

*University of Southern California Law  
School*

Legal Studies Working Paper Series

---

*Year 2015*

*Paper 185*

---

**The Productivity of Wh- Prompts in Child  
Forensic Interviews**

Elizabeth C. Ahern\*

Samantha J. Andrews†

Stacia N. Stolzenberg‡

Thomas D. Lyon\*\*

\*University of Cambridge, eca35@cam.ac.uk

†University of Cambridge, sja57@cam.ac.uk

‡Arizona State University, stacia.stolzenberg@asu.edu

\*\*University of Southern California, tlyon@law.usc.edu

This working paper is hosted by The Berkeley Electronic Press (bepress) and may not be commercially reproduced without the permission of the copyright holder.

<http://law.bepress.com/usclwps-lss/185>

Copyright ©2015 by the authors.

# The Productivity of Wh- Prompts in Child Forensic Interviews

Elizabeth C. Ahern; Samantha J. Andrews; Stacia N. Stolzenberg; and Thomas D. Lyon

## Abstract

Child witnesses are often asked wh- prompts (what, how, why, who, when, where) in forensic interviews. However, little research has examined the ways in which children respond to different wh- prompts and no previous research has investigated productivity differences among wh- prompts in investigative interviews. This study examined the use and productivity of wh- prompts in 95 transcripts of 4- to 13-year-olds alleging sexual abuse in child investigative interviews. What-how questions about actions elicited the most productive responses during both the rapport building and substantive phases. Future research and practitioner training should consider distinguishing among different wh- prompts.

# The Productivity of Wh- Prompts in Child Forensic Interviews

Journal of Interpersonal Violence

1–9

© The Author(s) 2015

Reprints and permissions:

sagepub.com/journalsPermissions.nav

DOI: 10.1177/0886260515621084

jiv.sagepub.com



Elizabeth C. Ahern,<sup>1</sup> Samantha J. Andrews,<sup>1</sup>  
Stacia N. Stolzenberg,<sup>2</sup> and Thomas D. Lyon<sup>3</sup>

## Abstract

Child witnesses are often asked wh- prompts (what, how, why, who, when, where) in forensic interviews. However, little research has examined the ways in which children respond to different wh- prompts, and no previous research has investigated productivity differences among wh- prompts in investigative interviews. This study examined the use and productivity of wh- prompts in 95 transcripts of 4- to 13-year-olds alleging sexual abuse in child investigative interviews. What–how questions about actions elicited the most productive responses during both the rapport building and substantive phases. Future research and practitioner training should consider distinguishing among different wh- prompts.

## Keywords

forensic interviewing, child sexual abuse, wh- prompts, rapport building, question types

Much research has focused on productivity differences between open-ended and closed-ended questioning in child forensic interviews (Lamb, Hershkowitz, Orbach, & Esplin, 2008). Fewer studies have examined

<sup>1</sup>University of Cambridge, UK

<sup>2</sup>Arizona State University, Phoenix, USA

<sup>3</sup>University of Southern California, Los Angeles, USA

## Corresponding Author:

Elizabeth C. Ahern, Department of Psychology, University of Cambridge, Free School Lane, Cambridge CB2 3RQ, UK.

Email: eca35@cam.ac.uk

differences among wh- prompts (what, how, why, who, when, where; Ahern, Stolzenberg, & Lyon, 2015; Andrews, Ahern, Stolzenberg, & Lyon, in press) even though a sizable proportion of questions in forensic interviews are wh-prompts (Andrews, Lamb, & Lyon, 2015; Yi, Lamb, & Jo, 2014).

There is a consensus that open-ended prompts are the most desirable because they more often elicit reliable, spontaneous, and elaborative descriptions about past events (Lamb & Fauchier, 2001). Under the National Institute of Child Health and Human Development (NICHD) Structured Investigative Interview Protocol, there are two types of open-ended prompts (Lamb et al., 2008): invitations and directives. Invitations elicit free recall from children, either through general invitations (e.g., "Tell me what happened") or cued invitations (e.g., "Tell me more about [detail child mentioned]"). Directives elicit cued recall by refocusing children on previously mentioned details of the allegation and are phrased as wh-prompts, including what, how, why, who, when, and where. Although invitations are the most productive open-ended prompts, directive wh-prompts remain popular among prosecutors (Andrews et al., 2015) and trained forensic interviewers (Yi et al., 2014). Closed-ended prompts include yes/no and forced-choice questions, and are consistently found to be less productive than directives and invitations (Lamb et al., 2008).

