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Francisco J. Garcia[1], Martine B. Powell[1], Sonja P. Brubacher[1], Susana A. Eisenchlas[2] and Samantha Low-Choy[3, 4]

[1] Centre for Investigative Interviewing, Griffith Criminology Institute, Griffith University

[2] School of Humanities, Languages and Social Science, Griffith University

[3]Office of the Vice Chancellor, Arts Education and Law, Griffith University

[4]Griffith Institute for Educational Research, Griffith University

Author Note

Francisco Garcia https://orcid.org/0000-0001-5685-9584

Martine Powell https://orcid.org/0000-0001-5092-1308

Sonja Brubacher https://orcid.org/0000-0002-2422-9913

Susana Eisenchlas https://orcid.org/0000-0002-7700-8444

Samantha Low-Choy https://orcid.org/0000-0002-1722-4428

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Correspondence concerning this article should be addressed to Martine Powell: Centre for Investigative Interviewing, Griffith Criminology Institute, Griffith University, 176 Messines Ridge Road, Mount Gravatt, 4122, QLD, Australia. E-mail address: martine.powell@griffith.edu.au

[Title page]

Abstract

Investigators hope to elicit disclosure or other case-related (informative) responses quickly when transitioning to the substantive phase of forensic interviews. Interviewing protocols suggest directly asking the child about the purpose of the interview to obtain early disclosure. However, interviewers sometimes rephrase scripted transition prompts, which has unknown consequences. The present study examined the effects that the first transition prompt phrasing and case-related variables have on the informativeness and rapidity of disclosure among a sample of 328 allegedly abused children who ultimately disclosed during a police interview. Regression models were fit and compared. Findings suggested that transition prompts that used *what* were 60% more likely to obtain informative responses than those that used *why.* Additionally, transition prompts that started with *Do you know* decreases by 91% the probability of obtaining immediate informative responses, compared to those phrased directly (e.g., "What have you come to talk to me today?"). Children in this sample produced equally informative responses to direct prompts and indirect *Can you* prompts. Further analyses showed that transition prompts phrased with *why* obtained disclosure later than those phrased with *what*. Moreover, children who are 8 years and older, as well those who engaged in a practice narrative, required half the number of substantive utterances to disclose compared to younger children. Overall, this research showed that there are some aspects within an interviewer's control that are important to elicit case related information and rapid disclosure in forensic interviews and should not be discretionary.

Keywords: Investigative interviewing, politeness, best practice, practice narrative, Child Sexual Abuse

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Children's disclosures are considered to be among the most significant factors in the discovery of their sexual abuse (e.g., Goodman-Brown et al., 2003). Disclosures are motivated by the need to tell (the so-called 'pressure-cooker effect') and the opportunity to tell; the latter is provided when a child encounters a recipient they deem trustworthy and likely to believe them, and when children are asked about their wellbeing or concerns (Brennan & McElvaney, 2020; Reitsema & Grietens, 2016). Indeed, simply being asked has been identified as an important precipitator of children's disclosure (Alaggia et al., 2019; Brennan & McElvaney, 2020; Malloy et al., 2013). In a forensic interview, interviewers are trained to ask about abuse initially with a non-leading invitation to talk about the purpose of the interview, sometimes referred to as a *transition prompt,* because it moves the interview from pre-substantive topics (e.g., preparatory activities) to substantive, allegation-related topics (Lamb et al., 2018).

This transition to the substantive phase is arguably a critical moment in the interview because it is desirable that any report of abuse (when present) emanates directly from children in their own words (Powell & Snow, 2007). Little attention has been directed towards the ease with which children disclose in response to this prompt and what predicts rapidity of disclosure. Ideally, transition prompts should encourage children to report information that is directly related to the topic of concern. Failing to do so may have downstream implications on the rest of the interview. For example, when interviewers elicit uninformative responses from child witnesses (e.g., "don't know"), they are more prone to using suggestive or coercive techniques (Hershkowitz et al., 2006). This type of questioning can impact on the quality of the interaction between interviewer and interviewee, jeopardize the associated investigation, and damage

children's credibility (Ceci & Friedman, 2000). Further, since abuse-relevant information is not obtained early, more prompts are delivered before a disclosure is made or before the interview is otherwise terminated. In either case, it could lead to a lengthy, unfocused interview. In general, child development experts recommend interviewers minimize the length of interviews where possible to better suit the attention spans of children (e.g., Saywitz & Camparo, 2014). Thus, it is worthwhile to determine the most effective phrasing for the transition prompt.

Transition Prompts

Many evidence-based semi-structured interview protocols and guidelines include scripted transition prompts to assist interviewers (e.g., *Recognizing Abuse Disclosure types And Responding* [RADAR], Everson et al., 2014; the *National Institute of Child health and Human Development* [NICHD] protocol, Lamb et al., 2018; *Ten step investigative interview*, Lyon, 2005; the *Standard Interview Method* [SIM], Powell & Brubacher, 2020; *Developmental Narrative Elaboration Interview*, Saywitz & Camparo, 2014; *Forensic Interviewing Protocol*, State of Michigan Governor's Task Force on Child Abuse and Neglect & Department of Human Services, 2014; *the Step-Wise Guidelines*, Yuille et al., 2009). Scripted prompts are intended to serve as developmentally appropriate suggestions, but in actual practice, interviewers may convey the same concept with slightly different wording. Evaluations of how well interviewers adhere to protocols have tended to assess whether each interview phase was executed properly, but not whether interviewers used the scripted wording (e.g., Benson & Powell, 2015; Cyr et al., 2021; Luther et al., 2015). Yet, prompts in the aforementioned interview guidelines are often the product of careful crafting by experts in memory or human development.

Regarding transition prompts, the published interview guidelines all agree that children should first be invited to state the purpose of the interview in their own words, and that

interviewers should try to support this process in as open a manner as possible (e.g., Powell & Snow, 2007). The documents differ, however, in the recommended structure of the prompt (e.g., "I want to talk about why you are here today. Tell me the reason you are here"; "Tell me what you've come to talk about today"). Further, interviewers might alter prescribed transition prompts for numerous reasons including local custom, personal preference, or because they think an individual child needs a different approach. Even minor wording differences have the potential to affect memory reports (i.e., as has been shown in misinformation studies; e.g., Loftus et al., 1978), and from a linguistic point of view, any modification of key phrases has the potential to affect the productivity of children's responses. We review this phenomenon in the next section.

