD-rapport condition. We expected that children would report lower percentages and numbers of emotion words to negative than

positive events. Lastly, we expected that children's responses to cued-emotion prompts would elicit higher percentages and numbers of emotion words than other prompt types.

Method

Participants

142 4- to 9-year-olds (50% males) were interviewed. All children had been removed from parental or guardian custody due to substantiated maltreatment (e.g., physical abuse, sexual abuse, neglect). The sample was ethnically diverse and representative of children in dependency court in Los Angeles (57% Latino, 25% African American, 9% Caucasian, 7% biracial, 2% Asian) (Quas, Wallin, Horwitz, Davis, & Lyon, 2009).

Materials and Procedures

All study materials and procedures were approved by the Presiding Judge of the Los Angeles County Dependency Court, the agencies who work with maltreated children, and the Institutional Review Board. Children who met eligibility requirements were identified at the courthouse. Children awaiting adjudication or contested disposition hearings (because they might be asked to testify), children incapable of communicating to the experimenter in English, and children whose attorneys objected to their participation were ineligible.

Instructions, ice-breaker phase, and rapport. All children received interview instructions and an icebreaker phase modeled after the NICHD Protocol (Lamb et al., 2008). The experimenter taught the appropriateness of saying "I don't know," expressing incomprehension, correcting the interviewer, and stated that she didn't know what had

happened and elicited a promise to tell the truth. The experimenter then asked children about things they “like to do” followed by things they “do not like to do.” For each topic, the interviewer asked a cued-action prompt (“Tell me more about [action]”) (Lamb et al., 2003).

Children were randomly assigned to one of two rapport conditions. Children in the emotional-rapport condition ($n = 71$) were asked about the last time they felt good on the playground followed by the last time they felt bad on the playground. Children in the NICHD-rapport condition ($n = 71$) were asked about their last birthday party followed by what happened yesterday. The initial invitation children received for each rapport topic was “Tell me everything that happened from the very beginning to the very end.” Children were asked about each event for 90 seconds.

Emotional language was defined as any utterance related to emotions, including explicit emotion labels, words identifying emotional facial displays (e.g., cry, laugh, smile) and words reflecting desires and preferences (e.g., like, love, hate, want) (Salmon, Roncolato, & Gleitzman, 2003). Explicit emotion labels included references to people (I was happy), things (It was a happy movie) or events (It was sad when he left) and phrases that included the word “feel.”

Children in both rapport conditions received the same types of follow-up prompts. What-next (“What happened next?”) and cued-action (“Tell me more about [action]”) prompts were alternated. For every reference to emotion or preference utterance, experimenters followed up with a cued-emotion prompt (“Tell me more about [emotion]”) and a what-think prompt (“What did you think when [emotion]”) in the

subsequent conversational turn. After children responded to cued-emotion and what-think prompts, the experimenter resumed asking cued-action and what-next prompts.

A series of structured back-up prompts was used to respond to children's non-responsiveness (e.g., "I don't know") due to the potential difficulty children may have nominating emotional events (Fivush et al., 2003). During the "like to do" and "don't like to do" topics, back-up prompts included: (a) repetition of the initial question, (b) narrowing the topic ("Tell me about things you like to do *outside*."), and (c) indicating the experimenter's desire to know more about the child ("It's really important to me to know about you [name]. Tell me about what you like to do."). During the rapport phase, the experimenter used a similar series of structured back-ups when children were initially unresponsive: (a) focusing on actions (e.g., "[Name] what did you *do* the last time you felt really good on the playground?"), (b) narrowing the topic (e.g., "[Name] tell me about the last time you felt really good on the playground *with other kids*."), and (c) indicating to children the experimenter's desire to know about them (e.g., "It's really important to me to know about you [name]."). Back-up prompts are not discussed further because children virtually always responded to the initial prompts (91%).

Story administration. Subsequent to the rapport phase, children were presented four stories. The stories included two events designed to elicit positive reactions from the protagonist (getting a present, winning a race) and two events designed to elicit negative reactions (scraping a knee, spilling juice). The stories were brief and contained no emotional language. All characters were racially ambiguous and displayed no facial expressions. Positive and negative stories were presented in an alternating order which

was counterbalanced between subjects. Protagonist gender was balanced across story valence. The Appendix shows pictures and text used for the stories.

All children received what-next, cued-action and cued-emotion-protagonist and what-think-protagonist prompts for every story. Following the presentation of each story, children were asked an initial what-next prompt. After the initial what-next prompt children were asked one follow-up what-next prompt, two cued-action prompts, up to three cued-emotion prompts and one what-think prompt. Children who did not mention protagonist emotion to what-next and cued-action prompts were asked how-feel prompts (“How did [protagonist] feel when [climax of story]?”). All children were asked cued-emotion and what-think prompts about the protagonist. Children received up to two additional cued-emotion prompts when they mentioned explicit emotion labels or preferential language to the what-next and cued-action prompts. If there were multiple emotional utterances, interviewers followed up on explicit emotion label utterances first and desire/like utterances second.

Experimenter training. Interviewers were trained to followup on explicit emotion labels, “feel x” phrases, and preferential language (“like”, “hate”, “love”, “want”). Interviewers were provided scripts that included language for prompts and examples of emotion words that would require cued-emotion prompts to be administered. During pilot testing and initial study administration the author met with interviewers weekly to review videotapes and ensure adherence to the script.

Transcribing. Children’s interactions with the interviewer were videotaped and transcribed. Each transcript was verified by a second transcriber to ensure accuracy.

Non-informative utterances (stutters, filler words such as “yeah”, “uh”) were removed from transcripts prior to coding.

Coding. Inter-rater reliability was established for the development of the modified LIWC affect dictionary. 20% of the original dictionary words were independently coded by two undergraduate coders as either subjective or not subjective, and their percentage agreement was .89. Creation of the Modified LIWC Affect Dictionary allowed for computer coding. The number of emotion words children uttered was the sum of the number of words children produced identified in the Modified LIWC Affect Dictionary, “like” utterances reflecting preference and words not identified in the Modified LIWC Affect Dictionary that were linked with “feel” (“I felt good”). Because it referred to the song rather than emotion, the phrase “happy birthday” ($n = 12$) was not considered emotional.

Results

Preliminary Analyses

There were no main effects or interactions due to gender, maltreatment type, ethnicity, story order or interviewer, and these factors were excluded from all analyses. There were no significant differences between rapport conditions for children’s use of emotional language during the icebreaker phase (in response to the “like to do” and “don’t like to do” questions), and for the number of what-next, cued-action, cued-emotion, what-think or total number of prompts.

