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Potential for police investigator bias: the impact of child sexual abuse victims' background characteristics on perceived statement credibility, case outcome and quality of interview questions

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ABSTRACT

This preregistered experiment aimed to investigate the impact of background information regarding an alleged victim of child sexual abuse on police investigators' perception of the credibility of the victim's statement, expected case outcome, and the type of questions police investigators plan to ask the victim in an investigative interview. We expected that the age and the description of the alleged victim's character would affect perceived credibility, prediction of case prosecution and the use of biased questions in the interview plan. Indonesian police investigators ($N = 369$) read a case vignette of either a 5- or a 15-year-old female victim of child sexual abuse, including either a good character, bad character, or no character information. Participants receiving the story of the 15-year-old alleged victim perceived the victim as having contributed more to the crime, predicted the case as more likely to be withdrawn and included more biased questions in their interview plans than those who received the story of a 5-year-old alleged victim. Moreover, participants being told that the alleged victim had a bad character perceived her statement as less reliable, having contributed more to the crime, predicted the case as more likely to be withdrawn or dropped-out than those who received information about the alleged victim with a good character. We did not find any effect of our background information manipulation on the perception of suspect guilt, and on the estimated likelihood of the allegation being confirmed by corroborative evidence or being prosecuted. The current findings suggest that background information can negatively affect police investigators' judgment and decision-making when working on a child sexual abuse case.

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Confirmation bias; child sexual abuse; perceived credibility; investigative interviewing; police investigators

Police investigators play a crucial role in handling cases concerning child sexual abuse. The investigation of child sexual abuse allegations is an arduous task because children's testimonies are often the only piece of evidence (Cross et al., 1994; Cross & Whitcomb, 2017; Herman & Freitas, 2010; Otgaar et al., 2017). In many jurisdictions, police investigators conduct child forensic interviews to obtain testimonies from alleged child victims. During such interviews, the ultimate goal is to obtain accurate statements, and this can be achieved by applying scientifically supported

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guidelines for interviewing children (e.g. rapport building, asking open-ended questions; Lamb, Hershkowitz, Orbach, & Esplin, 2018).

Police investigators will often review the available case information prior to conducting an interview with the alleged victim (Fessinger & McAuliff, 2020; Powell et al., 2012). Fessinger and McAuliff (2020) showed in their survey study of a US national sample of child forensic interviewers that respondents frequently had access to pre-interview information. Furthermore, forensic interviewers argued that pre-interview information about the child, the alleged abuse and disclosure would help in overcoming children's reluctance to talk about traumatic experiences, such as sexual abuse. Indeed, information about the child's developmental history, cultural background, and special needs might be useful when planning a forensic interview for the purpose of tailoring interview questions and being sensitive to each child's specific needs (Rohrbaugh et al., 2016). In addition, the allegation information might be useful in directing interview questions, interpreting children's responses, and introducing the topic of abuse when dealing with children's reluctance to disclose in response to open-ended questions (Saywitz et al., 1991). Fessinger and McAuliff (2020) noted that forensic interviewers tended to favor an interview approach in which they were fully informed about the specifics of the case before conducting an interview.

However, there is a potential downside to receiving allegation- or case-specific background information. That is, such background information could fuel cognitive bias and adversely affect decision-making in police investigators (Cronch et al., 2006; Rohrbaugh et al., 2016; Smith & Milne, 2011). Powell et al. (2012) demonstrated that police interviewers given prior information become biased and search for information that supports their prior beliefs.

Case background information may offer police investigators case features that could be taken into consideration when they predict a prosecution outcome. Previous studies have revealed that some child sexual abuse case features predict prosecution outcome, for example, caregiver support (Duron, 2018) and older victims (Gray, 1993). Police investigators might (incorrectly) refer to these case features to attribute credibility to the victim's statement (O'Neal, 2019). Victims who are perceived as less credible tend to receive less desirable judicial outcomes than those who are perceived as more credible (Goodman-Delahunty et al., 2010).

Currently, there is a dearth of research that focuses on the effects of pre-interview information on forensic interviewing practices. Indeed, as Fessinger and McAuliff (2020) noted, there is a 'need for future research examining the effects of pre-interview information on forensic interviews and children's reports' (p. 1). In the present experiment, we examine the impact of this pre-interview information on police interviewing practices, and related aspects (i.e. perceived victim credibility and estimates of case prosecution outcome).

Confirmation bias in criminal justice professionals

Everyone is prone to develop confirmation bias including workers in the criminal justice system (e.g. police officers) (Charman et al., 2017; Cooper & Meterko, 2019; Curley et al., 2019; Rassin et al., 2010). Confirmation bias refers to the phenomenon that leads people to merely look for evidence that confirms prior beliefs about a case and ignores potentially conflicting or alternative evidence (Balctetis & Dunning, 2006; Kassin et al., 2013; Nickerson, 1998). For example, if police investigators are convinced that the alleged victim is lying, based on controversial pre-interview evidence, they may no longer be open to an alternative scenario in which the alleged victim is telling the truth. According to Kassin (2005) once people form an impression, they unwittingly seek, interpret, and create scenarios to verify it.

Empirical findings suggest that confirmation bias can affect criminal proceedings, especially in dealing with suspects. For example, Rassin (2010) asked law students to read a case file which contained either guilt-confirming (incriminating) or disconfirming (exonerating) information and asked them to plan a police investigation. They found that the investigation plan was guided by participants' prior belief about the suspect's guilt versus innocence. Participants who had read a case

concerning a more serious crime, together with strong evidence associated with higher conviction rates, tended to select guilt-confirming investigation options (Rassin et al., 2010). Confirmation bias has also been shown to adversely affect police investigators in handling homicide cases (Ask & Granhag, 2005), and other violent crime cases (Meissner & Kassin, 2002). Thus far, empirical studies have largely focused on confirmation bias regarding suspects of a crime (Ask & Granhag, 2005; Ask et al., 2008; Dror et al., 2006; Meissner & Kassin, 2002; Rassin et al., 2010), rather than (alleged) victims of crime.

