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Conversational Dynamics Between Caregivers and Children : The Role of Elaboration and Autonomy Support on Children's Memory Reports

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**CONVERSATIONAL DYNAMICS BETWEEN CAREGIVERS AND CHILDREN: THE
ROLE OF ELABORATION AND AUTONOMY SUPPORT ON CHILDREN'S
MEMORY REPORTS**

A DISSERTATION

Submitted to the Faculty of
Montclair State University in partial fulfillment
of the requirements
for the degree of Doctor of Philosophy

by

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Upper Montclair, NJ

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Dissertation Chair: Dr. Nicole E. Lytle

CONVERSATIONAL DYNAMICS BETWEEN CAREGIVERS AND CHILDREN
MONTCLAIR STATE UNIVERSITY
THE GRADUATE SCHOOL
DISSERTATION APPROVAL

We hereby approve the Dissertation

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Autonomy Support on Children’s Memory Reports

of

Whitney L. Dartnell, M.A.

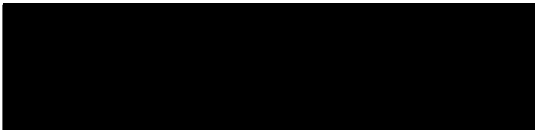
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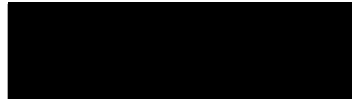
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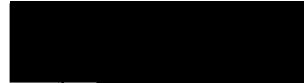
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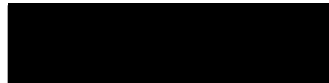
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Abstract

Maltreatment allegations most often arise during informal conversations between a child and a non-maltreating parent or caregiver. Due to the sensitive nature of these conversations, the ways in which parents respond and in turn question their children about the events they have experienced can take many forms. The conversational dynamics that occur between caregivers and their children during the subsequent dialogue that ensues can impact the accuracy and completeness of children's reports, as well as children's memory of the alleged maltreatment or abuse. Legal professionals and developmental psychologists have expressed concern regarding how such conversations may impact children's later testimony.

Best practices for questioning children about their experiences have been identified within the forensic literature. Given what is known from the research, conversational dynamics that support children's accurate and complete narrative accounts are characterized by open-ended prompts, rather than long sequences of focused questions, or the use of suggestive, leading, or repeated questions (which may reflect questions that stem from adults' a priori beliefs, rather than the child's actual experience). A supportive style of reminiscing is one that facilitates a child's accurate and complete narrative account. In an effort to determine the extent to which parent conversational styles impact the completeness and accuracy of children's memory reports, this paper examines conversational dynamics, namely structure (elaboration) and control (autonomy support), between parents and their children about suspected wrongdoing by an unfamiliar adult.

Keywords: Autobiographical memory, Event narratives, Parent-child conversation

Chapter One: Introduction

With approximately 700,000 cases of child maltreatment substantiated annually in the United States alone, child maltreatment is a significant concern for public health (US DHHS, 2018). Yet, often times due to the secretive nature of child maltreatment, particularly sexual abuse, it is common for a child's report to emerge as the only evidence in a child welfare investigation (Kulkofsky, 2010; Malloy & Mugno, 2016). Allegations of maltreatment most often arise during informal conversations between children and non-offending adults (e.g., parents or caregivers; Kulkofsky & London, 2010; Lawson et al., 2018; Schaeffer et al., 2011).

The outcomes of these conversations have important consequences for the proceeding investigation. A full and detailed disclosure will likely prompt a child's parent to contact the authorities, whereas a partial or unconvincing disclosure may be forgotten or otherwise dismissed, perhaps putting the child further in harm's way (Kulkofsky & Klemfuss, 2008). The accuracy and completeness of a child's initial disclosure is therefore central to both the well-being of the child and the subsequent investigation.