Rapport Phase

We examined both the percentage and total number of emotion words. Prior studies have typically examined either percentage (Peterson & Whalen, 2001) or total number (Sales, Fivush, Parker & Bahrick, 2005), and rarely both (Menig-Peterson & McCabe, 1978). When one examines the percentage of emotion words, this controls for children's overall productivity. However, a procedure that increases the percentage but not the number of emotion words might reduce overall productivity. On the other hand, a procedure that increases the number but not the percentage of emotion words might simply make children more verbose. Therefore, an ideal manipulation would increase both the percentage and number of emotion words.

Analytical overview. Children's rapport phase responses were examined separately for spontaneous and prompted language production. For children in the emotional-rapport condition additional analyses investigated effects due to rapport building event valence ("last time felt good" versus "last time felt bad"). Similarly, children's story phase responses were examined separately for spontaneous and prompted language production. Story valence was considered in all story phase analyses. A separate analysis was conducted on children's responses to how-feel prompts.

Spontaneous rapport responses. To examine effects due to rapport condition on children's responses, we first examined children's initial utterances during the rapport phase. Separate 2 (rapport: emotion, NICHD) X 3 (age category: 4-5, 6-7, 8-9) analyses of variance (ANOVAs) were conducted for the percentage of emotion words and number of emotion words. For percentage of emotion words, a main effect due to rapport condition emerged, $F(1, 137) = 9.22, p < .001, \eta_p^2 = .06$, indicating that children in the

emotional-rapport condition produced a higher percentage of emotion words ($M = .09$, $SD = .09$) than children in the NICHD-rapport condition ($M = .05$, $SD = .05$). No significant effects resulted for the number of emotion words (Table 1).

To explore why emotional-rapport increased the percentage but not the number of emotion words, an additional ANOVA was conducted on the total number of words children produced. Only a main effect due to age, $F(2, 137) = 3.21$, $p = .04$, $\eta_p^2 = .05$ emerged. Although there was not a significant difference between conditions for the total number of words, children in the emotional-rapport condition ($M = 53.63$, $SD = 51.78$) provided nonsignificantly fewer total words than children in the NICHD-rapport ($M = 80.42$, $SD = 119.06$). A separate ANOVA was conducted with age category entered as the independent variable, revealing that the 8- to 9-year-olds ($M = 93.73$, $SD = 136.62$) provided higher total numbers of words than 4- to 5-year-olds ($M = 47.10$, $SD = 51.23$), $F(2, 140) = 3.12$, $p = .04$.

In order to examine the effects of valence in the emotional-rapport condition, separate mixed model ANOVAs, with age category (4-5, 6-7, 8-9) as the between-subjects factor and event valence (positive, negative) as the within-subjects factor, were conducted on the percentage of emotion words and the number of emotion words that children produced during their initial responses ("Tell me everything that happened"). For percentage of emotion words, no significant effects due to age or valence resulted. For number of emotion words, there was a main effect due to valence, $F(1, 69) = 10.14$, $p = .002$, $\eta_p^2 = .13$, and an interaction between age and valence, $F(2, 69) = 3.83$, $p = .03$, $\eta_p^2 = .10$. To examine the age X valence interaction paired t-tests were conducted for

each age group comparing the number of emotion words children spontaneously produced to the positive event versus the negative event. A significant difference between positive ($M = 3.21$, $SD = 3.41$) and negative ($M = 1.04$, $SD = 1.37$) events emerged for the 8- to 9-year-olds, $t(23) = 2.91$, $p = .008$ (Table 2).

To explore why children reported fewer emotion words but not lower percentages of emotion words to negative than positive events, an additional ANOVA was conducted on the total number of words children produced. Only a main effect due to valence emerged, $F(1, 69) = 7.91$, $p = .006$, $\eta_p^2 = .10$, indicating that children provided more words to the positive ($M = 32.54$, $SD = 35.41$) than to the negative ($M = 21.08$, $SD = 26.01$) event.

Prompted rapport responses. In order to examine children's prompted responses during the rapport phase, a series of 2 (rapport: emotion, NICHD) X 3 (age category: 4-5, 6-7, 8-9) analyses of covariance (ANCOVAs) were conducted to examine the percentage of emotion words and the number of emotion words that children produced across all prompts. To control for children receiving different numbers of prompts, the number of prompts children received during the rapport phase was entered as a covariate. For the percentage of emotion words, a main effect of condition emerged, $F(1, 134) = 4.55$, $p = .04$, $\eta_p^2 = .03$, indicating that children in the emotional-rapport condition ($M = .07$, $SD = .06$) produced a higher percentage of emotion words than children in the NICHD-rapport condition ($M = .05$, $SD = .05$). For the number of emotion words, condition was not significant (Table 3). A main effect emerged for the number of prompts children received, $F(1, 135) = 7.44$, $p = .007$, $\eta_p^2 = .05$.

Correlations with age in years partialled out revealed that the number of prompts children received was associated with more emotion words, $r = .26, p = .002$.

To understand why there was an increase in the percentage of emotion words but not for the frequency of emotion words, an exploratory analysis was conducted on the total number of words children provided during the rapport phase. Children uttered non-significantly fewer words in the emotional rapport condition (emotional: $M = 104.32, SD = 60.57$; NICHD: $M = 117.25, SD = 62.59$).

In order to examine the effects of valence on children's use of emotional language, we conducted analyses similar to those examining valence effects during children's spontaneous responses. No significant differences emerged (Table 4). Hence, when prompts were asked, children did not produce a greater number of emotion words when describing positive events than when describing negative events.

An additional set of analyses were conducted to examine the hypothesis that children would produce higher percentages and numbers of emotion words to cued-emotion prompts than other prompts. To compare differences between prompt type, only children who received at least one of each prompt type were examined. Separate mixed model ANOVAs were conducted, with rapport condition (emotion, NICHD) and age category (4-5, 6-7, 8-9) as the between-subjects factor and prompt type (what-next, cued-action, cued-emotion, what-think) as the within-subjects factor. The mixed model ANOVA resulted in a subsample of 50 children, which included similar numbers of children from each age group (4- to 5-year-olds: $n = 18$; 6- to 7-year-olds: $n = 17$; 8- to 9-year-olds: $n = 15$), and between rapport conditions (emotion: $n = 28$; NICHD: $n = 22$).

When considering the percentage of emotion words, no significant effects emerged.

