Suggestibility in Neglected Children:

The Influence of Intelligence, Language and Social Skills

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Abstract

We administered the GSS-2, a standardised measure of suggestibility, to 5- to 12-year-old children to ascertain whether neglected children's responses to leading questions distinguish them from those of their non-neglected counterparts. Neglected children ($n = 75$) were more likely than an age-matched sample of non-neglected children ($n = 75$) to yield to leading questions, despite no difference in their ability to recall the test stimuli. Subsequent collection of individual difference data from the neglected sample revealed that this effect could not be attributed to intelligence, language ability, problems behaviours, age at onset of neglect, or time spent in out-of-home care. With respect to social skill, however, suggestibility was positively correlated with communicative skill, and marginally positively correlated with assertion and engagement. While on the surface our social skills findings seem counter-intuitive, it is possible that maltreated children with relative strengths in these areas have learned to comply with adults in their environment as a way to protect themselves or even foster belonging. Our data, while preliminary, raise interesting questions about whether targeted interventions could help these children to more actively participate in decisions about their lives.

Keywords: Suggestibility, children, child neglect, maltreatment, memory

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Child maltreatment refers to acts that result in actual or potential harm to a child's survival, health, development, or dignity within the context of a relationship of responsibility, trust, or power (World Health Organization, 1999). Child maltreatment can involve acts of commission (e.g., sexual, physical, or emotional abuse) or omission (e.g., neglect; Horwath, 2007), and these various forms of child maltreatment often co-occur (Claussen & Crittenden, 1991). Children who have been maltreated are predisposed to a number of negative outcomes, including deficits in general intellectual functioning (Crozier & Barth, 2005), compromised language development (Law & Conway, 1992; Lum, Powell, Timms, & Snow, 2015), low social skills (Holosko, 2015) and a range of high and low-prevalence mental health problems across the life-span (Geoffroy, Pinto Pereira, Li, & Power, 2016; Greger, Myhre, Lydersen, & Jozefiak, 2015; Spataro, Mullen, Burgess, Wells, & Moss, 2004).

Maltreated children come into contact with a wide assortment of service providers, ranging from health professionals to child protection agencies to the courts (Goldman, Salus, Wolcott, & Kennedy, 2003). In these contexts, children's accounts are likely to inform high-stakes decisions—about care and custody, about protection, or about justice administration. Maltreated children are likely to have unique perspectives that can make a fundamental contribution to decision-making; they might even be the only source of information about alleged events under consideration. For this reason, it is vital that these children are supported to give information that accurately reflects their experiences and viewpoints. Without that support, children could be disadvantaged by the very systems that are designed to act in their best interests.

Decades of research have established that the quality of information that children provide in an interview setting depends largely on the types of questions they are asked (Blandon-Gitlin & Pezdek, 2009; Feltis, Powell, Snow, & Hughes-Scholes, 2010; Gagnon & Cyr, 2017; Powell & Guadagno, 2008). In particular, any interview question that could direct the child towards a particular response (e.g., “is it true that he had a gun?”) has the potential to contaminate that child's report. The more strongly the interviewer's questions suggest a

particular response, the more likely children are to provide details that are consistent with that expectation (e.g. Garven, Wood, Malpass, & Shaw, 1998). This suggestibility can occur either because the child believes that the interviewer must be correct, or because the child agrees with the interviewer despite having a belief or knowledge to the contrary (Bruck & Melnyk, 2004).