Effect of Linguistic Variations on Children's Responses

There is a vast literature on how changes in wording for interviewer questions affect the completeness and accuracy of children's accounts (for overviews see Lamb et al., 2018; Poole, 2016; Walker et al., 1999). In this section, we focus specifically on linguistic constructions relevant to the transition prompt and distinguish between two main constructions: *what* versus *why*, and direct versus indirect requests.

First, in seeking the purpose of the interview, transition prompts are usually constructed using either *what* or *why*. There is ample evidence to suggest that a *what* construction will be more productive than a *why* construction, particularly for younger children. Children acquire understanding of the concrete *wh*-questions (i.e., *what, where,* and *who*) earlier than the more abstract *wh*-questions (i.e., *when, why,* and *how;* Ervin-Tripp, 1970). Improved ability to respond to concrete questions has been shown in samples of non-maltreated and maltreated children, laboratory interviews about neutral events, police interviews about allegations of abuse, and in

courtroom testimony (Ahern et al., 2018; Andrews et al., 2016; Malloy et al., 2017). A recent experimental study also found more immediately informative responses to a transition prompt with *what* versus *why* phrasing in a sample of 401 non-maltreated children aged 5 to 9 years (Earhart et al., 2018). Taken together, these findings suggest that when seeking information relevant to disclosure in forensic interviews with allegedly maltreated children, a transition prompt with *what* phrasing will be more effective than with *why* phrasing.

Second, direct requests to explain the purpose of the interview (e.g., "What/*Why* are you here today?") may be more effective than indirect requests. Indirect speech acts ask respondents whether they know the answer to a question while indirectly seeking the content of the answer if known (Clark, 1979; e.g., "*Do you know*/*Can you tell me* if he has a job?", "*Do you know/Can you tell me* where he lives?"). When transition prompts were phrased in an indirect or closed manner, one study found lower disclosure rates than when they were phrased directly (66.7% vs 90.5%; Hughes-Scholes & Powell, 2013). That study, however, did not separate findings by phrasing type: *Do you know/remember* (hereafter for simplicity, DYK) and *Can you* (CY), or whether the indirect question could be classified as *wh*- or option-posing (yes-no or multiple choice; Evans et al., 2014; Evans et al., 2017; Stolzenberg et al., 2020; Walker & Hunt, 1998). To our knowledge these dimensions have not been contrasted in a single study (i.e., phrasing vs. question type).

Interviewers who worry about introducing information or presuming knowledge may use an indirect phrasing such as, "*Do you know* what you're here to talk about?". (See Evans et al., 2017, for discussion). In an earlier set of studies with nearly 200 maltreated and non-maltreated 3- to 8-year-olds, when interviewers asked non-misleading DYK *wh*-questions about a pleasant story (e.g., "*Do you know* what the dog did?"), a minority (14-18%) of children provided

unelaborated "yes" responses (Evans et al., 2014). In contrast, no child provided unelaborated "yes" responses to the direct questions (e.g., "*What* did the dog do?"). Unelaborated "no" responses, which were collapsed with "I don't know" responses because the meaning is equivalent across indirect and direct questions, occurred 14-29% of the time. Importantly, when comparing children's responses to misleading direct and indirect questions (about details that did not occur in the story), the authors found no evidence that the direct questions increased confabulations compared to the indirect ones. This finding implies that interviewers may not need to be concerned about presuming the child has the queried knowledge when using *wh*-questions. This supposition is supported by literature demonstrating that, among children and adults, there is an increased likelihood of responding "I don't know" to unanswerable *wh*-questions compared to yes-no questions (Waterman et al., 2001).

DYK questions in a yes-no format (e.g., "Do you know if/whether the dog went into the house?") are more problematic than the *wh*- format (Evans et al., 2017). Children are more likely to provide unelaborated responses to the former than the latter, which can result in ambiguity (Lyon et al., 2019). Transition prompts, however, are unlikely to take a DYK yes-no format (e.g., "Do you know if/whether you have something to tell me?").

Interviewers may also use indirect speech acts to demonstrate politeness, for example with a request such as, "*Can you tell me* why you're here today?" (Lakoff, 1977). Regarding the effects of CY prompts on children's responses, the literature is less conclusive than research on DYK prompts. Evidence from the late 1990's suggested that CY prompts should be avoided because a minority of children (28%) provided unelaborated "yes" responses (Walker & Hunt, 1998; see also Walker et al., 1999). Yet, there is other evidence that indirect CY prompts are interpreted as direct prompts by children as young as 19 months old, under certain

circumstances. Some authors have referred to prompts that begin with *Can you* as questions about ability (Searle, 1975). Shatz (1978a) showed that when these prompts were about actions (e.g., "*Can you* put the balls in the truck?"), 19- to 34-month-old children were likely to perform the action irrespective of whether the request was direct or indirect. These findings suggest they interpret the prompts as asking them to execute the action (or provide the information) when they have the ability.

In general, the research on indirect questioning with children shows developmental improvements in pragmatic understanding (Evans et al., 2014; Evans et al., 2017; Walker & Hunt, 1998). Yet, a further problem with indirect requests that may be particularly relevant to the transition prompt is the concept of *formal reticence.* Lyon and colleagues have used this term to explain why children's answers in forensic interviews and court can frequently be described as easily retrievable and minimally sufficient (Lyon et al., 2019). This definition means providing the shortest possible response, such as *yes* or *no* to yes-no questions and brief answers to *wh*-questions. Indirect questions take yes-no as their explicit format, leaving open the possibility that children could say "No" if indirectly invited to explain the purpose of the interview, which may leave an interviewer unsure of where to go next.