Children produced more emotion words in response to cued-emotion ($M = 1.32$, $SD = 1.35$) than what-next prompts ($M = .84$, $SD = .81$), $t(49) = 2.56$, $p = .01$, or what-think ($M = .73$, $SD = .83$) prompts, $t(49) = 3.05$, $p = .004$, and children produced more emotion words to cued-action ($M = 1.05$, $SD = 1.00$) than what-think prompts, $t(49) = 1.97$, $p = .05$ (Table 5).

Story stem phase: Spontaneous story responses.

Children's spontaneous story responses comprised responses to the initial "What happened next?" invitations they received for each story. Separate mixed model ANOVAs were conducted, with rapport condition (emotion, NICHHD) and age category (4-5; 6-7; 8-9) as the between-subjects factor, and story valence (positive, negative) as the within-subjects factor. No significant effects emerged for the percentage of emotion words. For the number of emotion words, main effects emerged for story valence, $F(1, 137) = 9.58$, $p = .002$, $\eta_p^2 = .07$, and age, $F(2, 137) = 7.71$, $p = .001$, $\eta_p^2 = .10$, and an interaction emerged between valence and age category, $F(2, 137) = 3.53$, $p = .03$, $\eta_p^2 = .05$. In order to interpret the interaction, we conducted paired t-tests comparing the number of emotion words children produced to the positive versus negative stories for each age group. The oldest age category reported significantly more emotion words to the positive ($M = 3.21$, $SD = 2.73$) than negative stories ($M = 1.96$, $SD = 2.02$), $t(47) = 3.38$, $p = .001$ (Table 6).

Prompted story responses. To compare differences between prompt type, separate mixed model ANOVAs, with condition (emotion, NICHHD) and age category (4-

5; 6-7; 8-9) as the between-subjects factor and prompt type (what-next, cued-action, cued-emotion, what-think) as the within-subjects factor, were conducted on the percentage of emotion words and mean number of emotion words children uttered to each prompt. For percentage of emotion words, main effects due to valence, $F(1, 134) = 12.33, p = .001, \eta_p^2 = .08$, and prompt emerged, $F(3, 402) = 27.62, p < .001, \eta_p^2 = .17$. Children produced higher percentages of emotion words to the positive stories ($M = .09, SD = .05$) than the negative stories ($M = .06, SD = .04$). Children produced higher percentages of emotion words to cued-emotion ($M = .11, SD = .12$) and what-think prompts ($M = .11, SD = .07$) than to cued-action ($M = .06, SD = .04$), (cued-emotion: $t(141) = 10.21, p < .001$; what-think: $t(141) = 4.54, p < .001$) and what-next ($M = .04, SD = .05$) prompts (cued-emotion: $t(141) = 11.73, p < .001$; what-think: $t(141) = 5.87, p < .001$).

For the number of emotion words, there were main effects due to valence, $F(1, 134) = 50.80, p < .001, \eta_p^2 = .28$, prompt type, $F(3, 402) = 71.45, p < .001$, and age category, $F(2, 134) = 3.55, p = .03, \eta_p^2 = .05$, and interactions between valence X prompt type, $F(3, 134) = 3.18, p = .03, \eta_p^2 = .02$.

The effect of prompt type was due to the superiority of the cued-emotion prompts ($M = 1.43, SD = .84$) compared to the other prompts: cued-action ($M = .83, SD = .65$), $t(139) = 10.81, p < .001$; what-next ($M = .50, SD = .70$), $t(139) = 12.56$; and what-think ($M = .67, SD = .50$), $t(139) = 10.82, p < .001$. Furthermore, cued-action prompts were superior to what-next prompts, $t(142) = 2.79, p = .006$, and what-think prompts, $t(142) = 2.81, p = .006$. The age effect was due to lower productivity among the youngest

children: the 4- to 5- year-olds produced fewer emotion words ($M = .55$, $SD = .29$) than the 6- to 7- year-olds ($M = .77$, $SD = .55$), $t(92) = 2.38$, $p = .02$, and the 8- to 9- year-olds ($M = .79$, $SD = .45$), $t(93) = 3.0$, $p = .003$ (Table 7).

To examine the valence X prompt type interaction, a series of paired t-tests were performed comparing the number of emotion words children produced to each type of prompt for positive and negative stories. For cued-action $t(142) = 6.52$, $p < .001$, what-next $t(142) = 5.20$, $p < .001$, and what-think $t(142) = 4.23$, $p < .001$, prompts children produced more emotion words to the positive stories (cued-action $M = 2.09$, $SD = 1.82$; what-next, $M = .84$, $SD = .77$; what-think $M = .81$, $SD = .73$) than to the negative stories (cued-action $M = 1.21$, $SD = 1.18$; what-next, $M = .50$, $SD = .70$; what-think $M = .81$, $SD = .73$). For cued-emotion prompts there was no valence effect.

Exploratory analyses were conducted to examine why what-think prompts increased the percentage of emotional words children used but not the number of emotion words. Children produced fewer total words to what-think prompts than to cued-action, $t(142) = 8.64$, $p < .001$, what-next $t(142) = 5.95$, $p < .001$, and cued-emotion prompts, $t(139) = 6.85$, $p < .001$.

Children who did not report protagonist emotion in response to what-next or cued-action prompts were asked how the character felt. No effects due to rapport condition emerged for children's responses to the "how did [protagonist] feel when [climax of story]?" question. Children responded with an average of one affect word, $M = 1.05$, $SD = .42$, per how-feel question.

Discussion

The purpose of this study was to examine interviewing techniques that may influence emotional language use in maltreated children. This study examined the effects of rapport condition (emotional, NICHD) and prompt type (what-next, cued-action, cued-emotion, what-think) on children's emotional language production. Subsequent to rapport, children completed story stems about positive and negative events. We will discuss the findings and then note their practical implications.

Rapport Effects

There was little evidence that emotional-rapport increased children's subsequent production of emotional language. During the rapport phase, emotional-rapport increased the percentage but not the number of emotion words used in children's spontaneous and prompted responses. Additional analyses suggested that the number of emotion words did not increase because children produced non-significantly fewer words overall when given emotional-rapport, particularly when asked to narrate a negative event. Emotional-rapport did not result in carryover effects on children's responses to the stories.

Prompt Effects

There was support for the prediction that cued-emotion prompts would elicit higher percentages and frequencies of emotion words than other prompts. During the rapport phase, cued-emotion prompts elicited the largest number of emotion words. During the story phase, cued-emotion prompts elicited the highest percentage and number of emotion words. What-think prompts elicited a higher percentage of emotion words than the other prompts, but additional analyses revealed that they decreased the

total number of words children uttered during the story phase. How-feel questions elicited emotional responses, but those responses were very brief.