Although the effect of suggestion on children's reports is a robust one, there is nonetheless some variation in the way that children respond to the same types of questions (Bruck, Ceci, & Melnyk, 1997)—a finding that has led researchers to seek out the individual correlates of suggestibility. Age appears to be the most important of these correlates (for a review, see Ceci & Bruck, 1993), however there are considerable individual differences in suggestibility even among children of the same age (Chae & Ceci, 2005). That is, other characteristics are likely to play a significant role in children's capability to remember events in detail, to understand the questions posed to them, and to provide coherent and reliable narratives. Certainly, individual difference characteristics other than age may affect the degree to which children succumb to suggestive influences during an interview (see Bruck & Melnyk, 2004, for a review)—these characteristics include language ability (e.g., Clarke-Stewart, Malloy, & Allhusen, 2004; Kulkofsky, 2010; Uhl, Camilletti, Scullin, & Wood, 2016), creativity (e.g., Frost et al., 2013), self-concept (e.g., Chae & Ceci, 2005; Howie & Dowd, 1996; Vrij & Bush, 2000; Zajac, Jury, & O'Neill, 2009), assertiveness (e.g., Muir-Broadbuss, King, Downey, & Petersen, 1998; Zajac et al., 2009) and intellectual functioning (e.g., Gignac & Powell, 2006; Gudjonsson & Henry, 2003; Young, Powell, & Dudgeon, 2003; but see Caprin et al., 2016; Chae & Ceci, 2005; Roebbers & Schneider, 2001).

Unfortunately, however, much of what we know about children's suggestibility comes from studies of children with no known history of maltreatment. In fact, the overwhelming majority of studies recruit typically developing children with no known child protection concerns from mainstream schools. Given that adverse experiences leading to post-traumatic stress disorder have been linked to reduced volume of the hippocampus (Carrión, Haas, Garrett, Song, & Reiss, 2010; Carrión, Weems, & Reiss, 2007)—an area crucial to memory—it is important to know how children who are disproportionately likely to appear in

care, protection, and justice settings fare relative to their normal counterparts. Concerns about the extent to which maltreated children may be vulnerable to suggestibility during interviews also stem from evidence that their receptive and expressive oral language skills are fragile compared to age-matched peers (Lum et al., 2015). This may compromise the extent to which maltreated children can be assertive communicators, considering listener prior knowledge, identifying and responding to misapprehensions on the part of the listener, and holding fast to a narrative line in the face of leading questions.

What can the small number of existing studies tell practitioners about interviewing maltreated children? Unfortunately, conflicting findings in the literature mean that the answer is very little. Although basic memory processes do not appear to differ markedly as a function of maltreatment status (e.g., Eisen, Qin, Goodman, & Davis, 2002; Goodman, Bottoms, Rudy, Davis, & Schwartz-kenney, 2001; Howe, Cicchetti, & Toth, 2006; Howe, Cicchetti, Toth, & Cerrito, 2004; McWilliams, Harris, & Goodman, 2014; but see Goodman, Quas, & Ogle, 2010), the research findings pertaining to suggestibility are inconsistent. Some researchers have found similar levels of suggestibility in maltreated and non-maltreated children (Chae, Goodman, Eisen, & Qin, 2011; Eisen, Goodman, Qin, Davis, & Crayton, 2007; Eisen et al., 2002; Goodman et al., 2001; McWilliams et al., 2014), some have found that maltreated children are more suggestible than non-maltreated children (e.g., Curci, Bianco, & Gudjonsson, 2016; Vagni, Maiorano, Pajardi, & Gudjonsson, 2015), and one study has even observed an advantage for maltreated over non-maltreated children in this domain (Otgaar, Howe, & Muris, 2017).

Two primary factors might contribute to conflicting findings in the maltreatment literature. The first is considerable disparity in the way in which researchers have selected their samples. Substantiation of maltreatment, for example, is not consistently present in the literature. In fact, children merely *suspected* of having been maltreated have been studied as a maltreatment sample in some studies (e.g., Eisen et al., 2007, 2002; Vagni et al., 2015), and as a control group in others (e.g., Chae et al., 2011; Katz, Schonefeld, Carter, Leventhal, & Cicchetti, 1995). Substantial heterogeneity within maltreated samples is also widespread, despite the fact that different life adversities could impact on children in different ways

(Trickett & McBride-Chang, 1995). The use of the term maltreatment as a ‘catch-all’ in the suggestibility literature means that children who have suffered neglect—an enduring highly dysfunctional family environment—are often considered alongside children who have experienced a single occurrence of sexual abuse committed outside a stable family environment (e.g. Otgaar et al., 2017).