Case Characteristics Related to Disclosure of Sexual Abuse in Forensic Interviews

Beyond the transition prompt, there are numerous variables associated with disclosure in a formal forensic interview or at some point prior (Goodman-Brown et al., 2003; McElvaney et al., 2020). To evaluate the relative importance of different choices in the transition prompt wording, we must account for as many of these other variables as possible.. Some variables related to disclosure are known to be strongly and reliably predictive, such as suspect identity. Children are less willing to disclose when the suspect is a parent figure (including stepparent,

adoptive parent, and foster parent) compared to other familiar adults and strangers (Goodman-Brown et al., 2003; Hershkowitz et al., 2007; Hershkowitz et al., 2006). For other variables, such as age, there are mixed findings on ability to predict disclosure. Some studies have shown increases in disclosure rates as children age (Hershkowitz et al., 2005) while others have found no relation (Rush et al., 2014). Another study found a quadratic relationship between age and disclosure rates, whereby the proportion of cases in which children disclosed increased rapidly for children aged 3 to 11 years, then decreased from 11 to 16 years (Leach et al., 2017). Evidence has also been mixed for the association between penetrative CSA and disclosure, with some studies showing that penetrative crimes (e.g., rape) increase the likelihood of disclosure (Hershkowitz, 2006), decrease the likelihood of disclosure (Goodman-Brown et al., 2003), or have no relationship with disclosure (Sjoberg & Lindblad, 2002).

Rapport building and interviewer support may also influence children's disclosure and productivity in interviews. Children who engage in a practice narrative ('episodic memory training'), where they respond to an interviewer's open-ended questions about a pleasant or neutral recent event before transitioning to the allegations, tend to produce more informative responses (Anderson et al., 2014; Price et al., 2013; Roberts et al., 2011; Yi & Lamb, 2018). This activity has not been shown to influence disclosure per se (Lyon et al., 2014; Yi & Lamb, 2018; Magnusson et al. 2020), but by increasing informativeness it may increase rapidity of disclosure (amongst children with the propensity to disclose). Engaging in a practice narrative is also assumed to build rapport and demonstrate interviewer support; numerous studies highlight the importance of non-suggestive interviewer support throughout interviews with vulnerable witnesses (see Saywitz et al., 2019 for review). Support may be particularly important during transition, a time in the interview that can be associated with reluctance and denials

(Hershkowitz et al., 2015). When interviewers use supportive statements early in interviews, children make disclosures following fewer prompts (Ahern et al., 2019), with less reluctance (Blasbalg et al., 2019).

Current Study

The current study aimed to explore the most common variations on wording used by interviewers when phrasing the first transition prompt to elicit children's allegations of abuse. We tested the effect that those variations had on the probability that a child's response would be informative (i.e., forensically relevant) and disclosure rapid (i.e., elicited with fewer prompts), against the backdrop of other case characteristics that may be associated with propensity to disclose (e.g., child's age, inclusion of supportive statements during transition). To guide these analyses, we formulated four key hypotheses about transition prompt variations, based on the existing literature described previously. The informativeness of children's responses to the transition prompt, and their rapidity of disclosing were expected to be positively affected when a) transition prompts used *what* phrasing compared to *why* phrasing, b) transition prompts were direct versus indirect, c) indirect transition prompts used *can you* rather than *do you know/remember* phrasing, and d) interviews included a practice narrative. In addition, research was exploratory regarding how these four factors together affected informativeness and rapidity of disclosure.

Method

Sample

The source material for this study came from a dataset of 374 transcripts of recorded police interviews conducted with child witnesses involved in child sexual abuse investigations between 2002-2014 in four Australian states. Our coding was constrained to transcripts that: (1)

were the first record of an interview with the child, (2) started the substantive phase with a transition prompt, and (3) for which disclosure was obtained at some point during the interview. These restrictions resulted in the exclusion of 46 transcripts: 18 were not a child's first interview, 13 did not begin with a transition prompt (i.e., these interviewers started the substantive phase with a question that did not invite a child to disclose the purpose of the interview such as "Do you know [suspect]?"), eight had spontaneous disclosure (e.g., the child started talking about the alleged abuse in the pre-substantive phase), in four there was no disclosure (one did not use a transition prompt, two used a *why* construction, and one used a *what* construction), and three transcripts included children with communication impairments that required special assistance.

All information used in this study was obtained directly from the transcripts because ethical restrictions impeded us from obtaining supplementary information from the sample (e.g., interviewer characteristics, corroborative evidence, and other relevant case information). Although interviewers had a basic evidence-based interview protocol to follow, they may have differed in the extent they did so. We analyzed the pre-substantive phase for delivery of ground rules and inclusion of a practice narrative. Nearly all transcripts (94%) contained one or more ground rules (e.g., correct the interviewer) and two thirds (64%) contained a practice narrative (i.e., discussion of a non-abusive topic).

The final sample comprised 328 transcripts from children aged 4-16 years old (M = 10.43, SD = 2.99), predominantly female (78%). In most cases (90%) they reported experiences of abuse with a sexual component only, in contrast to physical or other type of abusive experience. Almost half of the children experienced severe abuse (55%) and reported multiple incidents (48%). A quarter of the sample indicated that the suspect was a parent figure. The prevalence of all characteristics used in this study can be found in Table 1.

Coding

Output Variables

Two output variables were considered in this study. The first variable of interest was informativeness of the *immediate response*, which was dichotomized into informative or uninformative (e.g., Earhart et al., 2018). In this study, informative responses were restricted to those that contained some offence-related information that an interviewer could follow up. Examples of informative responses included: "What my grandpa did to me", "What happened at school", "About last weekend", "About the nasty game". Nearly two thirds of the transcripts contained informative immediate responses (64%). Amongst this group, a third (37%) directly disclosed the alleged offence (e.g., "When my cousin tried to kiss me", "about a sexual assault"). Uninformative immediate responses included precursors (the reason for being there, e.g., "To talk to you"), don't know, don't remember (including "I forget"), clarifications (e.g., "What do you mean?"), other unrelated responses (e.g., "Because it's an exciting day") and silences or no responses. In addition, monosyllabic responses (e.g., "Yes", "No", "Mmm") were also considered uninformative, as their content is ambiguous regarding the transition prompt of interest.