It has been postulated that confirmation bias operates via two mechanisms: selective information search and biased interpretation of the available information (Ask & Granhag, 2005). Confirmation bias is highly relevant in child sexual abuse cases because in such cases, the police is often exposed to different types of background information (e.g. about the alleged crime, suspect, and victim). Consequently, the police possess a substantial amount of information before conducting a forensic interview with the alleged victim. Ceci and Bruck (1995) explained that confirmation bias in a forensic child interview context is observed when interviewers ask questions that include details that were not yet mentioned by the interviewee. These details can often be derived from background information. Background information can jeopardize the neutrality of the forensic interview and might negatively affect the way police investigators ask questions (Rivard et al., 2016). Indeed, previous research has suggested that forensic interviewers' preexisting beliefs can affect the quality and content of interviewers' questions and how children's statements are interpreted (Goodman et al., 1995; Powell et al., 2012; White et al., 1999).

There is limited empirical research concerning confirmation bias related to alleged victims. We identified three studies examining this issue (e.g., Hughes-Scholes et al., 2014; Koppelaar et al., 1997; Powell et al., 2012). Koppelaar et al. (1997) showed that an expectancy-confirming strategy guided the gathering of information during an interview with a victim. Participants asked more questions when they had previously been given negative information on the victim's credibility. Hughes-Scholes et al. (2014) suggested that police officers relied on unscientific indicators when evaluating child victims' statements, such as the indicator that showing few hesitations when reporting real abuse and children's response is consistent with recollecting an authentic traumatic event. Furthermore, Powell et al. (2012) revealed that participants, who were given biasing information (i.e. non-experienced details of an event that may or may not have occurred), asked more leading questions than participants who had not received the biasing information. Hence, in the present experiment, we examined whether potentially biasing background information concerning a child victim of sexual abuse might affect police investigators' interview questioning.

Importantly, background information might be relevant to a case, such as information about the age of the victim, but also irrelevant, such as dating relationship (see Found & Ganas, 2013; Risinger, 2009; Risinger et al., 2002). Irrelevant contextual information can refer to information composed of unsupported assumptions, or information that includes improper expectations and motivations (Stoel et al., 2014). Moreover, when irrelevant information engages the emotions of the police investigator, the stronger the biasing effect will be (G.C. Bollingmo et al., 2008). For example, in child sexual abuse cases, if a victim is described as a good child with high academic achievement, polite, and well-behaved, this might create a positive attitude toward the victim and also a positive emotional response, such as empathy with the victim. Conversely, if a victim is described as a bad child with a history of lying, disobedience, and inappropriate sexual behavior, it might lead to less empathy with the victim (Collins, 2016). Essentially, stereotypical beliefs about rape victims can impact legal evaluation in sexual abuse cases (Koppelaar et al., 1997).

Although it seems evident that exposure to irrelevant information may engender bias in police investigators, even relevant information might be perilous. Importantly, in the current experiment, we presented police investigators with both relevant and irrelevant background information and examined the effect of this on their credibility ratings of the victim's report, their prediction of case outcome and the type of questions in their interview plan.

The present experiment

A substantial number of studies have examined confirmation bias in criminal investigations caused by exposure to background information regarding the case. Previous studies used different terms to explain this type of information: (non) biased information (G. Bollingmo et al., 2009), (ir-)relevant contextual information (Dror et al., 2006), background information (Ask & Granhag, 2005), specific information (Rivard & Compo, 2017), or pre-interview information (Rivard et al., 2016). In these studies, the information was mostly related to the crime or the suspect. In the present experiment, we use the term *background information* to refer to information about the alleged victim of child sexual abuse. Specifically, we examined the effect of background information about the victim (age and character traits) on the perceived credibility of the victim's statement, the predicted prosecution outcome, and the type of questions written in an interview plan. We involved Indonesian police investigators as participants because they are mandated to conduct child forensic interviews with alleged victims as part of a criminal investigation at a Children and Women police unit (UU No. 17, 2016). In Indonesia, a child forensic interview session with an alleged victim is arranged based on an initial report at the police front desk unit (PERKAP No. 6, 2019). This means that a police investigator who is assigned to conduct the interview will always possess some knowledge about the case based on an initial report.

We presented police investigators with a case vignette in which a child victim reported a sexual abuse allegation to the police. Half of the participants received information stating the girl was 5 years old, while the other half received information that the girl was 15 years old. This was done because research has shown that young children are often viewed as less credible witnesses than older children (Bala et al., 2005; Bruck & Ceci, 1999), although in certain circumstances younger children are actually less susceptible to making erroneous statements than older children and adults (e.g., Brainerd & Reyna, 2012; see also Otgaar et al., 2018). Additionally, research with undergraduate students has shown that people in general are more emotionally disturbed by reports from younger children than older children, which can lead them to show more empathic concern (Levin et al., 2017). Based on Levin et al. (2017), we hypothesized that the statement of a 5-year-old child concerning sexual abuse would be perceived as more credible than the 15-year-old victim's statement because police investigators' empathy with the younger victim would outweigh their concerns about the credibility of the younger victim's statement.

Furthermore, one-third of the participants received information describing the victim as having a bad character (e.g., a history of lying), while the others received information that the victim had a good character (e.g., being honest). One-third of the participants did not receive any information regarding the victim's character. The reason for this manipulation in the background information was that research shows that female victims depicted as bad characters are more often blamed for their circumstances, while good character victims gain more sympathy (Greer, 2007). Moreover, good character victims are more frequently described as innocent and telling the truth, while bad character victims are viewed as culpable and/or likely to make false reports because they are considered having jeopardized their safety through a series of bad decisions (Collins, 2016).

We studied the following dependent variables: perceived reliability of the victim's statement, degree of suspect guilt, likelihood of the allegation being confirmed by corroborative evidence, the extent of the victim's contribution to the occurrence of the abuse, the prediction of the likelihood of case withdrawal, drop-out, or prosecution, and the proportion of invitation, directives, option-posing and biased questions. Our hypotheses were the following:

Participants who read the case of the younger victim and/or the 'good character' victim would perceive the victim as more credible (perceived the victim's statement as more reliable; contributed less to the occurrence of the abuse; higher degree of suspect's guilt; and predicted a higher likelihood that the allegation would be confirmed by corroborative evidence) than participants who read the case of the older victim and either the 'bad character' victim or the victim without extra background information about her character (Hypothesis 1; H1).