Additional analyses showed that cued-emotion prompts were tied to increases in the total number of words children produced which suggest that children may be reporting more information generally to these prompts. Children may be capable of elaborating on emotions because of their early awareness of the causal connections to emotions (e.g., Bretherton & Beeghly, 1982; Hood & Bloom, 1979). An informal review of children's responses to the cued-emotion prompts suggest that children report the causes of the emotions ("He was sad because he hurt himself") or subsequent actions ("She was so happy they had a party").

Age Effects

Consistent with prior research, very few age effects emerged (e.g., Ackil et al., 2003). During the story phase, older children produced more emotion words in their spontaneous and prompted language productions, but not a higher percentage of emotional language. Therefore, their greater productivity could be due to age-related increases in verbal productivity more generally. The fact that prompt type did not interact with age indicates that cued-emotion prompts were equally facilitative of emotional language across the age range.

Valence Effects

The prediction that children would use lower percentages and frequencies of emotion words when narrating negative compared to positive scenarios was largely supported, but only among the oldest children. The oldest children used fewer emotion

words to the negative than positive emotional-rapport events and to the negative than positive stories in their spontaneous utterances. This finding may have only emerged for the oldest children because younger children used very few emotion words to either type of story.

Children's lower verbal productivity when discussing negative events was overcome in two ways. First, asking children to continue to speak about negative events through open-ended prompts increased their responsiveness to levels similar to positive events. During emotional-rapport, children spontaneously reported less emotional language to negative events, but reported similar amounts of emotional language when prompted by the interviewer. Second, when children were presented cued-emotion prompts and how-feel questions they responded to negative and positive stories with similar amounts of emotional information.

Practical Implications

There is virtually no guidance on whether and how to ask children to describe their emotional reactions to abuse in investigative interviews (Anderson et al., 2010; Lamb et al., 2008; Lyon, 2005). On the rare occasion that children are asked about emotions in forensic settings, the prompts they receive are usually closed-ended, and fail to elicit emotional language (Lyon et al., 2012). Our findings provide clear support that children can produce expansive utterances to cued-emotion prompts, including emotional information. Moreover, to the extent to which children fail to generate emotional information spontaneously, they can be asked how-feel prompts paired with cued-emotion prompts (e.g., "How did you feel when [incident]?" Tell me more about

[feeling].”). The effectiveness of these prompts coincides with research demonstrating that prompts elicit more emotional language when they reference emotion (Lyon et al., 2012).

Lack of Effects due to Rapport

An important question is why emotional-rapport building failed to increase children’s emotional language in response to the stories. First, it may reflect the inherent difficulty of facilitating spontaneous emotional language use. As reviewed in the introduction, children’s narratives contain minimal emotional language. Second, the NICHD-rapport condition includes discussion of content that is likely to evoke emotional language. Children were asked about their likes/dislikes and asked about their last birthday. Furthermore, we asked all children to elaborate on any mention of emotion with the cued-emotion prompts, given that the Revised-NICHD Protocol includes invitations encouraging children to explore emotions (“Tell me more about [the feeling]”) (Lamb et al., under review). Hence, it is possible that children’s emotion language in response to the stories was enhanced by both rapport conditions. Third, the positive effects of increased emotional awareness might not have transferred to stories because children were no longer relying on the same retrieval mechanisms they practiced during rapport. Children’s story responses are likely to rely less on their event memory or free recall and more on their semantic knowledge about different types of situations. Hence, children’s story responses may have been attributed to their script knowledge about the basic scenarios the stories portrayed (e.g., Farrar & Goodman, 1992) rather than to practice recalling emotional information.

Emotional Rapport in the Field

Emotional rapport might nevertheless have a facilitative effect on children's subsequent autobiographical disclosures, particularly maltreatment disclosures (Lyon et al., 2012). Children's emotional reactions are surely stronger to experienced events than stories, and thus there may be more to facilitate. Emotional rapport that includes questions about negative events may be particularly helpful when children are subsequently asked to describe negative experiences that they are reluctant to discuss. When children find themselves capable of describing negative emotions during rapport, this may increase their self-efficacy in disclosing other negative events. Children may be exposed to a tolerable level of distress to which they can experience as successfully managing (Cohen, Mannarino & Deblinger, 2006) through emotional rapport. Additionally, emotional disclosure is tied to improved psychological health (Frattaroli, 1996). Maltreated children often expect adults to be unsupportive (Zeman & Shipman, 1999), and anticipation of negative reactions from disclosure recipients is a reason children often give for failing to disclose abuse (Hershkowitz et al., 2007). When asking about negative events during rapport building, interviewers can provide support, and this may reassure reluctant children. Investigative interviewer references to children's emotions have been positively tied to children disclosing abuse (Hershkowitz et al., 2006) and providing more details when disclosing (Hershkowitz et al., 2006; Ruddock, 2006). Finally, a rapport question about recent negative experiences may elicit reports of abuse. In a sample of 6- to 12-year-olds questioned about suspected sexual abuse, 15% of

children disclosed their abuse in response to the rapport topic of recalling the last time they felt sad (Lyon et al., 2012).

In this study, we specifically designed the questions to avoid disclosures of abuse, and we measured the effect of rapport on stories rather than personal experiences to assess the effect of rapport phase on narratives that were consistent across children. Because rapport had no ill-effects, and exhibited some benefit, future research should examine emotional rapport effects in child investigative interviews.

Limitations and Future Directions

One concern is that children's increased emotional language use could be due to children's inclusion of prompt language into their responses (i.e., "something good" and "something bad"). However, an additional set of analyses excluded children's prompt repetitions (e.g., "felt good/bad") and revealed the same pattern of results. Another potential limitation is that emotional-rapport and cued-emotion prompts might facilitate children's ability to confabulate about emotions rather than activate their memory for emotions. However, research investigating the use of cue cards that reminded children to report specific aspects of events, including emotional reactions, found that the technique did not increase the number of false details about suggested events (Camparo, Wagner, & Saywitz, 2001). Future research should examine effects due to rapport on children's subsequent disclosures of other life events.

Future studies should examine the types of information children provide to cued-emotion prompts. Even if cued-emotion prompts do not increase emotional language they may elicit other information such as social, causal, sensory and thought details.

Hence, cued-emotion prompts may be a means of fully exhausting children's narratives after other open-ended questions have been asked.

Future work can examine how the language used in the cued-emotion prompts affects children's responses. Asking children to expand on an emotion word without contextual embedding might elicit definitions of emotions ("Tell me more about sad"). On the other hand, asking children cued-emotion prompts that contain contextual embedding might elicit episodic information surrounding emotions ("Tell me more about feeling sad *after your mom left.*").