The second potential reason for conflicting findings relates to variation in the methods and dependent measures that researchers have employed to study suggestibility. Many studies addressing the eyewitness abilities of maltreated children have used procedures such as the Deese–Roediger–McDermott paradigm (DRM; Deese, 1959; Roediger & McDermott, 1995) to assess children’s vulnerability to false memory (Howe et al., 2004; Howe, Toth, & Cicchetti, 2011; Otgaar et al., 2017). These procedures, however, do not consider the social dimension underlying children’s responses during formal interviewing. In fact, they may even produce data that are unrelated to children’s performance on other measures of suggestibility (Otgaar & Candel, 2011; Otgaar et al., 2017). Taken together, these findings are minimally helpful to practitioners tasked with interviewing maltreated children. In particular, we still know very little about how maltreated children are likely to respond to the less-than-ideal questions that can creep into practitioners’ interviews.

Research findings—along with a series of high profile cases involving inappropriate interviewing of children (see Goodman, 2006, for examples)—have made practitioners abundantly aware of the potential damage that highly suggestive questions (e.g., “he hit you, didn’t he?”) can do to children’s accounts of their experiences (Melinder, Goodman, Eilertsen, & Magnussen, 2004). However, practitioners are unlikely to possess the same level of awareness of the dangers of asking leading questions—that is, those that ask whether or not something occurred in a certain way (e.g., “Do you like spending time with Dad?” or “Did you go to school that day?”). Indeed, even child interviewers who are aware of the importance of asking open-ended questions are likely to resort to yes/no questions when the necessary details are not forthcoming (Hughes-Scholes & Powell, 2013). Moreover, in maltreatment cases that result in criminal charges, these highly specific questions are likely to make up the bulk of courtroom questions posed to complainants (Powell, Westera, Goodman-

Delahunty, & Pichler, 2016; Zajac & Cannan, 2009; Zajac, Gross, & Hayne, 2003; Zydervelt, Zajac, Kaladelfos, & Westera, 2016). Isolating maltreated children's responses to these types of questions is therefore crucial. Employing a standardised measure of interrogative suggestibility (Gudjonsson & Clark, 1986)—a form of suggestibility driven by the social interaction occurring between the interviewer and the interviewee, often in a situation of inequality of power—would add a critical dimension to research in this area.

The GSS-2 (Gudjonsson, 1997) is one such measure. It was created to empirically assess Gudjonsson and Clark's (1986) model of interrogative suggestibility, and its reliability and validity have been demonstrated in several studies (see Gudjonsson, 2003). There is some evidence to suggest that maltreated children might perform particularly poorly on the GSS-2. Curci, Bianco and Gudjonsson (2016) used the GSS-2 with 6- to 14-year-old children accessing social services, showing that these children had lower memory scores and higher suggestibility scores than children in the comparison group. The composition of the clinical group, however, was not limited to children who had been maltreated; in fact, no distinction was made between maltreated children, children who were witnesses of domestic violence and those who committed acts of violence or abuse themselves.

With these issues in mind, we sought to examine the extent to which maltreated children's responses to leading questions in the GSS-2 differed from those of their non-maltreated peers. We then examined the extent to which individual characteristics—of the child, of the maltreatment, or of the subsequent care arrangements—influence susceptibility to these types of questions.

To address potential concerns about the substantiation of maltreatment and homogeneity of our sample, we focused on child neglect. Child neglect is one of the most common forms of child maltreatment, but one of the most difficult to substantiate (Scott, 2014). It is also especially likely to be related to negative outcomes, due to chronically deprived environments that reduce access to intellectual stimulation, social interaction, and the meeting of basic needs (Chae et al., 2011; Eckenrode, Laird, & Doris, 1993; Gaudin, 1999; Gowan, 1993). We recruited our maltreated sample from children residing in out-of-home care. All of these children had experienced neglect, at the hands of one or both

biological parents, that was considered severe enough for them to be removed from their homes and placed in the care of others. In contrast, our comparison group comprised children recruited from mainstream elementary schools. Children in this group were not in out-of-home care and had no known history of neglect or other maltreatment.