Participants who read the case of a younger victim and/or the ‘good character’ victim would be more likely to be prosecuted, less likely to be dropped-out or withdrawn compared to the case of the older victim and/or either the ‘bad character’ victim or the victim without extra background information about her character (Hypothesis 2; H2).

Participants who read the case of the younger victim and/or the ‘good character’ victim would include more open-ended (invitations) and fewer biased questions compared to the case of the older victim and/or either the ‘bad character’ victim or the victim without extra background information about her character (Hypothesis 3; H3).

Method

Participants

Hundred-and-eighty participants were needed, based on an a priori power analysis using G*Power (Faul et al., 2007) for performing *F* tests in a repeated measures ANOVA, with a power of .95, α of .05 and an anticipated effect size $f = .25$ (medium). This effect size was anticipated based on G. Bollingmo et al. (2009) who found a significant medium effect of types of information on the credibility of witnesses ($\eta_p^2 = .057$). Data were collected as part of workshops the first author provided to the police in Greater Jakarta, Indonesia. During the workshops, which were part of the Indonesian National Police (INP) education program, 369 Indonesian National Police (INP) investigators were recruited. However, for our main analyses, only 357 participants were included because they completed all measures. Our actual sample size was higher than the expected number needed based on the power analysis. The main reason was that the number of police investigators as eligible participants who attended the workshop exceeded the required number that we had asked in our letter to the stakeholder at the INP.

A sensitivity analysis was conducted using G*Power for an *F*-test of MANOVA with two predictors variables, six number of groups, and our total sample size for the main analyses ($N = 357$), a power of .95, α of .05., and an anticipated effect size $f = .25$ (medium). Our analysis shows that our study was acceptably powered to detect an effect size of $f^2 = .047 \sim f = .22$ (medium).

Participants were 90% male ($n = 329$). Their ages ranged from 20 to 49 years ($M = 30.96$, $SD = 6.04$). The majority of the participants worked in a Crime Investigation Unit ($n = 318$; 86%) with on average 8.37 years ($SD = 5.49$; range = 1–23) experience as a police investigator. Forty-two percent of the participants had direct experience working with child sexual abuse cases ($n = 150$). The average number of child sexual abuse cases handled per participant was 17.67 in their whole career ($SD = 36.14$; range = 1–200) and 8.49 during the past year ($SD = 21.92$; range = 0–100).

This study is part of a larger research project for which the Ethical Review Committee of the Faculty of Psychology and Neuroscience Maastricht University granted ethical approval (ERCPN-183_02_09_2017). We preregistered this study at the Open Science Framework (OSF) website: <https://osf.io/xkazn>. The data can be accessed at: <https://osf.io/de6rv/>. We also added a file explaining the variables (see: <https://osf.io/4w7ur/>) and the syntax of our data analyses (see: <https://osf.io/q8whx/>).

Design and procedure

We used a 3 (Alleged victim character: good versus bad versus neutral) x 2 (Age of the alleged victim: 5 vs. 15 years old) between subjects design (see Table 1 for the number of participants in each condition). After participants read through the research information page and gave written consent, participants were asked to complete the Belief in a Just World questionnaire. Subsequently, participants read the case vignette, in which we manipulated the information about the alleged victim’s age and character (for all versions of our case vignette, see: <https://osf.io/gvyar>), after which they rated the perceived credibility of the victim and provided

Table 1. Distribution of participants for each condition ($N = 369$).

	Age 5 victim (n)	Age 15 victim (n)
Control Group	58	56
Victim as good-character girl	63	59
Victim as bad-character girl	59	60

a prediction of the case outcome. Participants were then asked to create a list of questions in order to obtain forensically relevant details from the victim in the case vignette. Subsequently, participants completed the rape myth acceptance questionnaire (the result of the rape myth acceptance and belief in a just world questionnaires will not be reported in this paper but can be found in the supplemental material: <https://osf.io/47vby/>). Finally, participants provided demographic information. To ensure that participants actually read and remembered the case vignette, participants were asked to recall the age and the character traits of the alleged victim as a manipulation check. However, we used manipulation checks only in the last two workshops. No participants were excluded based on the manipulation check. A version of all materials provided to participants can be found at <https://osf.io/h5vy6>.

Materials

Case vignette

All materials were translated from the authors' approved English version into Bahasa Indonesia by the first author as a native speaker. There were six versions with six different case vignettes representing six experimental conditions, to which participants were randomly assigned. Specifically, we manipulated two independent variables in the case vignette: information about the alleged victim's age: 5 vs. 15 years old, and character: bad-character, good-character, vs. no information about character as a control condition. All participants received general information about the girl: name, age, current education, family and socioeconomic status background. Subsequently, all participants were informed about the mother's report concerning the allegation to the police. Then, based on the idea of being a good and bad victim (Collins, 2016), we manipulated information on the victim's character into a good and bad character. In the good-character condition, the alleged victim was depicted as a lovely, nice, and adorable child, with no complaints from parents, teachers and friends. In addition, the alleged victim was described as an honest person. In the bad-character case vignette, the alleged victim was described as a rebellious and aggressive child. Parents, teachers, and peers complained about her. The alleged victim had a history of lying and rule-breaking. In the 15-year-old alleged victim condition, the victim was described as having a dating relationship and being sexually active. Furthermore, the bad-character victim was also described as being involved in some risk-taking behaviors, such as smoking and drinking alcohol. These last two details for the bad-character victim, dating and risk-taking behavior, were not mentioned for the 5-year-old alleged victim. Instead, we added to the 5-year-old alleged victim with the bad character that the girl came from a disadvantaged parental background: divorced parents without a stable income. This additional information was a mere addition and not directly related to the child's character. However, coming from a disadvantaged family background can increase the risk of children becoming a victim of sexual violence (Kurniasari, 2016).

Perceived credibility and case outcome

Participants were asked to make judgments about the allegations and the victim. Four questions assessed participants perception of the victim's credibility: (1) the reliability of the alleged victim's report (from 1 = *definitely not reliable at all*, to 5 = *highly reliable*); (2) the alleged suspect's guilt (from 1 = *definitely not guilty at all*, to 5 = *definitely guilty*); (3) the likelihood that the allegation

would be confirmed by corroborative evidence (from 1 = *the least*, to 5 = *the highest likelihood of being confirmed*); and (4) the extent to which the victim contributed to the occurrence of the abuse (from 1 = *not at all*, to 5 = *to a very high degree*).