The second variable considered was: the *number of substantive speaking turns* (i.e., questions or other explicit requests for information), as used by interviewers, after the initial transition prompt to obtain a disclosure. For this second part of the study, the 79 children who disclosed immediately after the transition prompt were excluded, providing a subset of 249 transcripts (Table 1). The average turns to disclose was five ($M = 5.22$; $Mdn = 2$; $SD = 10.78$); however, this variable was not normally distributed across the sample ($W = .452$, $p < .001$) and covered a wide range (1-105 turns). Because interviewers aim to elicit disclosure with the fewest

possible substantive utterances during a forensic interview, the turns to disclosure were dominated by lower values (skewness = 5.10).

Input Variables

Three sets of variables were coded to determine their relative importance in predicting immediate response informativeness and rapidity of disclosure. These related to the transition prompt phrasing, interviewer supportiveness, and sample characteristics (e.g., age).

Wording of the transition prompt was classified three ways. First, question directness was coded in three mutually exclusive categories: direct, indirect CY, and indirect DYK. While direct questions ask the child directly for the purpose of the interview, indirect transitions were formulated in a way that logically restricted the possible answers, either using "*can you*" or "*do you know/remember*" phrasing. Second, the presence of a *Wh-* word (either *what* or *why*) was coded. Third, the expression "Tell" was also coded as present (e.g., "*Tell me* what happened") or absent (e.g., "What happened"). Although we made no predictions about whether *tell* would be included in transition prompts, we aimed to capture a wider range of linguistic diversity.

Two supportive strategies were coded as present or absent: use of a practice narrative, and any supportive expressions contained within the transition prompt utterance. Supportive expressions included addressing the child by name, stressing interviewer trustworthiness or solidarity (e.g., "I'm here to listen to you"), neutral positive reinforcement of the child's efforts (e.g., "You are telling me very clearly", "Thank you for sharing that" [referring to event described in the practice narrative]), and emotional supporting or caring (e.g., "How are you feeling to continue?").

Sample characteristics included two child-related variables: *age* at the time of the interview and *gender* as the stated or inferred biological (binary) sex of the child (female or

male). Also, four case-related variables were coded dichotomously: the *relationship* that the suspect had with the child (parent role or non-parent role); the *type of abuse* described by the child (sexual or other); the *severity of abuse* (severe when penetrative or use of objects was described in sexual offences and injuries for physical offences, less severe otherwise); and *frequency of abuse* (single or multiple). Variables *type of abuse* and *use of ground rules* were not used as a predictor in analyses because one of their categories were too predominant (e.g., 90% of the cases were of sexual abuse). Finally, the variable *age* was considered as continuous or dichotomised. We found that the continuous version of age violated assumptions of logistic regression. Groups were established empirically, after analysing the log-odds distribution (7 years old and younger; and 8 years and older).

Reliability

All transcripts were coded by one researcher; and 18% were double coded by each of two other researchers, who were not otherwise involved in the study and blind to hypotheses. Inter-rater agreement in coding all variables, which were categorical, (e.g., type of abuse) was calculated using Cohen's Kappa, with interpretation following Landis & Koch (1977). Reliability for numerical variables (e.g., age and substantive turns to disclosure) was calculated by the Intra- Class Correlation coefficient (ICC), based on a single-rater, absolute agreement, two-way mixed-effects model (McGraw & Wong, 1996), and classified following Koo and Li (2016). There was substantial overall agreement between the three researchers [κ=.80, $p < .001$]. Inter-coder reliability levels were excellent for the age of the child [$r\,(61) = 1$, $p < .001$] and moderate for the substantive turns to disclosure [$r\,(61) = .76$, $p < .001$]. Disagreements among researchers were mostly due to inattention and were discussed and incorporated to the final dataset before analyses.

Analytic Plan

The results are divided into three parts. First, exploratory analyses were conducted to examine relations between the different linguistic components of the transition prompts in our sample. This helps reveal underlying relations between variables, which could distort results (Abbott and Carroll, 1984). Second, logistic regression was used to establish the effects that the transition prompt variations had on the probability of obtaining informative immediate responses and whether other variables influenced the effect. Third, negative binomial regression was used to model the effect that transition prompt components had on the number of substantive utterances required to obtain disclosure and examine the influence of other variables. This analysis used the subsample of 249 cases that did not disclose immediately after the first transition prompt. Negative binomial models are appropriate with this sample because of the way the data were coded (e.g., counting failures until success occurred), the shape of the distribution, and its over-dispersion compared to a Poisson, where the mean is presumed equal to the variance.

The goal of the regression analyses was to fit a model that was informative, parsimonious, and easy to interpret (Thorpe, 2017). We fitted a series of regression models of growing complexity for each output variable, starting with a basic model (e.g., with one variable) and progressively adding more variables whilst comparing each new model with the previous (see Gelman et al., 2020, p. 495). Fitted models were compared using the three principles above to obtain a selected model. Model comparison aimed to test whether the inclusion or exclusion of a variable impacted on how well the model predicted the output variable (e.g., informative responses) and how the inclusion of a variable also may affect the others (e.g., collinearity, effect modification, etc.). Different statistics were used to compare models: the likelihood ratio test, the

Akaike and Bayesian Information Criterion, the area under the curve of the receiver operating characteristic, and pseudo R-squared measures. The best resulting model was selected using the three principles above: as providing the best explanation of the data with the least error, requiring the fewest variables, whilst remaining logically and theoretically relevant. Once selected, we refit selected models using Bayesian methods to detect issues of separation or perfect prediction (Mansournia et al., 2017). Finally, each selected model was used for detailed reporting. In addition, of the remaining models, the two closest competitors were presented to provide context and transparency.

Results

Preliminary Exploratory Analyses

We first conducted exploratory analyses to characterize how transition prompts were phrased in our sample and to reveal any relationships among the linguistic components of the transition prompts (e.g., the use of *what* versus *why* across the variations of directness). See Table 2 for frequencies and individual follow-up tests for Chi-squared analyses. A 3(directness) × 2(*wh*- question) analysis revealed that direct transitions were more prevalent with *what* than *why* phrasing, and indirect DYK transitions were more associated with *why* than *what* phrasing, χ^2 (2, N = 318) = 46.44, p < .001. A 2(inclusion of *tell*) × 2 (*wh*- question) chi square analysis concluded *tell* as more likely to appear with *what* than *why* phrasing, χ^2 (1, N = 318) = 12.24, p < .001. Finally, we found that directness and inclusion of *tell* were related, χ^2 (2, N = 328) = 187.03, p < .001. The expression *tell* was always present (100%) in indirect CY questions and almost never (6%) present in indirect DYK.