Study 1

In Study 1, we used the GSS-2, a standardised measure of suggestibility, to determine whether neglected children in out-of-home care differed from an age-matched sample of children with no known maltreatment history. Based on previous research suggesting a negligible effect of maltreatment on basic memory processes, we hypothesised that neglected and non-neglected children would perform similarly with respect to free recall performance. Relative to non-neglected children, however, we expected neglected children to show a greater tendency to yield to leading questions.

Method

Participants

The neglected sample comprised 75 children aged between 5 and 12 years ($M = 8.35$ years, $SD = 2.19$, 37 males, 38 females). All of the sample had experienced neglect by one or both biological parents. As a result, all of the children had been placed in out-of-home care by a child protection agency operating under the Australian government. Out-of-home care was provided by relatives, foster carers, or family group homes.

The non-neglected sample comprised an age- and gender-matched group of 75 children (M age = 8.69 years, $SD = 2.12$, 37 males, 38 females; see Young et al., 2003, for more detail about this sample) who had no known experiences of abuse or neglect. These children were recruited from three Australian state elementary schools. Neglected children and non-neglected children did not differ with respect to age, $t(148) = -0.96$, $p = .34$.

The study was approved by the Deakin University Ethics Committee. Informed written consent was obtained from the legal guardian with whom each child was residing at the time of the study.

Materials

Gudjonsson Suggestibility Scale (GSS-2). The Gudjonsson Suggestibility Scale (GSS-2, Gudjonsson, 1997) was used as a standardised measure of memory and suggestibility. In the GSS-2, a short story is read to the child, who is asked to listen carefully and then provide a free recall account. Next, the child is asked 20 questions about the story, 15 of which are misleading. A Free Recall index is obtained by giving one point for each idea correctly recalled from the story, and half a point for each partially recalled idea, to a maximum of 40 points. A Yield score (maximum = 15) is derived by calculating the number of times the child capitulates to suggestive questions—that is, provides an affirmative response to the yes/no questions or chooses one option suggested by the false alternative questions. Two further scores—Shift (children’s tendency to change their responses when given negative feedback) and Total Suggestibility (a combination of Yield and Shift scores)—can be calculated. Due to psychometric and conceptual problems associated with the former score (and therefore the latter; see Gignac & Powell, 2009), these measures were not calculated in the present study.

Procedure

All of the neglected children were tested individually in a quiet meeting room at the headquarters of the relevant child protection agency. The GSS-2 was administered by a speech pathologist. Children in the non-neglected group were individually administered the GSS-2 in a quiet room at their school.

Results

Preliminary analyses revealed that free recall and suggestibility scores on the GSS-2 did not differ as a function of child gender; data were therefore collapsed across gender for subsequent analyses.

Pearson’s correlations were first conducted to investigate the relation between age and GSS-2 scores. As expected, there was a significant correlation between age and free recall score—both in neglected children ($r = .59, p = .001$) and in non-neglected children ($r = .63, p < .001$). That is, older children exhibited better free recall performance than younger children. Significant negative relations were also found between age and suggestibility, both in the

neglected children ($r = -.38, p < .001$) and in the non-neglected children ($r = -.44, p < .001$); as expected, younger children were more suggestible than older children.

Next, we conducted two ANCOVA—using age as our covariate—to investigate whether neglected and non-neglected children differed with respect to free recall performance and suggestibility. The difference in free recall performance between neglected children ($M = 7.43, SD = 6.39$) and non-neglected children ($M = 9.09, SD = 6.16$) did not reach statistical significance, $F(1,147) = 1.69, p = .20, \eta^2 = .011$. In contrast, suggestibility scores were significantly higher for neglected children ($M = 9.65, SD = 3.49$) than for non-neglected children ($M = 6.65, SD = 3.24$), $F(1,143) = 30.27, p < .001, \eta^2 = .175$.