Subsequently, participants were asked to predict the case investigation outcome using a Likert-type scale (from 1 = *the least* to 5 = *the most likely*) for three questions: (1) the likelihood of case withdrawal, referring to an outcome in which parents or the child decide to make a request to the police to stop the ongoing investigation; (2) the likelihood of case drop-out, referring to an outcome in which the case could not proceed because of a lack of corroborative evidence; and (3) the likelihood of case prosecution, referring to the case being accepted by the public prosecutor to file a charge. Lastly (4), participants were presented with a forced-choice question in which they were asked to predict the case outcome by choosing one of the three options: withdrawal, drop-out or prosecution.

Type of questions in the interview plan

Participants were also instructed to assume the role of the police investigator handling the case. They were asked to write down a list of questions as complete sentences, with the aim of obtaining details of the allegation during an investigative interview. They were encouraged to imagine that the alleged victim was sitting in front of them as an interviewee.

All questions from the participants' work sheets were coded based on the National Institute of Child Health and Human Development (NICHD) interview Protocol utterance types (Ahern & Lamb, 2017; Lamb et al., 2018). We only coded the substantive questions, that is, questions aimed to obtain substantive details of the allegations. We coded each question either as an invitation (e.g., *Tell me what happened*), directive (e.g., *Where did the abuse happen?*) or option-posing utterance (e.g., *Did the abuse happen only once or more than once?*). We could not use the suggestive question category because a question can only be coded as suggestive in case an interviewer introduces information that an alleged victim/interviewee has not provided yet. However, in the present experiment, police investigators were not actually interacting with an interviewee.

Therefore, we created a separate question category: biased questions. A biased question was defined as a question which could potentially be suggestive and includes or presumes details that were mentioned in the case vignette as pre-interview information. In addition, a biased question can also refer to a question which tends to blame the alleged victim and imply certain assumptions or prejudices about the allegation. We developed a category of biased questions inspired by a systematic review by Sleath and Bull (2017) regarding police perceptions of blaming, responsibility attributed to rape victims and rape myth acceptance. Biased questions based on blaming victims and endorsing rape myth acceptance were: (1) asking the reason for not physically resisting or saying 'no' during the abuse (e.g., *Did you tell him to stop?*); (2) asking the victim about the clothes she wore on that day (e.g., *Did you wear a sexy outfit?*); and (3) asking personal questions related to the dating relationship and sexuality (e.g., *Have you ever experienced sexual intercourse before?*). Furthermore, we also categorized questions that: (4) asked the alleged victim the reason for the incident (e.g., *Why did the suspect touch you?*) as biased questions because these deviate from the aim of a child forensic interview to obtain factual details rather than tentative explanations. Finally, we added two more types of biased questions: (5) introducing the abuse by exposing the alleged victim to a particular word to represent the child sexual abuse (e.g., *Did he rape you?*); (6) introducing the suspect, by mentioning the name of the suspect provided in the case vignette in the question (e.g., *Do you know Jaka?*). The last type of biased question does not follow child forensic interview best practices in which an alleged victim gets the opportunity to first introduce the abuse, including the alleged suspect.

Interrater reliability

Twenty percent ($n = 60$) of participants' interview plans were randomly selected for coding to assess interrater agreement by the first author and an Indonesian doctoral candidate in legal and forensic psychology. We applied Cohen's weighted Kappa (κ_w) for the substantive questions category because these variables are ordinal; we counted the observed numbers for each question category. We found the κ_w coefficient was .84 for invitations ($p < .001$; 95% CI [.71, .97]), .81 for directives ($p < .001$; 95% CI [.71, .90]) and .84 for option-posing questions ($p < .001$; 95% CI [.74, .93]). For the biased questions, we applied Cohen's κ as these variables are nominal: 1 = *present* and 0 = *not present* in a participant's interview plan. For all types of biased questions, κ coefficients ranged from .90 (asking personal questions related to the dating relationship and sexuality) to 1.00 (asking about the alleged victim clothes) (all p 's $< .001$). All Cohen's κ_w and κ values indicate excellent agreement between raters (Cohen, 1960; Hallgren, 2012).

Results

Confirmatory analyses

We tested the effect of (ir-) relevant background information (age and character of the alleged child sexual abuse victim) on perceived credibility (victim's statement reliability, victim's contribution, suspect's guilt, and allegation confirmed by other evidence) and on the prediction of each possible outcome (withdrawal, drop-out, and prosecution) by using a multivariate analysis of variance (MANOVA). We deviated from our preregistered analytic plan in which we had planned separate factorial ANOVAs for each dependent variable (DV). We preferred to include several DVs in a single analysis by using MANOVA, in order to detect associations between multiple dependent variables and to minimize Type 1 error. We now report the results of our pre-registered analyses of our supplemental material at <https://osf.io/uxf27>.

We found statistically significant main effects for age of the alleged victim ($F(7, 345) = 5.079$, $p < .001$, Wilk's $\Lambda = .907$, $\eta_p^2 = .093$), and for the alleged victim's character ($F(14, 690) = 2.784$, $p < .001$; Wilk's $\Lambda = .896$, $\eta_p^2 = .053$) on both perceived credibility and prediction of case outcome. This finding is in line with our prediction that the background information about the alleged child sexual abuse victim's age and character affected the perceived credibility and case outcome. We found no statistically significant interaction effect ($F(14, 690)$, $p = .88$, $\eta_p^2 = .014$).

The Effect of Our Independent Variables on the Dimension of Perceived Credibility

The univariate follow-up tests, using ANOVA, revealed a statistically significant main effect for the age of the alleged victim on the perception of the victim's contribution to the occurrence of the abuse (see [Figure 1](#)), $F(1, 351) = 22.23$, $p < .001$, $\eta_p^2 = .06$. Participants who received information that the alleged victim was 15 years old rated the victim's contribution as significantly higher ($M = 3.68$, $SD = 1.25$, 95% CI [3.46, 3.89]) compared to the case vignette in which the alleged victim was 5 years ($M = 2.95$, $SD = 1.64$, 95% CI [2.74, 3.41]), $p < .001$, $d = .50$). There was no statistically significant effect on the other three credibility ratings (suspect guilt, allegation likely to be confirmed by other evidence and statement reliability).