Little research has examined productivity differences among wh- prompts. Without testing productivity, some researchers have distinguished between wh- prompts that focus on specific contextual information (e.g., "What did he wear?"), which are likely to elicit brief responses, and those focusing on actions or events (e.g., "How did you get hurt?"), which are likely to elicit more narrative structure (Price & Roberts, 2011). Studies on investigative interviews show that invitations referencing actions (as opposed to appearances or locations) elicited the most details (Lamb et al., 2003), which suggests that wh- questions that reference actions may also be especially productive.

It is useful to assess the productivity of different types of questions both in the early phases of the interview, during which the interviewer is attempting to build rapport with the child, and during the substantive phase of the interview, during which the interviewer elicits information about the allegation. Rapport building is designed to create a supportive environment. Interviewers show interest in interviewees, familiarizing them with the level of detail they are expected to report. By the end of rapport, children's trust and cooperation should peak to provide a suitable transition into substantive content (Lamb et al., 2008). Most research examining the productivity of different prompts only analyzes the substantive phase (Lamb et al., 2008). To the extent that prompt type during rapport building has been examined, research has focused

on how the quality of rapport building affects children's substantive reports (e.g., Roberts, Lamb, & Sternberg, 2004). However, rapport building also provides the interviewer with an opportunity to assess the child's willingness to be forthcoming and the child's abilities to provide a coherent narrative. Whether certain types of questions are most productive in encouraging children to say more during rapport building is of interest in its own right.

Only two studies have examined the productivity of different wh- prompts. In one study, examining children's testimony, the authors found that rapport building wh- questions that referenced actions produced more words than other types of wh- questions (Ahern et al., 2015). In the other, also analyzing children's testimony, wh- prompts about actions were also most productive in eliciting details of the allegation (Andrews et al., in press). Both studies also found that wh- prompts that referenced causality were more productive than wh- prompts that referenced non-actions, possibly because questions about causality often inquire into previous actions.

Productivity differences among wh- prompts might be greater in forensic interviews than in court. Forensic interviews are conducted in a less-intimidating environment (e.g., defendants are not present, no visible onlookers, an informal setting). In investigative interviews, the interviewers typically engage in rapport building to increase children's comfort and productivity (Hershkowitz, 2011), whereas, in the courtroom, rapport building is minimal, with children uttering few words before being asked about the allegation (Ahern et al., 2015). Thus, children may be better equipped to respond to questions in investigative interviews than in court. Moreover, child investigative interviews occur much sooner after the abuse than courtroom testimony, which may also enable children to better recall what happened.

Wh- prompts may be especially productive for younger children. In a study examining investigative interviews of very young children, 3- to 4-year-olds responded more informatively to directives (largely comprised of wh- prompts) than to invitations (Hershkowitz, Lamb, Orbach, Katz, & Horowitz, 2012). Directives may have elicited informative responses from preschoolers most effectively because they make specific requests that demand less retrieval effort than free-recall invitations (Kulkofsky, Wang, & Ceci, 2008).

## Current Study

We examined productivity differences among wh- prompts across both the rapport building and substantive phases in 95 forensic interviews with children aged 4 to 13 years. The productivity of rapport building questions was assessed by word count, and of substantive questions by the number of

informative details. Consistent with research on children's testimony (Ahern et al., 2015; Andrews et al., in press), we predicted that what/how happen prompts would be most productive, what/how dynamic the next most productive, and that what/how causality prompts and why prompts would be similarly productive and more productive than the remaining wh- prompts.

## Method

The sample consisted of 95 forensic interviews of children alleging sexual abuse to police officers in a mid-sized Constabulary in the British Midlands (Lamb et al., 2009). All were the children's first evidentiary interviews. The children (80% girls) averaged 9.27 ( $SD = 2.59$ ) years of age (range = 4-13 years). Half of the interviews ( $n = 49$ ) were conducted using the NICHD Protocol, and a matched sample ( $n = 46$ ) was conducted using the Memorandum of Good Practice. All interviews were transcribed and checked for accuracy.