We then conducted exploratory analyses to understand the differences between unelaborated *yes* and unelaborated *no* uninformative immediate responses in relation to the

transition prompt phrasing and disclosure rapidness. From the 64 uninformative immediate yes/no responses found in the sample, only 31% were unelaborated *no* (n = 20). Unelaborated *yes* responses (n = 44) were elicited by indirect DYK (93%), indirect CY (2%), and direct *why* (5%). Unelaborated *no* responses were elicited by indirect DYK (70%) and indirect CY (30%). Across the 64 uninformative immediate yes/no responses, most were in response to *why* transition prompts (70%). In terms of their relationship with disclosure rapidness, there was a significant difference between unelaborated *yes* and *no* immediate responses (U = 168.5, p <.001, r = -.50). Unelaborated *yes* responses needed fewer substantive utterances to disclosure (M = 5.84, Mdn = 1.5) than unelaborated *no* responses (M = 11.95, Mdn = 5.5). Both unelaborated yes and no responses needed more substantive utterances to disclosure, however, than informative immediate responses (M = 3.39, Mdn = 1).

The Effect of Transition Prompt Wording on Immediate Response Informativeness

Logistic regression was used to test the effect that transition prompt components have on the probability of a child's initial response being informative or not. Model 3 was the final selected model and included the variables *wh*-question type and directness. Model 3 outperformed the two closest models (Table 3), having similar fit to the data, but with less error, and using fewer variables. Furthermore, no statistically significant differences with the other two models were found. Table 4 presents the results of Model 3. These results suggest that, when controlling for the effect of question directness, the probability of obtaining informative responses to a transition prompt using *why* phrasing decreases by 60% (Exp (B) = .40, 95% CI [.22, .73], p <.001) in comparison with *what* prompts. Also, when controlling for the effect of *wh*-question phrasing, the probability of obtaining informative responses using DYK questions, instead of direct questions, decreases by 91% (Exp (B) = .09, 95% CI [.05, .18], p <.001). There

was no conclusive effect for the use of indirect CY questions, meaning they are not statistically different than direct questions. Results were similar with Bayesian analyses, suggesting that neither separation nor perfect prediction are present.

Model Effect of Transition Prompts on Number of Substantive Utterances Until Disclosure

Like the previous analysis, the three most relevant models are presented in Table 5. Model 12 was the best model to predict children's response informativeness, not only because it is statistically different than the two competitors, but also because it provides a higher explanation ability and a lower estimation error. Model 12 is presented in Table 6 and includes three predictor variables, the *wh*-question used, the age of the child (dichotomized), and the inclusion of a practice narrative. This fitted model suggests that the incident rate of utterances to disclosure for *why* transition prompts is 2.3 times higher than for *what* transition prompts (reference group), when controlling for age and practice narrative (Exp (estimate) = 2.3, 95% CI [1.69, 3.23]). In terms of age, the incident rate of utterances needed to disclose for children 8 and older was less than half of that for younger children (Exp (estimate) = .46, 95% CI [.31, .66]). Similarly, the presence of a practice narrative reduced the incident rate of utterances needed to elicit disclosure by 50% (Exp (estimate) = .50, 95% CI [.36, .70]).

Exploring the Relation Between Transition Prompt Variations and Output Variables

The relations we observed earlier among the linguistic components of the transition prompts suggest not only that special attention must be paid when using individual variables to fit regression models (e.g., because of possible confounding or collinear effects), but also that the individual variables can be merged into one variable that comprises transition prompt variations. This last idea was tested with an additional set of analyses to assess the direct effect that transition prompt variations may have on immediate response informativeness and disclosure

rapidity. A new input variable, transition prompt variation, was created by combining the variables *question directness* and *wh*-question (3×2). An additional category "other" was added to include those transition prompt variations that did not fit into the other six categories (e.g., questions that did not contain the expressions *what* or *why*, or that contained both expressions). The variable *tell* was excluded because it was of no relevance in any of the fitted models. Examples of each transition prompt variation and the summary of findings are presented in Table 7.

The logistic regression showed that transition prompt variations can predict immediately informative responses, with effect $B = 1.72$ (95% CI [1.17, 2.27], SE = .28, Wald = 6.15, $p < .001$). Compared to direct *what* questions (reference group), the probability of obtaining informative responses using direct *why* questions decreased by 61% (Exp (B) = .39, 95% CI [.18, .85], $p < .05$), indirect DYK-what questions reduced the probability to obtain informative responses by 86% (Exp (B) = .14, 95% CI [.04, .43], $p < .001$), and indirect DYK why questions by 97% (Exp (B) = .03, 95% CI [.01, .07], $p < .001$). The rest of the transition prompt variations did not have significant relationships with the informativeness of response at the 95% level.

Negative binomial regression considered the direct influence of transition prompt variations on substantive utterances to disclosure. This model was also significant (estimate = 1.56, 95% CI [-.38, .95], $SE = .24$, $z = 6.42$, $p < .001$). Only the variation DYK-*why* had significant contribution to the model; the direct *why* variation yielded a borderline result. When compared to direct *what* questions, the incident rate of utterances to disclosure increased by a factor of 2.3 (Exp (estimate) = 2.30 95% CI [1.50, 3.52], $p < .001$). Similarly, compared to the reference group, direct *why* questions increased the rate of utterances to disclosure by 1.62 (Exp (estimate) = 1.62 95% CI [1.00, 2.56], $p = .052$).