Statistically significant main effects for the character of the alleged victim were found for perceived statement reliability, $F(2, 351) = 4.14$, $p = .017$, $\eta_p^2 = .023$, and the perception of the victim's contribution to the occurrence of the abuse, $F(2, 351) = 6.69$, $p = .001$, $\eta_p^2 = .037$ (see [Figure 2](#)). Bonferroni post hoc tests indicated that participants who received information that the girl had a bad character perceived the statement as statistically significantly less reliable ($M = 3.40$, $SD = 1.48$, 95% CI [3.16, 3.64]) than participants who received information that the girl had a good character ($M = 3.87$, $SD = 1.18$, 95% CI [3.64, 4.11]), $p = .016$, $d = .35$). Moreover, participants who received information that the girl had a bad character also rated her as having a higher contribution

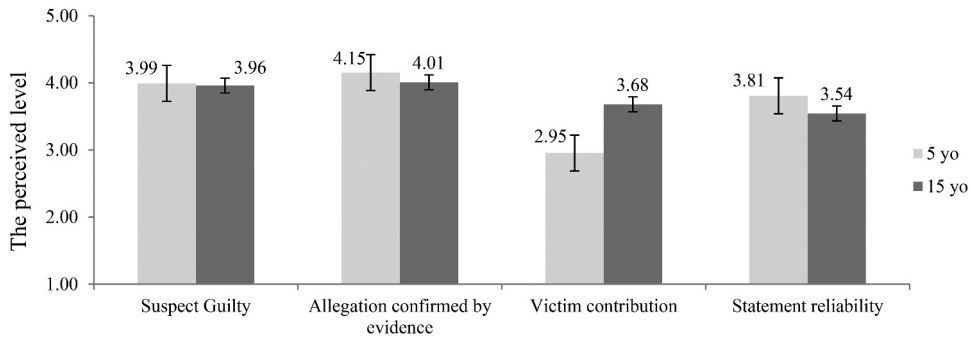


Figure 1. Mean scores on perceived level of four outcome variables for case vignettes with different alleged victim's age (5 years old vs. 15 years old). 95% Confidence Intervals are represented in the figure by the error bars attached to each column (N = 357; missing: 12).

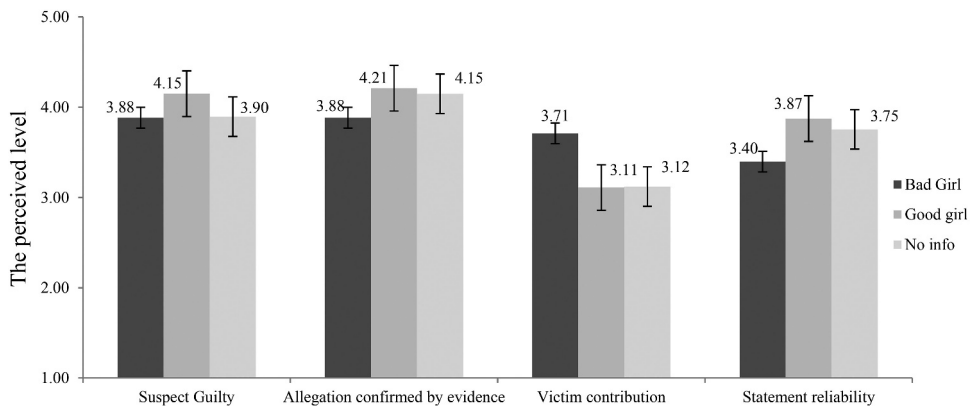


Figure 2. Mean scores on perceived level of four outcome variable for case vignettes with different information of alleged victim's character (bad character versus good character versus no character info). 95% Confidence Intervals are represented in the figure by the error bars attached to each column (N = 357; missing: 12).

to the incident ($M = 3.71$, $SD = 1.36$, 95% CI [3.45, 3.97]) than participants who received information that the girl had a good character ($M = 3.11$, $SD = 1.58$, 95% CI [2.85, 3.37], $p = .004$, $d = .41$) and control participants who received no character information ($M = 3.12$, $SD = 1.49$, 95% CI [2.86, 3.39], $p = .008$, $d = .42$). We did not find any statistically significant effect of the information regarding the victim's character on two other credibility ratings: suspect guilt and allegation likely to be confirmed by other evidence.

The effect of our independent variables on the prediction of case outcome possibilities

Based on univariate ANOVAs, we found a statistically significant main effect for age on the prediction of the likelihood that the case would be withdrawn (see Figure 3), $F(1, 351) = 10.24$, $p = .001$, $\eta_p^2 = .03$. The outcome of the case with the 15-year-old victim was predicted as more likely to be withdrawn ($M = 3.16$, $SD = 1.41$, 95% CI [2.94, 3.37]) in comparison to the case of the 5-year-old victim ($M = 2.66$, $SD = 1.53$, 95% CI [2.45, 2.86], $p = .001$, $d = .34$).

Statistically significant main effects for the character of the alleged victim were also found for the prediction of the likelihood of the case being withdrawn, $F(2, 351) = 8.65$, $p < .001$, $\eta_p^2 = .045$, and the case being dropped, $F(2, 355) = 4.62$, $p = .01$, $\eta_p^2 = .026$ (See Figure 4). Bonferroni post hoc tests indicated that participants who were exposed to information that the girl had a bad character

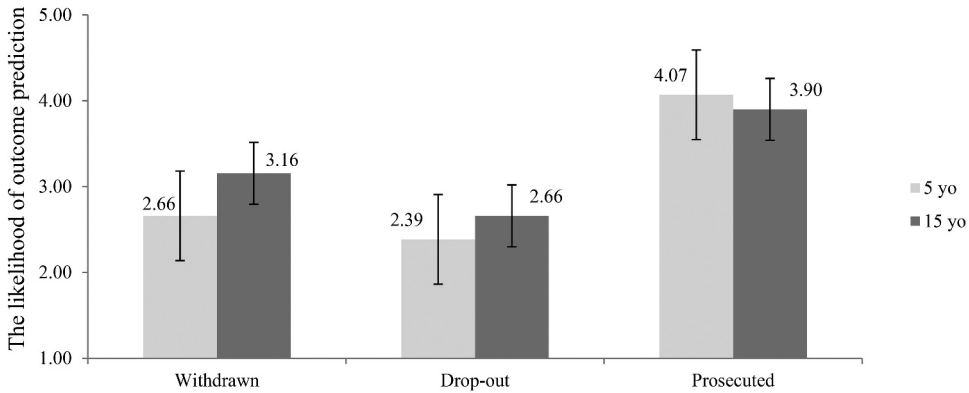


Figure 3. Mean scores on perceived level of three possible case outcome for case vignettes with different alleged victim's age (5 years old vs. 15 years old). 95% Confidence Intervals are represented by the error bars attached to each column (N = 357; missing: 12).