In the present study the LIWC affect dictionary was modified to measure children's emotional language. Some argue that children may express emotions through larger semantic units linked together in a narrative rather than isolated emotion words (Fivush et al., 2007). However, manual coding of propositional phrases without emotion words requires emotional interpretation, when none may have been intended by the child (e.g., "he just sat and watched TV"). Hence, future work can investigate various linguistic coding methods to measure emotional content.

The findings have important implications for children's spontaneous and prompted use of emotional language in child interviewing. In legal contexts, child witnesses tend not to report their emotional reactions, which prevents complete portrayals of the abuse (Lyon et al., 2012). Effects due to emotional-rapport were minimal. However, there was strong support that cued-emotion prompts were especially helpful in increasing children's emotional language. Cued-emotion prompts can readily translate into practice in the field and provide a means for children to elaborate on emotional

information they provide in narratives. Future research on the efficacy of emotional rapport in child investigative interviews is critical to enhance our understanding of children's emotional language use.

References

- Ackil, J.K., Van Abbema, D.L., & Bauer, P.J. (2003). After the storm: Enduring differences in mother-child recollections of traumatic and nontraumatic events. *Journal of Experimental Child Psychology, 84*, 286-309.
- Aldridge, M., & Wood, J. (1997). Talking about feelings: Young children's ability to express emotions. *Child Abuse & Neglect, 21*, 1221-1233.
- Anderson, J., Ellefson, J., Lashley, J., Miller, A.L., Olinger, S., Russell, A., Stauffer, J., & Weigman, J. (2010). The cornerhouse forensic interview protocol: RATAC. *Journal of Practical and Clinical Law, 12*, 193-331.
- Baker-Ward, L., Eaton, K., & Banks, J. (2005). Young soccer players' reports of a tournament win or loss: Different emotions, different narratives. *Journal of Cognition and Development, 6*, 507-527.
- Baker-Ward, L., Gordon, B.N., Ornstein, P.A., Larus, D.M., & Clubb, P.A. (1993). Young children's long-term retention of a pediatric examination. *Child Development, 64*, 1519-1533.
- Bantum, E., & Owen, J. (2009). Evaluating the validity of computerized content analysis programs for identification of emotional expression in cancer narratives. *Psychological Assessment, 21*, 79-88.
- Barnett, D., Manly, J. T., & Cicchetti, D. (1993). Defining child maltreatment: The interface between policy and research. In D. Cicchetti & S. L. Toth (Eds.), *Child abuse, child development, and social policy* (pp. 7-73). Nonwood, NJ: Ablex.

- Berliner, L., & Conte, J. (1990). The process of victimization: The victims' perspective. *Child Abuse & Neglect, 14*, 29-40.
- Bretherton, I., & Beeghly, M. (1982). Talking about internal states: The acquisition of an explicit theory of mind. *Developmental Psychology, 18*, 906-921.
- Bretherton, I., Oppenheim, D., Buchsbaum, H., Emde, R. N., & the MacArthur Narrative Group (1990). MacArthur Story-Stem Battery. Unpublished manual.
- Briere, J. (1992). *Child abuse trauma: Theory and treatment of the lasting effects. Interpersonal violence: The practice series, No. 2*. Thousand Oaks, CA: Sage Publications.
- Bruchkowsky, M. (1992). The development of empathic cognition in middle and early childhood. In R. Case (Ed.), *The mind's staircase: Exploring the conceptual underpinnings of children's thought and knowledge*. Hillsdale, NJ: Erlbaum.
- Butler, S., Gross, J., & Hayne, H. (1995). The Effect of drawing on memory performance in young children. *Developmental Psychology, 31*, 597-608.
- Camparo, L., Wagner, J., & Saywitz, K. (2001). Interviewing children about real and fictitious events: Revisiting the narrative elaboration procedure. *Law and Human Behavior, 25*, 63-80.
- Camras, L.A., Sachs-Alter, E., & Ribordy, S.C. (1996). Recognition of facial expressions and integration with other emotion cues. In M. Lewis, M. Wolan Sullivan (Eds), *Emotional development in atypical children*. Mahwah, NJ: Erlbaum.
- Cohen, J.A., Mannarino, A.P., & Deblinger, E. (2006). Treating trauma and traumatic grief in children and adolescents. New York, NY: Guilford Press.

- Cole, P. M., Zahn-Waxler, C., & Smith, K. D. (1994). Expressive control during a disappointment: Variations related to preschoolers' behavior problems. *Developmental Psychology*, 30(6), 835–846.
- Coy v. Iowa, 487 U.S. 1012 (1988).
- Den Bak, I.M., & Ross, H.S. (1996). I'm telling! The content, context, and consequences of children's tattling on their siblings. *Social Development*, 5, 292-309.
- Dunn, J. (1987). The beginnings of moral understanding: Development in the second year. In J. Dunn, (Ed), *The emergence of morality in young children* (pp. 91-112) Chicago, IL: University of Chicago Press.
- Farrar, M. J., & Goodman, G. S. (1992). Developmental changes in event memory. *Child Development*, 63, 173-187.
- Fivush, R., Hazzard, A., Sales, J., Sarfati, D., & Brown, T. (2003). Creating coherence out of chaos: Children's narratives of emotionally positive and negative events. *Applied Cognitive Psychology*, 17, 1-19.
- Fivush, R., Marin, K., Crawford, M., Reynolds, M., & Brewin, C. (2007). Children's narratives and well-being. *Cognition and Emotion*, 21, 1414-1434.
- Fivush, R., Sales, J.M., & Bohanek, J.G. (2008). Meaning making in mothers' and children's narratives of emotional events. *Memory*, 16, 579-594.
- Fratraroli, J. (2006). Experimental disclosure and its moderators: A meta-analysis. *Psychological Bulletin*, 132, 823-865.
- Goldberg-Reitman, J. (1992). Young girls' conception of their mothers' role: A neo-structural analysis. In R. Case (Ed.), *The mind's staircase: Exploring the*

conceptual underpinnings of children's thought and knowledge. Hillsdale, NJ: Erlbaum.

Golding, J.M., Fryman, H.M., Marsil, D.F., & Yozwiak, J.A. (2003). Big girls don't cry: The effect of child witness demeanor on juror decisions in a child sexual abuse trial. *Child Abuse and Neglect*, 27, 1311-1321.

Greenhoot, A.F., Johnson, R., & McCloskey, L.A. (2005). Internal state language in childhood recollections of adolescents with and without abuse histories. *Journal of Cognition and Development*, 6, 547-570.