Finally, we conducted partial correlations—controlling for age—to investigate the relation between suggestibility and free recall. There was no significant association between free recall performance and suggestibility in either the neglected children ($r = -.20, p = .11$) or the non-neglected children ($r = -.17, p = .15$).

Study 2

The findings of Study 1 indicate that relative to children with no known maltreatment history, neglected children are at greater risk for assenting to leading questions. Moreover, this difference cannot be explained by differences in memory *per se*. In Study 2, we therefore sought to ‘dig deeper’ into our neglected sample, in an attempt to identify the specific factors that could be driving this effect. Consequently, we conducted a battery of individual differences measures encompassing general intellectual functioning, language ability, and social skills. We also examined the characteristics of children’s maltreatment experiences and out-of-home care placements. We examined the extent to which each of these factors was associated with suggestibility.

Method

Participants

The sample for Study 2 comprised the maltreated sample from Study 1.

Materials

Children’s vulnerability to suggestion was measured by the GSS-2 (Gudjonsson, 1997) as administered in Study 1. In addition, all children completed a battery of standardised

tests measuring general intellectual functioning, language skills, and social skills. Tests of general intellectual functioning and language ability were administered by a speech pathologist in accordance with the testing procedures set out in the examiner's manuals. Additionally, children's current legal guardian completed a measure of social skill. Details of children's maltreatment history were obtained using child protective services records. Further detail on each of these measures is provided below.

Maltreatment and out of home care history. For each child who participated in this study, the maltreatment history and details of his/her out-of-home placements were obtained via child protective services records. Particular attention was given to whether the child had experienced abuse (physical, sexual, or psychological/emotional) as well as neglect, the age of child at the first documentation of maltreatment, and the time spent in out-of-home care.

Raven's Coloured Progressive Matrices (RCPM). General intellectual functioning was assessed by means of Raven's Coloured Progressive Matrices (RCPM, Raven, 1998), a commonly employed test to measure fluid intelligence in a way that is minimally demanding on children's language skills. The test is suitable for children aged between 6 and 11 years, and comprises 3 series of 12 items. On each item, the child is required to complete a series of figures by indicating the missing part, choosing among those proposed, according to a criterion of increasing difficulty. Sattler's (2001) conversion tables were used to convert children's raw scores on the RCPM in standard scores with a mean of 100 and a standard deviation of 15.

Clinical Evaluation of Language Fundamentals-4th Edition, Australian Standardisation. The Clinical Evaluation of Language Fundamentals-4th Edition (*CELF-4*, Semel et al., 2006) is an individually administered test for assessing the presence of language disorder or delay. The test assesses several different aspects of language ability: morphology, syntax, semantics, pragmatics, and phonological awareness. There are 19 subtests, and several index scores can be calculated. In this study we used three indices: the Core Language Score is a measure of general language ability that quantifies a child's overall language performance and whether or not a language disorder is present; the Receptive Language Index is a measure of auditory comprehension; and the Expressive Language Index is an

overall measure of expressive language skills. Standardised scores of these indices have a mean of 100 and standard deviation of 15. Scores of 85 or lower indicate that a developmental language disorder is highly likely. The internal consistency of the Core Language Score is high, with an average reliability coefficient of 0.96 across the standardisation sample (Semel et al., 2006).

Test of Narrative Language. The Test of Narrative Language (TNL, Gillam & Pearson, 2004) is a standardized test designed to measure narrative comprehension and production in children aged between 5 and 12 years. The test is used to identify language impairments, as well as to measure a child's ability to answer comprehension questions and use language in narrative discourse. During the test, children are required to listen to a story, answer questions about it, and invent a new story. The TNL takes 15 to 20 minutes to administer. Children's responses are audio-recorded and scored in terms of macrostructural and microstructural elements of story content. The standardised overall Index of Narrative Language Ability has a mean of 100 and standard deviation of 15.

Social Skills Improvement System's (SSIS) Rating Scales – parent form.