Discussion

This study demonstrates the impact of small changes to the wording of the transition prompt on a) the chance of immediately obtaining informative responses from children and b) the rapidity of disclosure, when introducing the topic of concern in forensic interviews. We fitted and compared a series of models in growing complexity to test the effects of the linguistic components of transition prompts (e.g., the *wh*-question asked) alone and together with other variables that may influence disclosure (e.g., age of the child). The effects were similar on the two output variables, but immediate response informativeness was directly and uniquely affected by transition prompt phrasing, whereas disclosure rapidity was also affected by the presence of other variables. We discuss the findings related to each in turn.

Transition Prompt Phrasing Affected Immediate Informativeness

The present study demonstrated that the phrasing of the transition prompt was the most important factor in obtaining informative immediate responses from children. Case characteristics had no influence, and contrary to expectation, the inclusion of a practice narrative was not included in the best model for predicting informativeness of the first substantive response. The best model (Model 3) included two variables only: *wh*-question used and question directness. As predicted, we found that transition prompts phrased using *what* were significantly more likely to receive immediately informative responses than questions phrased with *why*. This finding is consistent with Earhart and colleagues' (2018) data, obtained with a younger sample (aged 5 to 9 years) about an analogue event. Also, questions phrased directly (e.g., "*Why* are you here today?") obtained more informative responses when compared with indirect *do you know* questions (e.g., "*Do you know* why you are here today?"). As expected, children's immediate

response informativeness was negatively impacted by the use of *do you know* phrasing. They often responded canonically (e.g., yes or no) to questions that included the expression "*do you know/remember*" and, therefore, interpreted them as a question about their knowledge or their ability to remember (e.g., see Evans et al., 2017). More than two-thirds of the unelaborated yes/no responses to this question were, "yes"; the majority of children in the present sample knew the purpose of the interview.

Interestingly, no significant difference was found between direct questions and indirect *can you* questions. This finding supports the hypothesis that *can you* transitions will produce more informative responses than *do you know* transitions. It also suggests that children understood the pragmatics behind the former question. Indeed, they appeared to interpret *can you* transition prompts as request for information and not as a query about their ability to respond (see also Shatz, 1978b). This argument is further supported by examining the rare unelaborated yes/no responses to this phrasing. Only seven children responded to *can you* transition prompts with an unelaborated yes/no and only one of those children said *yes*. The interpretation of *can you* as a request to directly provide the purpose of the interview (e.g., "the naughty game") may depend on two factors: the context of obviousness, and when the logical answer to the question is positive (i.e., "yes"; Dayal, 2016). Dayal's (2016) theory also applies to cases when the context is not obvious for children (e.g., they really do not know the reason why they are being interviewed such as in cases with no prior outcry), so they may have doubts about what interviewers would like to know.

Although it is not known whether this sample will generalize to other children with regards to their interpretation of *can you* questions, we take the present findings as strongly suggestive that children understand the pragmatic intention behind *can you* questions (e.g.,

Schatz, 1978b). English speakers have become accustomed to understanding ability questions as requests to provide information (or perform actions) because of their constant use over time (Culpeper & Demmen, 2011). Although a minority of young children may interpret them canonically (Walker & Hunt, 1998), the majority of our sample appeared to recognize the politeness pragmatics of the question. It is also possible that children's exposure to *can you* phrasing as a politeness request has increased chronologically with time. (See Terkourafi, 2019, for examples of evolution in politeness requests and comprehension). This is an empirical quesiton that needs to be tested, but it may underlie one reason for "Can you tell me *why"* being surprisingly effective in producing informative responses in this study. On the whole, transition prompts including *why* were less effective in producing informative responses than prompts incuding *what,* except when *why* was paired with *can you.* We suggest that children in this sample understood the politeness function of *can you* and, therefore, it softened the accusatory nature of *why* (Walker, 1999). The 30 children who received this prompt were also descriptively older and more likely to have received a practice narrative than the broader sample but these differences were not signifcant so we caution the reader in making any interpretations about these variables.

Finally, although there were only ten children who were delivered transition prompts that did not fit into the categories of what/why and direct/indirect, their responses were generally immediately informative (70%). It did not, however, have any relationship with the informativeness of the children's first response (or with the number of prompts to disclosure, discussed in the next section). We note that several of these phrasings could be considered leading (e.g., "Start from the beginning and tell me what happened"), as the purpose of the

interview had not yet been obtained from the child (Powell & Snow, 2007). Thus, despite descriptively successful performance of 'other' phrasings (Table 7), we do not recommend them.

Transition Prompt Phrasing, Age, and a Practice Narrative Influenced Disclosure Rapidity

We found that phrasing of transition prompts, together with two other variables (only one within an interviewer's control) predicted disclosure rapidity. Using *why* phrasing in the transition prompt instead of *what* was associated with an increase in the incident rate of prompts interviewers needed to elicit disclosure (after the transition prompt) by a factor of 2.3. Also, we found that the age of children (being 8 years and older) and the inclusion of a practice narrative before the transition prompt reduced the incident rate of utterances needed to disclose by half. These results highlight that transition prompt phrasing can have downstream implications in the interview. This risk is higher where poor initial wording may set up a cascade of ill-formed questions as the interviewer and child try to navigate the disclosure, and this is likely to be worse in situations with younger children. These results also reinforce the notion that disclosure during forensic interviews is sometimes more of a process than a moment (Olafson & Lederman, 2006). For example, the disclosure process might begin when the child meets the interviewer, and various introductory activities like the practice narrative phase may increase the rapidity of the child's disclosure – at least among children who ultimately disclose. No models found that the inclusion of supportive statements within the transition prompt had a significant effect on rapidity of disclosure, but this specific variable may not have been representative of overall supportiveness.

Future work in this area should address the dialogic process of interviewer and child that ultimately results in a disclosure, by deeply examining the structure and content of prompts from the first transition prompt to the initial disclosure. For example, a natural progression of this

work is to analyze forensic interviews in depth from a conversational perspective that includes other aspects, such as non-verbal communication or paralinguistic features, to identify potential interactions with indicators of reluctance. There is evidence that the longer that interviewers take to obtain relevant information, the riskier the techniques they use when transitioning to discuss the abuse topic (Hershkowitz et al., 2006).