Griffin, S. (1995). A cognitive-developmental analysis of pride, shame, and embarrassment in middle childhood. In J.P Tangney, J., Fischer, K.W. (Eds.) *Self-conscious emotion: The psychology of shame, guilt, embarrassment and pride*. New York, NY: Guilford Press.

Griffin, S. (1992). Young children's awareness of their inner world: A neo-structural analysis of the development of intrapersonal intelligence. In R. Case (Ed.), *The mind's staircase: Exploring the conceptual underpinnings of children's thought and knowledge*. Hillsdale, NJ: Erlbaum.

Hamond, N., & Fivush, R. (1991). Memories of mickey mouse: Young children recount their trip to Disneyworld. *Cognitive Development*, 6, 433-448.

Harris, P.L. (1983). Children's understanding of the link between situation and emotion. *Journal of Experimental Child Psychology*, 36, 490-509.

Harter, S. (1998). The effects of child abuse on the self-system. *Journal of Aggression, Maltreatment & Trauma*, 2, 147-169.

- Hershkowitz, I. (2009). Socioemotional Factors in Child Sexual Abuse Investigations. *Child Maltreatment, 14*, 172-181.
- Hershkowitz, I. (2001). Children's responses to open-ended utterances in investigative interviews. *Legal and Criminological Psychology, 6*, 49-63.
- Hershkowitz, I., Fisher, S., Lamb, M.E., & Horowitz, D. (2007). Improving credibility assessment in child sexual abuse allegations: The role of the NICHD investigative interview protocol. *Child Abuse and Neglect, 31*, 99-110.
- Hershkowitz, I., Orbach, Y., Lamb, M.E., Sternberg, K.J., & Horowitz, D. (2006). Dynamics of forensic interviews with suspected abuse victims who do not disclose abuse. *Child Abuse & Neglect 30*, 753-769.
- Hill, C.E., & Gormally, J. (1977). Effects of reflection, restatement, probe and nonverbal behaviors on client affect. *Journal of Counseling Psychology, 24*, 92-97.
- Home Office. (2011). Achieving Best Evidence in Criminal Proceedings: Guidance for Vulnerable or intimidated witnesses, including children. London: Author.
- Hood, L., & Bloom, L. (1979). What, when, and how about why: A longitudinal study of early expressions of causality. *Monographs of the Society for Research in Child Development, 44* (Serial No. 181).
- Lagattuta, K.H., & Wellman, H.M. (2001). Thinking about the past: Early knowledge about links between prior experience, thinking, and emotion. *Child Development, 72*, 82-102.
- Lamb, M. E., Hershkowitz, I., Orbach, Y., & Esplin, P. W. (2008). *Tell me what happened: Structured investigative interviews of child victims and witnesses.*

Chichester, England: Wiley.

- Lamb, M.E., Orbach, Y., Hershkowitz, I., Esplin, P.W., & Horowitz, D. (2007). A structured interview protocol improves the quality and informativeness of investigative interviews with children: A review of research using the NICHD investigative interview protocol. *Child Abuse and Neglect*, 31, 1201–1231.
- Lamb, M. E., Sternberg, K. J., Esplin, P. W. Hershkowitz, I., Orbach, Y., & Hovav, M. (1997). Criterion-based content analysis: A field validation study. *Child Abuse and Neglect*, 21, 255–264.
- Lamb, M.E., Sternberg, K.J., Orbach, Y., Esplin, P.W., Stewart, H., & Mitchell, S. (2003). Age differences in young children's responses to open-ended invitations in the course of forensic interviews. *Journal of Consulting and Clinical Psychology*, 71, 926-934.
- Lyon, T.D. (2005) Ten step investigative interview.
- Lyon, T.D., Scurich, N., Choi, K., Handmaker, S., & Blank, K. (2012). "How did you feel?" Increasing child sexual abuse witnesses' production of evaluative information. *Law & Human Behavior*, 36, 448-457.
- Macfie, J., Toth, S. L., Rogosch, F. A., Robinson, J., Emde, R. N., & Cicchetti, D. (1999). Effect of maltreatment on preschoolers' narrative representations of responses to relieve distress and of role reversal. *Developmental Psychology*, 35, 460-465.
- Menig-Peterson, C.L., & McCabe, A. (1978). Children's orientation of a listener to the context of their narratives. *Developmental Psychology*, 14, 582-592.

- Murray, E. J., Lamnin, A. D., & Carver, C. S. (1989). Emotional expression in written essays and psychotherapy. *Journal of Social and Clinical Psychology, 8*, 414–429.
- Orbach, Y., Hershkowitz, I., Lamb, M.E., Sternberg, K.J., Esplin, P.W., & Horowitz, D. (2000). Assessing the value of structured protocols for forensic interviews of alleged child abuse victims. *Child Abuse and Neglect, 24*, 733-752.
- Ornstein, P.A., Baker-Ward, L., Gordon, B.N., & Merritt, K.A., (1997). Children's memory for medical experiences: Implications for testimony. *Applied Cognitive Psychology, 11*, 87-104.
- Peng, M., Johnson, C., Pollock, J., Glasspool, R., & Harris, P. (1992). Training young children to acknowledge mixed Emotions. *Cognition and Emotion, 6*, 387-401.
- Peterson, C., & Biggs, M. (1998). Stitches and casts: Emotionality and narrative coherence. *Narrative Inquiry, 8*, 51-76.
- Peterson, C., & Bell, M. (1996). Children's memory for traumatic injury. *Child Development, 67*, 3045-3070.
- Peterson, C., Sales, J., Reese, M., & Fivush, R. (2007). Parent-child talk and children's memory for stressful events. *Applied Cognitive Psychology, 21*, 1057-1075.
- Peterson, C., & Whalen, N. (2001). Five years later: Children's memory for medical emergencies. *Applied Cognitive Psychology, 15*, 7-24.
- Poole, D.A., & Dickinson, J.J. (2000). Efficient coding of eyewitness narratives: A comparison of syntactic unit and word count procedures. *Behavior research Methods, 32*, 537-545.