Wh- prompts were classified as what/how happen (questions that included the word or root "happen"), what/how dynamic (referencing actions; for example, "What did he do?"), what/how static (referencing context, including location, time, or objects; for example, "What color was his shirt?"), what/how evaluations (e.g., "How did you feel about him?"), what/how causality (e.g., "What made you scared?"), and why, when, where, and who (Andrews et al., in press).

The productivity of prompts was measured by word count during the rapport building phase. During the substantive phase (when children reported abuse incident/s), responses related to the investigated incident(s) were tabulated for the number of new details in each utterance (Lamb et al., 2008). By definition, details involved forensically relevant information about individuals, objects, and events. Two coders achieved above 90% agreement on two practice transcripts. Twenty percent of the transcripts were randomly selected and checked for reliability by one coder at quarterly intervals; Kappa = .81.

## Results

Analyses examining the productivity of wh- prompts were conducted at the conversational turn level using separate ANOVAs for the rapport building and substantive phases. Why and what/how causality prompts were combined because both ask for a reason and elicited comparable rates of informative responses. Where, when, who, and what/how static prompts were also collapsed (context prompts) because they ask about context and elicited comparable rates of informative responses. Table 1 displays the prevalence and productivity of wh- prompts by phase.

**Table 1.** Prevalence and Productivity of Wh- Prompts.

Rapport	Frequency	% of Wh- Prompts	Words Per Turn
Happen	112	11	31.51 (40.36)
Dynamic	265	25	15.79 (21.29)
Causality/why	45	4	10.18 (11.94)
Evaluative	28	3	5.50 (7.14)
Context	605	57	6.80 (11.29)
Substantive	Frequency	%	Details Per Turn
Happen	453	11	7.26 (13.35)
Dynamic	1,164	28	5.24 (10.51)
Causality/why	232	6	4.31 (5.77)
Evaluative	186	4	3.16 (4.54)
Context	2,197	52	3.27 (5.99)

A univariate ANOVA was conducted on the rapport building phase, with wh- prompt type (happen, dynamic, causality/why, evaluative, context) and age group (4- to 8-year-olds, 9- to 13-year-olds) entered as between subject factors. The dependent variable was the number of words children produced to each turn. Main effects due to age group,  $F(1, 1052) = 13.81, p < .001, \eta_p^2 = .01$ , and prompt type,  $F(5, 1052) = 64.85, p < .001, \eta_p^2 = .20$ , emerged, and an interaction between Age Group  $\times$  Prompt Type,  $F(7, 1052) = 19.54, p < .001, \eta_p^2 = .07$ , emerged. Older children produced more words ( $M = 12.02, SD = 22.57$ ) than younger children ( $M = 11.45, SD = 17.68$ ).

Tukey comparisons examining wh- prompts revealed happen prompts elicited more words per turn than every other wh- prompt type ( $ps < .001$ ). Dynamic prompts elicited more words per turn than static and context prompts ( $ps \leq .04$ ). Causality/why, evaluative, and context wh- prompts elicited comparably few words ( $ps > .76$ ). The interaction between wh- prompt and age group was due to older children producing more words to happen prompts than younger children,  $t(111) = 22.06, p < .001$ . For all other wh- prompts, older and younger children responded with similar numbers of words.

For the substantive turns, main effects due to age group,  $F(1, 4231) = 19.70, p < .001, \eta_p^2 = .01$ , and wh- prompt,  $F(7, 4231) = 22.15, p < .001, \eta_p^2 = .02$ , emerged. Older children ( $M = 4.87, SD = 9.76$ ) produced more details than younger children ( $M = 3.39, SD = 5.66$ ). Tukey comparisons examining wh- prompts revealed that happen prompts elicited more details per turn than all other wh- prompts ( $ps < .001$ ). Dynamic prompts elicited

more details per turn than evaluative and context wh- prompts ( $ps < .02$ ). Causality/why, evaluative, and context wh- prompts elicited comparable numbers of details ( $ps > .45$ ).

## Discussion

Prior research has overlooked the potential for productivity differences among different wh- prompts in child forensic interviews. Supporting our predictions, what/how happen prompts were more productive than every other wh- prompt, and what/how dynamic prompts were more productive than the remainder of wh- prompt types during both the rapport building and substantive interview phases. As predicted, we also found that what/how causality prompts were as productive as “why” prompts; however, causality/why prompts were no more productive than evaluative and context wh- prompts. Children’s response patterns were remarkably similar between phases, suggesting that happen and dynamic prompts may be especially lucrative throughout the interview.