Limitations

It is important to take the results of this study with caution and understand its limitations. First, only children who disclosed abuse were included in the study; thus, we could not take into account some of the phenomena described in the disclosure literature (e.g., recantation and denial; Pipe et al., 2007). We suspect that, among non-disclosing children, all transition prompt phrasings would be equally likely to obtain uninformative responses, but this remains a question for future research. (Both non-abused and abuse-denying children could plausibly still provide investigation-relevant information to the transition prompt, even if they do not ultimately disclose). Second, we do not have disclosure history information for the sample. Although police agencies record most forensic interviews, transcribing commonly occurs only for cases referred to prosecution (Burrows et al., 2017). These cases relate to children who were forthcoming about their experiences (Rush et al., 2014). We do not know whether children who have disclosed *prior* to the forensic interview differ in how they respond to transition prompts, compared with children who have not told anyone else. We suspect that the latter are overall less likely to provide immediately informative responses, either because they are more reluctant to disclose or because they genuinely do not know the purpose of the interview and were referred for other reasons (e.g., medical evidence, child exploitation materials).

Third, this sample may have specific cultural habits in their use of –and consequentially, familiarity with– indirectness in conversational contexts. Based on the geographical diversity of our sample, we have good reason to believe it is culturally diverse, but we do not know the specific composition. Thus, future research directly comparing groups that use conversational indirectness to different degrees would be needed to expand the generalizability of the findings. Fourth, we do not know how many interviewers contributed transcripts or if some interviewers contributed several transcripts. Although transcripts were provided by four different states in Australia over a wide time period (12 years), increasing the chance that there were many interviewers in the sample, we acknowledge that this may cause problems when fitting the regression models and further research should address it (e.g., by nesting). Fifth, models were only developed using this particular sample and are therefore limited. Future work is needed to validate them in other contexts or on other populations. For this reason, we not only decided to present the best model, but also two competitors (Tables 3 and 5). Finally, although some results from this study are supported by previous experimental work (Earhart et al., 2018), further studies that include manipulation of the input variables (e.g., transition prompts) and randomization of the target population must be conducted before establishing causal effects between transition prompts and type of responses.

Implications for Research, Policy, and Practice

The findings of the current study are important for research and practice in their own right, but they also serve as a reminder that the field of investigative interviewing research is at a point where we can ask more nuanced questions about effective practice. Broader elements of best practice are widely agreed upon (Lamb et al., 2018; Newlin et al., 2015; Powell & Brubacher, 2020). Yet, whilst interviewers around the world understand the importance of

prompting information with open-ended questions, within those parameters a wide range of variations is possible even when interviewers adhere to guidelines. Changes in wording may have effects that are small, immediate, and quickly addressed (such as when a child provides a "yes" response to an indirect question and the interviewer can follow up with the direct version). Conversely, they could have downstream implications; a kind of "butterfly effect". For example, based on past research (Hershkowitz et al., 2006), we may speculate that the interviewers who received unelaborated *no* (versus *yes*) responses and needed on average twice as many substantive utterances to obtain disclosure would have used more risky techniques resulting in more unfocused interview, which could lead to topics being missed. Extreme cases may even require follow-up interview(s). In the current study, we also observed how interviewers took twice as many prompts to obtain disclosure from forthcoming children when the first transition prompt was phrased with *why* rather than *what*. It was beyond the scope of this study to explore subsequent implications of these questioning paths, but it raises questions about the influences of variations in wording that seem minor or irrelevant.

The results of the present research, taken together with existing literature, suggest that transition prompt phrasing should not be discretionary for interviewers of children. As a research community, we have the responsibility of supporting interviewers with evidence-based recommendations to function effectively in these tasks where they have accumulated expertise. Thus, research of this nature comes with two key implications for practice and policy. The first implication stands on over two decades of research: the use of an interview guidance document for key phrases during the interview reduces the need for interviewers to monitor their language and improves the likelihood of obtaining quality information (see Lamb et al., 2018). The second implication is that genuine collaboration and partnership between researchers and practitioners

should be policy rather than a lofty goal accessible to some, but not others. Variations and adaptations in wording are to be expected (both purposeful and unintentional); some of these changes will have discernible effects and some will not. When agencies work in partnership with researchers, or create in-house research expertise, changes can be more rapidly identified and investigated (e.g., Goode & Lumsden, 2018). Furthermore, these collaborations yield a greater awareness of the range of variations and adaptations in wording that occur in actual practice.

Conclusion

This study is a first step towards understanding how different phrasings used in the transition prompt to elicit the topic of concern can help predict the probability of obtaining immediately informative responses and rapid disclosure from child interviewees. Overall, this research showed that word choice in transition prompts was the most important variable to predict informative responses, when compared against multiple variables associated with disclosure. We also emphasized the role of age and pre-substantive activities (i.e., a practice narrative) in disclosure rapidity; the latter is a recommended practice and–like transition prompt wording–within an interviewer's control. It is interesting that interviews with practice narratives were associated with quicker disclosures (amongst a sample of children who ultimately disclosed) because some practitioners who prefer not to engage in this interview phase cite reasons of wanting to "get to the point" more quickly (Roberts et al., 2011).

The present research strongly suggests that the wording of transition prompts should not be discretional. Agencies and training programs ought to encourage interviewers to use key phrases in their transitional prompts, like "[Can you] [tell me] *what* have you come to talk about today?", and avoid expressions that are likely to result in uninformative responses, like *"do you know"*. Although the models presented in this study need further research and validation on other

populations and samples, they help target the design of future studies to test the hypotheses generated here and represent a step forward in a deeper comprehension of questioning in investigative interviewing.