- Putnam, F.W. Ten-year research update review: Child sexual abuse. *Journal of the American Academy of Child & Adolescent Psychiatry*, 42, 269-278.
- Quas, J.A., Wallin, A.R., Horwitz, B., Davis, E., & Lyon, T. (2009). Maltreated children's understanding of and emotional reactions to dependency court involvement. *Behavioral Science & the Law*, 27, 97-117.
- Roberts, K., Lamb, M., & Sternberg, K. (2004). The effects of rapport building on children's reports of a staged event. *Applied Cognitive Psychology*, 18, 189-202.
- Ruddock, A.C. (2006). *The relationship of interviewer rapport behaviors to the amount and type of disclosure from children during child abuse investigations*. California School of Professional Psychology, Alliant International University, dissertation.
- Sales, J. M., Fivush, R., Parker, J., & Bahrick, L. (2005). Stressing memory: Relations of children's memory of Hurricane Andrew, stress and psychological well-being over time. *Journal of Cognition and Development*, 6, 529-546.
- Sales, J.M., Fivush, R., & Peterson, C. (2003). Parental reminiscing about positive and negative events. *Journal of Cognition and Development*, 4, 185-209.
- Salmon, K., Roncolato, W., & Gleitzman, M. (2003). Children's reports of emotionally laden events: Adapting the interview to the child. *Applied Cognitive Psychology*, 17, 65-79.
- Sas, L. D., & Cunningham, A. H. (1995). Tipping the balance to tell the secret: The public discovery of child sexual abuse. London, Ontario, Canada: London Family Court Clinic.

- Sayfan, L., Mitchell, E.B., Goodman, G.S., Eisen, M.L. & Qin, J. (2008). Children's expressed emotions when disclosing maltreatment. *Child Abuse & Neglect*, 32, 1026-1036. DOI:10.1016/j.chiabu.2008.03.004
- Schleien, S., Ross, H., & Ross, M. (2010). Young children's apologies to their siblings. *Social Development*, 19, 170-186.
- Shipman, J., & Zeman, J. (1999). Emotional understanding: A comparison of physically maltreating and nonmaltreating mother-child dyads. *Journal of Clinical Child Psychology*, 28, 407-417.
- Shipman, K.L., & Zeman, J. (2001). Socialization of children's emotion regulation in mother-child dyads: A developmental psychopathology perspective. *Development and Psychopathology*, 13, 317-336.
- Sternberg, K.J., Lamb, M.E., Hershkowitz, I., Yudilevitch, L., Orbach, Y., Esplin, P.W., & Hovav, M. (1997). Effects of introductory style on children's abilities to describe experiences of sexual abuse. *Child Abuse and Neglect*, 21, 1133-1146.
- Toth, S.L., Cicchetti, D., Macfie, J. & Emde, R.N. (1997). Representations of self and other in the narratives of neglected, physically abused, and sexually abused preschoolers. *Development & Psychopathology*, 9, 781-796.
- Walker, A. (1993). Questioning young children in court. *Law and Human Behavior*, 17, 59-81.
- Walton, M.D., Harris, A.R., & Davidson, A.J. (2009). It makes me a man from the beating I took. *Sex Roles*, 61, 383-398.
- Westcott, H.L., & Kynan, S. (2004). The application of a 'story-telling' framework to

investigative interview for suspected child sexual abuse. *Legal and Criminological Psychology*, 9, 37-56.

Wolitzky, K. Fivush, R., Zimand, E., Hodges, L., & Rothbaum, O. (2005). Effectiveness of virtual reality distraction during a painful medical procedure in pediatric oncology patients. *Psychology & Health*, 20, 817-824.

Table 1.

Spontaneous Emotional Language Production During Rapport by Age and Rapport Condition

	Rapport Condition					
	Emotion		NICHD		Mean	
	Percentage	Number	Percentage	Number	Percentage	Number
	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)
Age Group						
4-5	11 (12)	2.54 (2.67)	5 (5)	1.79 (2.12)	8 (9)	2.17 (2.42)
6-7	9 (9)	3.29 (3.12)	5 (4)	3.17 (2.44)	7 (7)	3.23 (2.78)
8-9	8 (6)	4.08 (3.61)	5 (6)	3.41 (5.07)	7 (6)	3.75 (4.37)
Mean	9 (9)	3.31 (3.18)	5 (5)	2.79 (3.51)	7 (8)	3.05 (3.34)

Table 2.

Spontaneous Emotional Language Production During Rapport by Valence and Age

	Last time felt good		Last time felt bad	
	Percentage	Number	Percentage	Number
	M (SD)	M (SD)	M (SD)	M (SD)
Age Group				
4-5	16 (23)	1.41 (1.41)	10 (15)	1.33 (2.08)
6-7	10 (10)	2.25 (1.98)	08 (10)	1.50 (2.13)
8-9	9 (7)	3.21 (3.41)	04 (8)	1.04 (1.37)
Mean	12 (15)	2.29 (2.50)	07 (11)	1.29 (1.87)

Table 3.

Prompted Emotional Language Production During Rapport by Rapport Condition and Age (Means Corrected for Number of Prompts)

	Rapport Condition					
	Emotion		NICHD		Mean	
	Percentage	Number	Percentage	Number	Percentage	Number
Age Group	M (SE)	M(SE)	M(SE)	M(SE)	M(SE)	M(SE)
4-5	7 (1)	6.62 (1.14)	6 (1)	5.27 (1.11)	7 (1)	5.94 (.79)
6-7	9 (1)	7.81 (1.10)	5 (1)	6.91 (1.12)	7 (1)	7.36 (.79)
8-9	5 (1)	5.43 (1.10)	5 (1)	5.32 (1.11)	5 (1)	5.38 (.78)
Mean	7 (1)	6.62 (.64)	5 (1)	5.83 (.64)	6 (1)	6.23 (.79)

Table 4.

Prompted Emotional Language Production During Rapport by Valence

	Last time felt good		Last time felt bad	
	Percentage	Number	Percentage	Number
Age Group	M (SD)	M (SD)	M (SD)	M (SD)
4-5	7 (7)	2.83 (2.47)	8 (7)	4.37 (4.91)
6-7	8 (7)	3.46 (4.61)	11 (11)	4.67 (4.92)
8-9	5 (4)	2.54 (2.36)	7 (6)	2.83 (2.61)
Mean	6 (6)	2.98 (2.36)	9 (8)	3.96 (4.31)

Table 5.