Children's current legal guardian completed the Parent Form of the SSIS Rating Scales (Gresham & Elliott, 2008) to evaluate both Social Skills and Problem Behaviours. In this measure, guardians were asked to indicate how often the child displayed a range of different behaviours over the past 2 months ("never", "seldom", "often", "almost always"); they were also required to rate how important each behaviour was for the child's development.

Social skills are defined as learned behaviours that promote positive interactions and discourage negative interactions. Subdomains included in the Social Skills scale are: Communication, Cooperation, Assertion, Responsibility, Empathy, Engagement, and Self-Control. Subdomains included in the Problem Behaviour scale are: Externalizing, Bullying, and Hyperactivity/Inattention. The Social Skills and Problem Behaviour raw scores were converted into standard scores with a mean of 100 and a standard deviation of 15, in accordance with the test norms. We considered the raw scores on each subscale due to a lack of normative data.

Results

Maltreatment History and Care Characteristics

As well as neglect, 44% of the children had experienced at least one substantiated further form of abuse: 21% had been exposed to physical abuse, 13% to sexual abuse, and 24% to emotional abuse. The child's age at first documented report of neglect ranged from 0 to 85 months ($M = 28.53$ months, $SD = 24.37$). Over two-thirds of the children (68%) had experienced a very severe or potentially life-threatening form of neglect. The period of time spent in out-of-home care ranged from 9 months to 160 months ($M = 60.93$ months, $SD = 35.32$).

Individual Difference Measures

Children's scores on the individual difference measures are presented in Table 1. General intellectual functioning of maltreated children were within normal limits (i.e., within two standard deviations of the mean). In contrast, language and social skills were, on average, lower than the normative average, while problem behaviours were present at a higher incidence than the normative average (Lum, Powell, & Snow, 2017).

[INSERT TABLE 1 ABOUT HERE]

The contribution of maltreatment and care characteristics to suggestibility. As noted above, just under half of our sample had experienced abuse as well as neglect. We therefore asked whether there was an additive effect of abuse on suggestibility in neglected children. When controlling for age, children who experienced abuse as well as neglect ($M = 9.07$, $SD = 6.13$) exhibited similar levels of free recall to those children who experienced neglect only ($M = 7.12$, $SD = 6.14$), $F(1,68) = 0.02$, $p = .902$, $\eta^2 = <.001$. Moreover, children who experienced abuse as well as neglect ($M = 9.50$, $SD = 3.12$) obtained similar suggestibility scores to those children who experienced neglect only ($M = 9.76$, $SD = 3.77$), $F(1,68) = 0.01$, $p = .942$, $\eta^2 = <.001$. Partial correlations also indicated that neither age at first known exposure to neglect nor time spent in out-of-home care was related to suggestibility ($r = .06$, $p = .62$, and $r = -.11$, $p = .37$, respectively).

Relations between Suggestibility and Individual Differences Variables

We conducted partial correlations to examine whether suggestibility was associated with any of our individual difference variables. These correlations can be seen in Table 2, with free recall correlations shown for comparison. Children's free recall performance was positively correlated with general intellectual functioning (RCPM, $r = .30, p < .05$) and aspects of their language performance (CELF Core Language Score, $r = .43, p < .001$; CELF Expressive Language Index, $r = .46, p < .001$). In contrast, the only individual difference variable that was associated with suggestibility was social skill as measured by the SSIS. Specifically, there was a marginally significant positive correlation between suggestibility and the Social Skills Index score ($r = .23, p = .05$). Suggestibility was positively correlated with the Communication subdomain ($r = .35, p < .01$), and marginally positively associated with the Assertion ($r = .23, p = .06$) and Engagement ($r = .23, p = .06$) subdomains.

[INSERT TABLE 2 ABOUT HERE]

Discussion

We investigated the effect of neglect on children's vulnerability to leading questions, as well as the individual correlates of neglected children's performance. First, we used the GSS-2, a standardised measure of suggestibility, to measure and compare yield scores of age-matched neglected and non-neglected children. We then collected data pertaining to the individual characteristics of our neglected sample—the child, the maltreatment, and the subsequent care arrangements—in an attempt to isolate the factors that were driving their responses.