Our findings are consistent with research showing that when children are questioned in court, wh- prompts asking about actions elicit more information from children than prompts focusing on specific contextual information (Ahern et al., 2015; Andrews et al., in press). Thus, we would encourage interviewers to focus on events and dynamic processes. Wh-evaluative prompts (e.g., “How did you feel?”) appeared relatively unproductive, which corresponds to studies finding that such questions elicit responsive yet brief answers (e.g., “Bad”). However, they may become more productive if paired with causality (“How did it make you feel bad?”) or cued invitations (“Tell me more about feeling bad”; Ahern & Lyon, 2013).

We speculated that productivity differences among wh- prompts might be greater in forensic interviews than in court, because of children’s greater comfort in interviews. Although children appeared more verbose during rapport building in the interviews (e.g., what/how dynamic prompts elicited on average almost 16 words in the current sample, compared with only eight words in Ahern and colleagues’ [2015] court sample), the number of details produced in response to the different types of wh- prompts was comparable across contexts (e.g., what/how happen prompts elicited on average seven details in the current sample and eight in Andrews and colleagues’ (in press) court sample).

Replicating other work, there were no productivity differences between what/how causality and why prompts, which calls into question the concern that children perceive why questions as accusatory, and are reluctant to answer them. However, unlike prior work, causality prompts were no more productive than



evaluative or context prompts. This may be due to insufficient power, as causality prompts consistently showed higher mean productivities, but were rarely asked.

### *Limitations and Future Directions*

Of course, accuracy cannot be verified in field interviews. Fortunately, laboratory research suggests that *wh-* questions about actions elicit more accurate responses than *wh-* questions about context (Goodman, Hirschman, Hepps, & Rudy, 1991; Peterson, Dowden, & Tobin, 1999). Children in the present sample were 4 to 13 years old. Although the younger children produced fewer words than the older children when asked the very open-ended *what/how* happen questions during rapport building, and generally produced fewer details, they exhibited the same pattern of providing more details in response to the most open-ended questions during the substantive phase of the interview. Future research could explore the relative usefulness of different types of *wh-* questions within smaller age ranges, particularly among the youngest children, who may benefit the most from *wh-* questions that more specifically reference details and thus may facilitate retrieval (Hershkowitz et al., 2012). Because productivity is not always indicative of quality, the content of children's responses should also be analyzed. Even though they produce fewer details per prompt, specific *wh-* questions that ask about context (e.g., *who*, *when*, and *where*) may be forensically necessary. However, *what/how* happen and *what/how* dynamic questions might elicit both information about actions and contextual information, thus reducing the need to ask more specific *wh-* questions. In addition, *wh-* questions about actions might facilitate more cogent narratives than other *wh-* prompts, because such responses may be less disjointed by pointed inquiries about contextual details.

The present study highlights the importance of asking children about actions as a means to elicit more informative responses. As such, our findings have implications for optimal training on questioning children in forensic settings. Interviewers could be advised to pair relatively unproductive *wh-* prompts with more productive follow-ups. Thus, future research and training may benefit from finer grained discrimination among *wh-* questions.

### **Acknowledgments**

The authors thank Emma Doumas and Juman Hamza for their assistance with reliability coding and preparing the transcripts.

### **Declaration of Conflicting Interests**

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

## Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This research was supported in part by the Nuffield Foundation, Jacobs Foundation, an NICHD Grant HD047290, and an Economic and Social Research Council studentship.