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Table 1

Sample characteristics in total dataset and in subsample used to test negative binomial

Variables	Total dataset $N = 328$	Subset $n = 249$
	N (%)	*n* (%)
Response informativeness		
Informative responses	211 (64)	132 (53)
Rapidness of disclosure		
Utterances to disclosure, Mean (*SD*)	4.96 (9.65)	5.22 (10.78)
Transition prompt		
Question directness		
Direct	164 (50)	113 (45)
Indirect CY	74 (23)	54 (21)
Indirect DYK	90 (27)	82 (33)
Wh-question[1]		
What	154 (47)	108 (45)
Why	164 (50)	133 (55)
Inclusion of expression "*tell*"	207 (63)	148 (59)
Supportive strategies		
Practice narrative[2]	210 (64)	162 (69)
Supportive expressions[3]	244 (74)	183 (74)
Sample variables		
Child related		
Age in years, Mean (*SD*)[2]	10.43 (2.99)	10.30 (3.00)
7 and younger	61 (19)	52 (21)
8 and older	261 (80)	192 (79)
Gender: Female[2]	255 (78)	189 (76)
Case related		
Suspect: parent	81 (25)	59 (24)
Type of abuse: sexual	294 (90)	220 (88)
Multiple events of abuse	182 (55)	129 (52)
Severe abuse	159 (48)	120 (48)

[1] In 10 cases neither "*what*" nor "*why*" phrasing was used.
[2] The variable contains missing cases: Practice narrative = 16; Age = 6; Gender = 4.
[3] Total number of transcripts in which one or more supportive statements were included in the transition prompt.

Table 2

Frequencies and chi-square results for transition prompt linguistic associations

Variable	*What*		*Why*		$\chi^2(1)$
	n	%	*n*	%	
Directness					
Direct	99	64	61	37	23.3**
Indirect (CY)	39	25	30	18	2.3
Indirect (DYK)	16	10	73	45	45.9**
Use of *tell*	111	72	87	53	12.2*

	Use of *tell*		No use of *tell*		
Directness	*n*	%	*n*	%	
Direct	128	62	36	30	31.4**
Indirect (CY)	74	36	0	0	55.9**
Indirect (DYK)	5	2	85	70	176.5**

Note: $n = 328$ except in variable *Wh*-question, $n = 318$. *p*-values corrected using Bonferroni; $^{*}p < .01$, $^{**}p < .001$.

Table 3

Comparison of fit indices in models fitted to predict the informativeness of child's immediate response to transition prompt

Model and variables used	Intercept		Model's LRT		Pseudo-R^2	AUC	AIC	BIC
	B	SE	□^{2}	*df*				
3. Wh-used + direct	1.72*	.25	115.54*	3	.42	.81	307.48	322.53
6. Wh-used + direct + Age	1.54*	.39	114.45*	4	.42	.82	308.80	327.61
11. Wh-used + direct + Practice Narrative	2.06*	.34	117.01*	4	.44	.83	286.50	305.10

Note: N_3=318, N_6=312, N_{11}= 303; SE = standard error. LRT = likelihood ratio test; Pseudo-R^2 is Cragg-Uhler's. AUC = area under the curve; AIC = Akaike information criterion; BIC = Bayesian information criterion.

*$p < .001$.

Table 4

Regression of association between transition prompt components and immediate response in Model 3

Variable	*B*	95% CI	*SE*	*Wald Z*	*OR*
Intercept	1.71*	[1.25, 2.23]	.25	6.89	5.55
Use of why	-.91*	[-1.51, -.32]	.30	-3.02	.40
Indirect CY	.66	[-.12, 1.52]	.41	1.59	1.93
Indirect DYK	-2.37*	[-3.06, -1.73]	.34	-6.99	.09

Note: N=318; CI = confidence interval; SE = standard error; OR= Odds ratio.

* $p < .001$.

Table 5

Comparison of fit indices in models fitted to predict substantive utterances until disclosure after the transition prompt

Model and variables used	Intercept		Model's -2LL		LR		Pseudo	AIC	BIC
	Estimate	SE	Value	*df*	Test	LR	R^2		
6. Wh-used + Age	1.81*	.30	-1250.08*	15	6 vs NULL	93.10*	.14	1258.08	1271.94
10. Wh-used + Age + Gender	1.69*	.12	-1236.12*	3	10 vs 6	13.96*	.16	1246.12	1263.40
12. Wh-used + Age + Practice Narrative	2.13*	.21	-1177.55*	10	12 vs 10	58.57*	.21	1187.55	1204.61

Note: n_6=236, n_{10}=234, n_{12}=224; SE = standard error. -2LL = log-likelihood ratio test; LR = likelihood ratio; Pseudo-R^2 is Cragg-Uhler's. AIC = Akaike information criterion; BIC = Bayesian information criterion.

* $p < .001$.

Table 6

Regression of association between Model 12 and substantive utterances until disclosure

Variable	Estimate	95% CI	*SE*	*z*	*IRR*
Intercept	2.13*	[1.72, 2.55]	.21	10.1	8.45
Use of why	.85*	[.52, 1.18]	.17	5.08	2.33
Age: 8 year and older	-.78*	[-1.15, -.41]	.19	-4.15	.46
Use of practice narrative	-.69*	[-1.03, -0.35]	.18	-3.93	.50

Note: N=318; CI = confidence interval; SE = standard error; IRR = Incident rate ratio.
* $p < .001$.

Table 7

Description of the seven transition prompt variations and their association with output variables

Transition prompt variation	Example	Immediate response			Rapidness of disclosure
		N	Informative (%)	n[a]	SUU *Mean* (*SD*)
What					
Direct	*What have you come to talk to me today?*	99	85	67	3.67 (6.12)
Indirect CY	*Can you tell me what you've come to talk to me about today?*	39	87	28	2.96 (3.87)
Indirect DYK	*Do you know what you've come to talk to me about today?*	16	44**	13	3.15 (5.43)
Why					
Direct	*Why you are here today?*	61	69*	43	5.93 (9.33)†
Indirect CY	*Can you tell me why you are here today?*	30	87	22	3.95 (6.69)
Indirect DYK	*Do you know why you are here today?*	73	15**	68	8.44 (17.16)**
Other	*Start at the beginning and tell me everything that happened?*	10	70	8	1.75 (2.31)

Note: N = 328. Category "other" included transition prompt variations that did not fit into the first six categories. Percentage of informative responses in total sample is 64%. SUU = Substantive utterance used (*M* = 5.22, *SD* = 10.78).

[a] Sub-sample excluded the cases of immediate offence disclosure after the first transition prompt. Total sub-sample n = 249.

†$p < .1$, *$p < .05$, **$p < .001$.