Neglected and non-neglected children performed similarly with respect to free recall—a finding that is broadly consistent with previous work showing little or no effect of maltreatment on basic memory processes (Beers & De Bellis, 2002; Cicchetti, Rogosch, Howe, & Toth, 2010; Howe et al., 2006; Porter, Lawson, & Bigler, 2005). In response to leading questions, however, a marked effect of neglect emerged—neglected children yielded to considerably more of these questions (64%) than non-neglected children (44%). On the surface, this finding appears to conflict with several studies exploring suggestibility in maltreated children (Chae et al., 2011; Eisen et al., 2007, 2002; Goodman et al., 2001; Otgaar

et al., 2017). There are, however, two key differences between our research and these other studies.

First, we used a standardised instrument to assess interrogative suggestibility. Second, we ensured that all of our maltreated sample shared one form of substantiated maltreatment; all had experienced neglect in the home that was severe enough for them to be removed from their parents' care and placed in out-of-home care. In each case, we had detailed data on the course and nature of the maltreatment and the subsequent care arrangements.

Our study is one of the few investigations of individual differences in memory and suggestibility for children with substantiated child neglect experiences. While neglect often co-exists with abuse (indeed, 44% of our neglected sample had also experienced some form of abuse), the effects of neglect—a chronic, pervasive experience that occurs within the family environment—is likely to differ from those of abuse in important ways that have not yet been captured in the literature. Consistent with this proposition, there was no significant additive effect of abuse on suggestibility in our neglected sample, echoing work from previous studies using different paradigms (Chae et al., 2011; Goodman et al., 2001). These convergent findings suggest that the presence of neglect could account for at least some of the variability in the literature around maltreated children's suggestibility.

Why might neglected children be particularly prone to accepting misleading suggestions? To answer this question, we need to consider that suggestibility can occur in one of two ways: children can personally accept the suggestion, or they can verbally assent to the suggestion without believing it. The former is most likely to be associated with cognitive variables, and the latter with social variables (Bruck & Melnyk, 2004). For several reasons, we propose that neglected children in our study were primarily exhibiting socially-driven suggestibility. First, although children's free recall performance was associated with the cognitive variables that we measured—general intellectual functioning and language skill—suggestibility was not. While the neglected children in our sample performed within the normal range on the intelligence task, they exhibited lower language scores than expected for their age (see Lum et al., 2017). Poorer language skills, however, did not account for suggestibility. Instead, vulnerability to suggestion appeared to lie in the interpersonal space in

which language is used, rather than reflecting language weaknesses per se. Second, there was no significant correlation between children's free recall performance and their suggestibility, making it unlikely that they accepted suggestions because they could not remember what really happened. Finally, suggestibility was marginally significantly correlated with social skill. A closer examination of children's performance on the SSIS revealed that children's yield scores were significantly correlated with the communication subscale, and marginally significantly correlated with the assertion and engagement subscales.

Although social skill was related to neglected children's suggestibility, it is important to note that the relation was in the opposite direction to what we might predict; that is, higher social skill levels predicted greater suggestibility. One possible explanation for this counterintuitive finding emerges when we consider that social skills refer simply to learned behaviours that promote positive interactions and discourage negative interactions. Indeed, social competence may be conceptualized as "effectiveness in social interaction" and emerges from interactions between people—the joint product of the individual and his social environment (Rose-Krasnor, 1997). For neglected children, acquiescence to the adults in their environment could provide the best way of achieving these goals, providing a 'safe' strategy that maximises their chances of having their physical and psychological needs met, and even fostering some sense of belonging (Baumeister & Leary, 1995). More work is necessary to explore this hypothesis further.

What are the implications of this research for the service providers who meet and question children who have experienced neglect? First and foremost, our findings underscore the already established importance of using open-ended questions when asking children about their experiences and perspectives. As well as maximising the accuracy of the responses that children provide (Lamb et al., 2003; Orbach et al., 2000; Powell & Snow, 2007), these types of questions also serve to minimize individual differences in accuracy that can arise from variability in memory, language, and social skills (Agnew & Powell, 2004).