*Prompted Emotional Language Production During Rapport by Rapport Condition,
Question-type and Age*

	Rapport Condition					
	Emotion		NICHD		Mean	
	Percentage	Number	Percentage	Number	Percentage	Number
Prompt	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)
What-Next						
4-5	6 (7)	.70 (.84)	5 (6)	.63 (.55)	5 (6)	.67 (.71)
6-7	10 (13)	.86 (1.26)	5 (6)	1.49 (3.89)	8 (13)	1.17 (2.87)
8-9	4 (4)	.62 (.57)	4 (4)	.80 (.77)	4 (4)	.71 (.68)
Mean	7 (9)	.71 (.93)	5 (9)	.99 (2.35)	6 (9)	.85 (1.78)
Cued-Action						
4-5	8 (7)	.71 (.71)	5 (4)	.96 (1.00)	6 (6)	.84 (.87)
6-7	11 (14)	1.07 (.98)	6 (5)	1.26 (1.57)	8 (10)	1.17 (1.31)
8-9	6 (6)	1.01 (1.04)	7 (6)	.77 (.53)	7 (6)	.90 (.83)
Mean	8 (10)	.93 (.91)	6 (5)	1.00 (1.12)	7 (8)	.96 (1.02)
Cued-Emotion						
4-5	11 (7)	1.72 (1.17)	13 (13)	1.70 (2.07)	12 (10)	1.71 (1.60)
6-7	10 (11)	2.22 (2.56)	9 (9)	1.67 (1.09)	10 (10)	1.98 (2.04)
8-9	8 (6)	1.38 (1.30)	9 (11)	1.56 (1.88)	8 (8)	1.45 (1.53)
Mean	10 (8)	1.78 (1.78)	11 (11)	1.64 (1.68)	10 (10)	1.72 (1.72)
What-Think						
4-5	11 (7)	.96 (.85)	16 (32)	.61 (.78)	16 (25)	.80 (.82)
6-7	20 (30)	1.14 (1.32)	8 (11)	.73 (1.00)	15 (25)	.97 (1.19)
8-9	4 (5)	.67 (.97)	3 (6)	.33 (.52)	4 (5)	.53 (.81)
Mean	14 (21)	.95 (1.06)	10 (22)	.58 (.79)	12 (21)	.79 (.97)

Table 6.

Spontaneous Emotional Language Production During Stories

	Rapport Condition					
	Emotion		NICHD		Mean	
	Percentage	Number	Percentage	Number	Percentage	Number
Age Group	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)
4-5	6 (6)	2.45 (2.45)	6 (5)	2.13 (1.78)	6 (5)	2.29 (2.01)
6-7	5 (4)	4.38 (4.65)	4 (3)	3.30 (3.72)	4 (3)	3.85 (4.21)
8-9	6 (6)	5.29 (4.29)	6 (4)	5.04 (3.91)	6 (5)	5.17 (4.06)
Mean	5 (7)	4.00 (4.01)	6 (5)	4.04 (4.00)	5 (5)	3.78 (3.73)

Table 7.

Prompted Emotional Language Production During Stories by Rapport Condition by Age

	Rapport Condition					
	Emotion		NICHD		Mean	
	Percentage	Number	Percentage	Number	Percentage	Number
Prompt	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)
What-Next						
4-5	5 (7)	.48 (.90)	2 (4)	.27 (.39)	3 (5)	.38 (.70)
6-7	4 (4)	.50 (.61)	5 (7)	.50 (.54)	4 (6)	.50 (.57)
8-9	3 (4)	.58 (.82)	3 (4)	.65 (.83)	3 (4)	.61 (.81)
Mean	4 (5)	.52 (.78)	4 (5)	.47 (.63)	4 (5)	.50 (.70)
Cued-Action						
4-5	6 (3)	.61 (.33)	5 (3)	.63 (.38)	6 (3)	.62 (.35)
6-7	6 (5)	.94 (1.02)	5 (3)	.93 (.72)	5 (4)	.94 (.88)
8-9	7 (5)	1.00 (.07)	5 (2)	.83 (.46)	6 (4)	.93 (.59)
Mean	6 (4)	.86 (.75)	5 (3)	.80 (.54)	6 (4)	.83 (.65)
Cued-Emotion						
4-5	11 (7)	1.35 (.90)	10 (5)	1.18 (.57)	11 (6)	1.26 (.75)
6-7	10 (5)	1.32 (.86)	12 (5)	1.76 (1.00)	11 (5)	1.53 (.95)
8-9	12 (10)	1.62 (.90)	10 (7)	1.34 (.67)	11 (9)	1.48 (.80)
Mean	12 (8)	1.43 (.88)	11 (6)	1.43 (.80)	11 (7)	1.43 (.84)
What-Think						
4-5	8 (7)	.52 (.44)	8 (9)	.50 (.37)	8 (8)	.51 (.40)
6-7	12 (18)	.71 (.59)	11 (8)	.78 (.36)	12 (14)	.74 (.49)
8-9	12 (14)	.82 (.66)	10 (14)	.70 (.43)	11 (14)	.76 (.55)
Mean	11 (14)	.68 (.58)	10 (11)	.66 (.40)	10 (12)	.67 (.50)

Appendix

Story Stem Pictures and Script



[Name] Look at this. A mommy, daddy and THEIR kids, ASHLEY and JASON, go to the PETSTORE. And what is her name? [Ashley, yeah!] And what is his name? [Jason, yeah!] At the store there is a BIRD and a FURRY PUPPY.



Oh! Jason GETS a PRESENT.

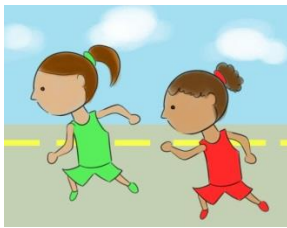


LOOK, Jason OPENS his PRESENT!

Now [name] you get to make up another story to these new pictures!



[Name] Look at this. A mommy, daddy and THEIR kids, ANDREW and JACKIE, go to a RACE. And what is her name IN RED? [Jackie, yeah!] And what is his name? [Andrew, yeah!] At the race there is a STARTING LINE and a BIG TIMER.



Oh! Jackie is BEHIND the OTHER girl.



LOOK, Jackie GETS AHEAD at the FINISH LINE!

Now [name] you get to make up another story to these new pictures!



[Name] LOOK at this. A mommy, daddy and THEIR kids, SEAN and KIMBERLY, go to the PARK. And what is his name? [Sean, yeah!] And what is her name? [Kimberly, yeah!] At the park there is a SWINGSET and a HIGH ROCK.



Oh! Sean CLIMBS the ROCK.



and, LOOK, Sean FALLS DOWN!

Now [name] you get to make up another story to these new pictures!



[Name] Look at this. A mommy, daddy and THEIR kids, CHRIS and DESTINY, are at the TABLE. And what is his name? [Chris, yeah!] And what is her name? [Destiny, yeah!] At the table there are COOKIES and ORANGE JUICE.



Oh! Destiny GETS UP from her CHAIR.



And, LOOK, Destiny SPILLS her juice onto the FLOOR.