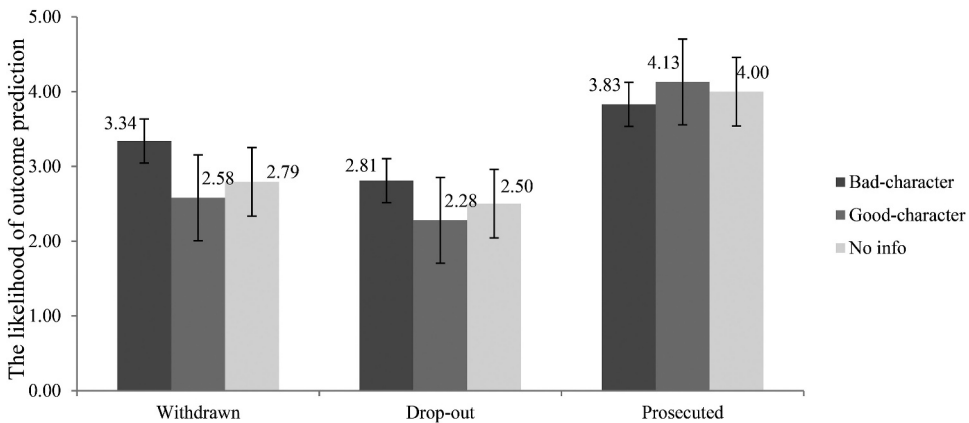


Figure 4. Mean scores on perceived level of three possible case outcome for case vignettes with different information of alleged victim's character (bad character versus good character versus no character info) 95% Confidence Intervals are represented by the error bars attached to each column (N = 357; missing: 12).

predicted that the case was more likely to be withdrawn ($M = 3.34$, $SD = 1.51$, 95% CI [3.08, 3.69]) compared to participants who received the good character information ($M = 2.58$, $SD = 1.37$, 95% CI [2.33, 2.84], $p < .001$, $d = .53$) or no character information ($M = 2.79$, $SD = 1.50$, 95% CI [2.53, 3.06], $p = .011$, $d = .37$). Furthermore, participants who were confronted with information that the girl had a bad character also predicted that the case was more likely to be dropped ($M = 2.81$, $SD = 1.45$, 95% CI [2.56, 3.05]) than participants who received the good character information ($M = 2.28$, $SD = 1.25$, 95% CI [2.03, 2.52], $p = .008$, $d = .39$). We did not find any effect of our background information manipulation on the prediction of the case being prosecuted.

The effects of our independent variables on type of questions in interview plan

We found that participants wrote between 1 and 19 questions in their interview plan ($M = 7.39$, $Med = 7$, $SD = 2.99$). Across all the participants who planned the interview ($n = 281$), 2150 questions were asked and 154 (7%) of those questions were double-barreled (e.g., *when and where did it happen?*). We observed that the largest proportion of substantive questions were directives ($M = 61.44$, $SD = 24.80$), followed by option-posing ($M = 19.56$, $SD = 17.67$) and invitations

($M = 2.59$, $SD = 8.84$). We scored biased questions in 205 participants' lists of questions ($n = 205$; 71.4%). Based on the categorization of biased questions, we observed that 99 participants (35%) introduced the abuse in their questions by mentioning a related abuse word (e.g., rape, sexually abused, touched); 84 participants (30%) mentioned the name of the suspect written in the case vignette. We also noted biased questions regarding the alleged victim's sexual experience or private life (e.g., *Have you had sexual intercourse before? Do you like the intercourse?*) in 55 participants' (19%) interview plans. Other types of biased questions were also observed: asking for the reason for not fighting against or saying 'no' to the perpetrator during the abuse ($n = 42$; 15%); asking the child for the reason she was sexually abused ($n = 29$; 10%); asking about the child's clothes when she was abused ($n = 14$; 5%), and asking the child why she delayed reporting or to disclose the abuse ($n = 11$; 4%).

Using Wilks' statistic, we did not find statistically significant effects for the victim's age ($F(4, 272) = 2.26$, $p = .06$, $\Lambda = .97$) or character ($F(8, 544) = .55$, $p = .81$, $\Lambda = .98$) on substantive question types: invitation, directive and option-posing (Lamb et al., 2018), indicating that similar types of questions were asked about substantive details across all conditions. We also did not find a statistically significant interaction effect between the victim's age and character on substantive question types. For biased questions, we found a main effect for the victim's age, $F(1, 275) = 5.39$, $p = .02$, $\eta_p^2 = .02$. The percentage of biased questions was higher in the interview plans of participants who received information that the victim was 15 years old ($M = 18.31$, $SD = 16.52$, 95% CI [15.85, 20.87]), compared to participants who received information that the alleged victim was 5 years old ($M = 14.13$, $SD = 13.48$, 95% CI [11.68, 16.69]), $p = .02$, $d = .28$). We did not find a statistically significant effect for victim character information on biased questions, $F(2, 275) = 1.75$, $p = .17$, $\eta_p^2 = .01$, and also no significant interaction effect between the victim's age and character information on biased questions, $F(2, 275) = .22$, $p = .80$, $\eta_p^2 = .002$.

Exploratory analyses

Although not preregistered, we conducted a Chi-Square analysis (see Table 2) to explore the association between the type of background information and the predicted case outcome (prosecuted, withdrawal or drop-out). There was a statistically significant association between the age of the victim and the prediction of case outcome ($\chi^2(2, N = 335) = 21.10$; $p < .001$, $V = .25$). The proportion of police investigators who predicted 'prosecuted' as the case outcome was significantly higher if they were presented with the younger victim compared to the older one. The odds of predicting a prosecuted outcome was 2.31 times higher when the alleged child sexual abuse victim's age was 5 years compared to when she was 15 years old.