## References

- Andrews, S. J., Ahern, E. C., Stolzenberg, S. N., & Lyon T. D. (in press). The productivity of wh- prompts when children testify. *Applied Cognitive Psychology*.
- Ahern, E. C., & Lyon, T. D. (2013). Facilitating maltreated children's use of emotional language. *Journal of Forensic Social Work, 3*, 176-203. doi:10.1080/1936928X.2013.854124
- Ahern, E. C., Stolzenberg, S., & Lyon, T. D. (2015). Do prosecutors use interview instructions or build rapport with child witnesses? *Behavioral Sciences & the Law, 33*, 476-492. doi:10.1002/bsl.2183
- Andrews, S. J., Lamb, M. E., & Lyon, T. D. (2015). Question types, responsiveness and self-contradictions when prosecutors and defense attorneys question alleged victims of child sexual abuse. *Applied Cognitive Psychology, 28*, 253-261. doi:10.1002/acp.3103
- Goodman, G. S., Hirschman, J. E., Hepps, D., & Rudy, L. (1991). Children's memory for stressful events. *Merrill-Palmer Quarterly, 37*, 109-157.
- Hershkowitz, I. (2011). Rapport building in investigative interviews of children. In M. E. Lamb, D. La Rooy, L. C. Malloy, & C. Katz (Eds.), *Children's testimony: A handbook of psychological research and forensic practice* (pp. 109-128). West Sussex, UK: Wiley-Blackwell.
- Hershkowitz, I. (2011). Rapport building in investigative interviews of children. In M. E. Lamb, D. La Rooy, L. C. Malloy, & C. Katz (Eds.), *Children's testimony: A handbook of psychological research and forensic practice* (pp. 109-128). West Sussex, UK: Wiley-Blackwell.
- Kulkofsky, S., Wang, Q., & Ceci, S. J. (2008). Do better stories make better memories? Narrative quality and memory accuracy in preschool children. *Applied Cognitive Psychology, 22*, 21-38. doi:10.1002/acp.1326
- Lamb, M. E., & Fauchier, A. (2001). The effects of question type on self-contradictions by children in the course of forensic interviews. *Applied Cognitive Psychology, 15*, 483-491. doi:10.1002/acp.726
- Lamb, M. E., Hershkowitz, I., Orbach, Y., & Esplin, P. W. (2008). *Tell me what happened: Structured investigative interviews of child victims and witnesses*. Chichester, UK: Wiley.
- Lamb, M. E., Orbach, Y., Sternberg, K. J., Aldridge, J., Pearson, S., Stewart, H. L., . . . Bowler, L. (2009). Use of a structured investigative protocol enhances the quality of investigative interviews with alleged victims of child sexual abuse in Britain. *Applied Cognitive Psychology, 23*, 449-467. doi:10.1002/acp.1489
- 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. doi:10.1037/0022-006X.71.5.926
- Peterson, C., Dowden, C., & Tobin, J. (1999). Interviewing preschoolers: Comparisons of yes/no and wh-questions. *Law and Human Behavior*, *23*, 539-555. doi:10.1023/A:1022396112719
- Price, H. L., & Roberts, K. P. (2011). The effects of an intensive training and feedback program on police and social workers' investigative interviews of children. *Canadian Journal of Behavioural Science*, *43*, 235-244. doi:10.1037/a0022541
- Roberts, K. P., Lamb, M. E., & Sternberg, K. J. (2004). The effects of rapport-building style on children's reports of a staged event. *Applied Cognitive Psychology*, *18*, 189-202. doi:10.1002/acp.957
- Yi, M., Lamb, M. E., & Jo, E. (2014). The quality of Korean police officers' investigative interviews with alleged sexual abuse victims as revealed by self-report and observation. *Journal of Police and Criminal Psychology*, *30*, 274-281.

### Author Biographies

**Elizabeth C. Ahern's** research focuses on child interviewing techniques (e.g., non-suggestive support), examining children's attitudes surrounding abuse disclosure, and the well-being of safeguarding professionals. She has worked firsthand with investigation teams as a forensic interviewer and trainer, conducted hundreds of NICHD-based child investigative interviews, and testified in criminal court. She is conducting her post-doctoral research at the University of Cambridge.

**Samantha J. Andrews's** research examines the use and effects of various questioning techniques put to children in a variety of legal contexts, including criminal court and investigative interviews. She is presently a doctoral student at the University of Cambridge.

**Stacia N. Stolzenberg's** research investigates encouraging accurate disclosures of children's abuse without increasing false allegations and developing productive procedures for children's involvement in court settings. She is presently an assistant professor at Arizona State University at the School of Criminology and Criminal Justice.

**Thomas D. Lyon's** research interests include child witnesses, child maltreatment, and domestic violence. He teaches courses in Evidence, Law and Psychology, and Child Interviewing. He is past-president of the American Psychological Association's Section on Child Maltreatment (Division 37) and a former member of the board of directors of the American Professional Society on the Abuse of Children.



bepress Legal Re