At the same time, however, we need to acknowledge that open-ended questions might not elicit all of the information that service providers need to make their decisions. In settings where child maltreatment results in criminal charges, for example, the specific charges laid

can depend heavily on information that children are unlikely to provide spontaneously (Blandon-Gitlin & Pezdek, 2009). When some central details of the allegation or highly specific information are missing or unclear after exhausting the open-ended questions, highly specific questions might be unavoidable (Poole & Lamb, 1998). In these situations, practitioners need to be aware that the response patterns of neglected children could differ significantly from those of their non-neglected peers.

On a positive note, when suggestibility is socially-driven—that is, when memory is intact and suggestions are not privately accepted—there is more scope to intervene. Practitioners can therefore take active steps to circumvent the negative influence of leading questions. It is possible, for example, that additional time spent building rapport and establishing interview ground rules with neglected children could reduce their tendency to acquiesce (see Hershkowitz, 2011; Lamb & Brown, 2006). Simply informing children that it is acceptable to disagree with the interviewer, however, is unlikely to be sufficient to eradicate suggestibility; extending these instructions to involve practice and reinforcement is likely to be more effective (see Dickinson, Brubacher, & Poole, 2015; Righarts, O'Neill, & Zajac, 2013).

Although our findings are both preliminary and correlational, they challenge the assumption that the individual correlates of suggestibility in maltreated children—at least those who have experienced serious neglect—mirror those observed in non-maltreated children. We call on researchers to redouble their efforts to understand the unique vulnerabilities of children with substantiated histories of abuse and neglect. Such research is an important first step towards ensuring that maltreated children have a clear voice in the systems responsible for deciding their futures.

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Table 1.

Neglected children's scores on individual difference measures.

	<i>M</i>	<i>SD</i>	Range
General Intellectual Functioning RCPM	106.18	10.47	81 - 128
Language			
Core Language Score (CELF-4)	91.89	14.79	49 - 125
Expressive Language Index (CELF-4)	94.65	14.87	55 - 126
Receptive Language Index (CELF-4)	89	17.58	38 - 121
Narrative Language Index (TNL)	81.88	15.51	46 - 112
Social Skills			
Social Skills Index (SSIS-RS)	89.58	16.86	50 - 123
Cooperation	11.51	3.52	5 - 18
Assertion	13.85	2.85	8 - 21
Responsibility	10.36	3.9	1 - 18
Empathy	11.29	3.68	0 - 17
Engagement	14.32	3.26	8 - 20
Self-Control	9.53	4.2	0 - 18
Problem Behaviour Index (SSIS-RS)	118.07	16.84	86 - 160
Externalizing	14.59	6.91	2 - 31
Bullying	3.75	2.94	0 - 10
Hyperactivity Inattention	9.91	4.44	1 - 20

Note. RCPM = Raven's Coloured Progressive Matrices; CELF-4 = Clinical Evaluation of Language Fundamentals; TNL = Test of Narrative Language; SSIS-RS = Social Skills Improvement System-Rating Scales.

Table 2.

Age-controlled partial correlations between GSS-2 measures (free recall and yield scores) and individual differences variables.

	Free Recall	Yield
General Intellectual Functioning		
RCPM	.30*	-.11
Language		
Core Language Score (CELF-4)	.43***	-.09
Expressive Language Index (CELF-4)	.46***	-.01
Receptive Language Index (CELF-4)	.33	-.25
Narrative Language Index (TNL)	.12	.05
Social Skills		
Social Skills Index (SSIS-RS)	-.08	.23 ^m
Communication	-.03	.35**
Cooperation	-.07	.20
Assertion	-.09	.23 ^m
Responsibility	-.09	.15
Empathy	-.15	.10
Engagement	-.05	.23 ^m
Self-Control	-.03	.22
Problem Behaviour Index (SSIS-RS)	-.02	-.05
Externalizing	.03	-.05
Bullying	-.04	.03
Hyperactivity Inattention	-.06	-.08

Note. ^m $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$.