We also found a statistically significant association between the character of the child victim and the prediction of the case outcome ($\chi^2(4, N = 335) = 16.12$; $p = .003$, $V = .25$). The proportion of police investigators who predicted a prosecuted case outcome was statistically significantly higher if

Table 2. Comparison of case outcome predictions in relation to the age of the alleged victim and the victim's background information (N = 335; missing: 34).

	Prosecuted ($n = 218$)	Withdrawal ($n = 72$)	Drop-out ($n = 45$)	χ^2	df	p	V
Age							
5 years old	119 (74.8%)	17 (10.7%)	23 (14.5%)	21.10	2	<.001	.25
15 years old	99 (56.3%)	55 (31.2%)	22 (12.5%)				
Background info							
No information	71 (63.4%)	22 (19.6%)	19 (17%)	16.12	4	.003	.15
Victim as good	85 (74.6%)	14 (12.2%)	15 (13.2%)				
Victim as bad	62 (56.9%)	36 (33%)	23 (10.1%)				

Note: The Chi-Square test explored the association between the IVs (victim's age and background information) and the predicted case outcome

they were presented with the good character victim versus the bad character victim or without information about the victim's character. The odds ratio of a prosecuted outcome was 2.78 times higher if the alleged child sexual abuse victim was described as a good girl compared to a bad girl and 1.94 times higher if the alleged victim was described as a good girl compared to a case which had no information about the victim's character.¹

Overall, we found that exposure to background information affected police investigators' perceived level of victim credibility, case outcome prediction and quality of interview questions. Compared to participants exposed to a case vignette of a 5-year-old girl, participants exposed to a case vignette of a 15-year-old girl, perceived the alleged victim as contributing more to the occurrence of the sexual abuse. Furthermore, these participants were more likely to predict case withdrawal. Participants were also more likely to include biased questions in their plan for interviewing the 15-year-old girl. We also observed that participants who were informed that the victim possessed a bad character perceived her as contributing more to the occurrence of the abuse compared to the victim with a good character. Police investigators also rated the statement of the bad character victim as less reliable than the statement of the victim with the good character. Furthermore, the case of the victim with the bad character was rated as more likely to be withdrawn or dropping-out than the good character victim.

Discussion

The goal of the current experiment was to examine the effect of case (ir) relevant background information (age and character) of an alleged child victim of sexual abuse on police investigators' ratings of perceived credibility of the victim and prediction of case outcome. Furthermore, we investigated the effect of background information on the quality of an investigative interview plan measured by the proportion of question types (invitation, directive, option-posing, biased). Police investigators read a case vignette containing a summary of an allegation from a child sexual abuse victim and also background information (or not) concerning this victim. The most important finding of our study was that case background information affected police investigators' judgment about the victim's credibility (the victim's contribution and the perceived reliability of statement) and their prediction of the case outcome (withdrawn outcome). Background information also impacted the quality of the questions in their interview plans: background information on an older aged alleged victim resulted in more biased questions. Contrary to our hypothesis, we did not find an effect on biased questions for the victim character manipulation.

More specifically, we found that compared to the younger alleged victim (5 years old), the older victim (15 years old) was perceived as having contributed more to the sexually abusive incident. Furthermore, police investigators predicted that cases including older victims would more likely be withdrawn and the odds of a prosecution outcome was rated 2.3 times lower compared to the younger victim cases. In line with this, police investigators listed more biased questions in their interview plans for the older compared to the younger victim.

Another important finding of this study was that the background information regarding the alleged child sexual abuse victim's character affected the perceived credibility of the victim's statement and the perception of the victim's contribution to the occurrence of the abuse. That is, police investigators perceived the statement of the alleged victim with a bad character as less reliable and these victims were perceived as contributing more to the abuse than the alleged victim with a good character. Moreover, the odds of a projected prosecution outcome was 2.8 times higher for the good character victim compared to the bad character victim.

Our findings support a limited body of previous research about the effect of information regarding alleged victims' character on police investigators' judgment and decision-making in investigating cases (Hughes-Scholes et al., 2014; Koppelaar et al., 1997; Powell et al., 2012). Background information on the alleged victim's character is an impactful extralegal factor that can influence police decision-making (O'Neal, 2019). In our experiment, exposure to background

information led police investigators to develop biased assumptions about the allegations. For instance, the 15-year-old alleged victim was perceived to be contributing more to the incident than the 5-year-old alleged victims and the girl with a bad character was perceived as less reliable than the girl with a good character. These biased assumptions reflect existing stereotypes in society regarding what constitutes good and bad victims (Collins, 2016; Greer, 2007; O'Neal, 2019). Thus, when a victim does not meet the expectation of an authentic, 'good' victim, allegations are more likely to be viewed as less credible. Victims who are perceived as less credible tend to receive less desirable judicial outcomes than those who are perceived as more credible (Goodman-Delahunty et al., 2010). Consequently, the case could receive a less desirable outcome, such as a premature withdrawal. Thus, our findings provide evidence for the potential for confirmation bias in that the likelihood of case withdrawal was estimated to be higher when police investigators had been exposed to the bad character information. However, it is also noteworthy to mention that across all conditions our participants rated the suspect's guilt as equally high. Although we focused on the perceived victim's credibility, it is promising that potential biases towards the victim did not seem to impact perceptions of the actual occurrence of the event, specifically from the perspective of suspect's guilt.

We observed a relatively high proportion of directive and option-posing questions, relative to invitations, in participants' interview plans. These findings likely reflect existing interviewing practices of Indonesian police investigators handling child sexual abuse cases. Indeed, in a previous study (Sumampouw et al., 2019), we found that Indonesian police interviewers rarely used open-prompts and asked relatively more directive, option-posing and suggestive questions. A remarkable finding in the current experiment was police investigators' tendency to ask biased questions, some of which could be considered as potentially suggestive. The lack of specific training in child forensic interviewing for Indonesian police investigators likely plays a critical role in this finding. Sumampouw and colleagues (2019) noted that training in evidence-based practice for child forensic interviewing is not available in Indonesia.

More specifically, the majority of the police investigators in our sample planned to pose biased questions in the interview ($n = 205$, 71.4%), such as asking about the victim's sexual experience and private life and checking whether the victim said 'no' to the perpetrator during the abuse. This higher proportion of biased questions to the older victim could be related to the fact that police investigators have the idea that the older victim would have more general knowledge than the younger victim which 'allows them' to put more pressure/bias on those questions. These biased questions indirectly might imply a victim-blaming attitude. We observed that biased questions about the victim's previous sexual experience were observed more frequently in the interview plans for the older compared to the younger victims. This finding indicates that victim blaming may play a particularly salient role in sexual abuse cases concerning older alleged victims. As noted in the previous research, some police officers hold problematic attitudes toward sexual assault victims (Rich & Seffrin, 2012). These problematic attitudes include attributions of victim blame and responsibility. Based on our results, police investigators in child sexual abuse allegation cases tend to be more critical towards older people compared to younger victims and also towards alleged victims showing bad character traits. This attitude towards older alleged victims and having bad character might be a potential of confirmation bias in police investigators while investigating the case in terms of seeking details that support the idea that the allegations are less credible.

Limitations and strengths

We acknowledge a number of limitations to our study. We created a case vignette that contained quite lengthy descriptions of the alleged victim's background information. Consequently, we could not identify exactly which information details were most salient to our participants. Finding the most salient one is important to warn police investigators of specific background information that could bias them while working on a case. We recommend conducting future studies to find out

which specific detail(s) in the background information has/have the strongest impact on, for example, credibility ratings of victims. We also cannot be sure whether the effect of background information in our study is a universal phenomenon across different cultures. We tested our hypotheses in Indonesian police investigators' and Indonesian culture is a non-Western, collectivistic culture, in which sexual abuse tends to be viewed as shameful (Xie, Sun, Chen, Qiao, & Chan, 2017). Moreover, victims of child sexual abuse in Indonesia seldom disclose incidents and rarely seek support (Rumble et al., 2018). Different cultures may have different norms concerning how a girl is expected to act or behave.

Another limitation is related to our study design in which we asked participants to create a list of questions to plan the interview. This is obviously an artificial task, because listing questions does not necessarily mean that participants would actually use these questions in a subsequent forensic interview. Assessing police investigators' actual interviewing practices would obviously be preferable. We also acknowledge that we tailored our character manipulation in the vignette to the victim's age. We did not use similar background information for the 15-year-old victim (i.e., information regarding dating, smoking and drinking alcohol) for the 5-year-old bad character victim. Instead, for the bad character of the 5-year-old victim, we used a disadvantaged parental background (divorced parents and low socioeconomic status). This difference might have caused that the effect of our character manipulation on the DVs might be partially explained by differences of details between the age groups. In a future study, we need to keep the bad character elements in the vignettes exactly the same, but also age-appropriate.

Our study also has a number of strong features. First, we used a sample of police investigators, a substantial minority (42%) of which had experience in child investigative interviewing. Based on our exploratory analyses, it is remarkable to observe that police investigators with a working experience in a CSA case tend to hold a positive attitude toward a case prosecution outcome. Across conditions, they were more confident that the case would be prosecuted and they indicated a higher level of suspect guilt compared to participants without working experience in a CSA case. At present, there are no specialized child police investigators in Indonesia. It means that, in principle, police investigators who are currently not working in child sexual abuse investigations might be involved in these types of cases in the future. Participants in our study were actual police investigators, not lay persons, which strengthens the study's external validity, compared to previous studies that used non-police students (Bollingmo et al., 2009) or community volunteers (Goodman-Delahunty et al., 2010).

Conclusions and recommendations

This study represents the first attempt to examine the effect of case background information on decision-making of police investigators from a non-WEIRD (Western, Educated, Industrialized, Rich and Democratic; Henrich et al., 2010) country. Notwithstanding the need for replication of our study in other jurisdictions, the current findings point out that confirmation bias in relation to child abuse victim information is a potential problem in police investigators' decision-making, and should be taken seriously in the interest of fairness and justice.

Our first recommendation is that police investigators should be made aware of the dangers of confirmation bias and how this can be formed. Our findings stress that background information can create bias in police investigators. Hence, a second recommendation is to limit investigators' pre-interview information and/or to use other investigators to conduct the victim interview. It might well be the case that interviewers without case knowledge more fully explore all potential hypotheses and are less likely to adopt a biased questioning strategy (Rivard & Compo, 2017). Indeed, Rivard et al. (2016) showed that interviewers with no pre-interview knowledge of the crime, obtained details that were more accurate than interviewers with pre-interview knowledge.

In relation to conducting child forensic interviews, we recommend applying an evidence-based interview protocol which promotes the use of open prompts, such as the NICHD interview protocol

(Lamb et al., 2018). Such an interview protocol provides direction and guidelines to minimize suggestion, i.e. biased/leading questions, during investigative interviewing. One potential way in which bias could be prevented is by using an alternative scenario model (Otgaar et al., 2017; Rassin, 2010; Van Koppen & Mackor, 2019). The alternative scenario model refers to the idea that police investigators should postulate at least two scenarios: one in which the assumption is that the allegation might be the result of a true memory, and another scenario that includes the hypothesis of a fabrication/false memory. The scenario model could increase the objectivity of police investigators and mitigate the effect of confirmation bias.

To summarize, this experiment revealed that case-related background information regarding an alleged child victim of sexual abuse can exert a biasing impact on police investigators' judgment and decision-making. Different attitudes toward child sexual abuse victims, as a result of exposure to background information, appeared to color police investigators' plans for interviewing the alleged victim. Police investigators were more likely to use biased questions in their interview plans if they were assigned to work with an older alleged child sexual abuse victim. The current findings suggest that even seemingly trivial background information concerning an alleged victim can adversely affect judgments and decision-making processes in police investigators.

Note

1. We conducted a number of exploratory analyses to examine differences between participants who had experience in handling child sexual abuse cases ($N = 150$) versus participants without such experience ($N = 201$) on our dependent variables by means of independent samples t -tests. We also examined the association between type of background information and the presence of each type of biased question in the interview plan. We included these results in the supplementary materials (See: <https://osf.io/47vby/>).

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