Decades of research on children's testimony has revealed various factors that can facilitate or hinder children's event reports. Many best-practice recommendations for interviewing children about their personal past have been identified. Innumerable studies have demonstrated that when questioned in a neutral and supportive manner, children as young as three-years-old can provide detailed and accurate accounts of their past experiences (Principe et al., 2022). Within the forensic interviewing literature, for example, it is well known that open-ended prompts (e.g., "Tell me what happened...") generally elicit more accurate information from children than focused questions (e.g., "Where did he touch you?"). This is because open-ended prompts allow children to report information from their memory and encourage them to

report in their own words. In contrast, focused questions may ask children for information they did not encode, do not remember, or never experienced (Brubacher et al., 2019).

Recommendations for questioning children in forensic contexts are designed to empower children to talk about their experiences. Indeed, interviewers are trained to deliver a conversational style that supports the accuracy and completeness of children's accounts.

Previous research has demonstrated that parent-child conversations about past events influence children's developing memory, as well as narrative skills (Nelson & Fivush, 2004). Parents who use an elaborative, topic-extending style encourage children to provide more accurate and complete accounts of their experiences during conversations. Children of parents who engage in more elaborative talk about a shared event are therefore more likely to provide fuller and more articulate recollections of their experiences (Boland et al., 2003; Cleveland et al., 2007; Haden et al., 2009; Leichtman et al., 2000). These skills, in turn, translate to enhanced recall and narrative coherence when participating in conversations with both their caregivers and others (Haden et al., 2009; Nelson & Fivush, 2004; Reese & Newcombe, 2007; Sun et al., 2016).

The manner in which caregivers elicit and respond to their children's reports can influence what children share about their experiences, which has important implications for the validity and reliability of children's initial reports and future testimony (Salmon & Reese, 2015). Many events children may be later asked to testify about are experienced in the absence of parents. Parents are particularly likely to talk with children about these types of unshared events in an effort to gather information about what the child experienced (Sun et al., 2016). These conversations may influence how children come to remember the event in question (Sun et al., 2016). Thus, parent-child conversations have been identified as theoretically relevant to children's reports in investigative contexts (Lawson et al., 2018). Understanding the potential

influence these parent–child conversations may have on what children later remember and report regarding unshared events has important ramifications for legal proceedings.

Despite the importance of these conversations in legal proceedings, few studies have examined the impact parent–child conversations may have on the accuracy and completeness of children’s initial event reports. Most of the work on parent–child conversations about past events has focused on shared experiences between the parent and child (Sun et al., 2016). The effects of parent–guided conversations on children’s memories for non-shared events may be more complex than those for shared events (Kulkofsky & Klemfuss, 2008; Kulkofsky et al., 2008; Principe et al., 2022). Below, I review the existing literature on parent–child conversational dynamics and the ways in which parental conversational styles can influence children’s event reports.

Elements of a Supportive Conversational Style

It has been established within the forensic interviewing literature that a supportive conversational style is characterized by giving children adequate time to talk by not speaking immediately after the child stops speaking (Poole, 2016). Additionally, leveraging still-your-turn feedback—which involves the use of minimal encouragers and elaborative paraphrasing—as well as the use of developmentally appropriate language and question forms is strongly encouraged during a forensic interview (Poole & Dickinson, 2014). Moreover, behaviors such as nodding, smiling, and making comments such as “uh-huh,” (i.e., conversational facilitators) demonstrate interest in the conversation and encourage children to continue talking. Similar elements have been identified within the extant literature on parent–child reminiscing. In particular, two important conversational attributes have been shown to impact the accuracy and

completeness of children's narrative accounts: elaboration and autonomy support (Cleveland & Reese, 2005).

Elaboration

Elaboration refers to elements of the conversation provided by the parent that help to structure children's event narratives. This construct is comprised of the types of questions asked, the use of elaborative statements, and confirmations of children's memory contributions (Lawson et al., 2020). Structural styles of parental reminiscing have been parsed into two categories: high-elaborative and low-elaborative (Bauer & Burch, 2004; Doan et al., 2012; Fivush, 2011, Lawson et al., 2020). A high-elaborative approach to reminiscing provides increased structure to the conversation and aids children in scaffolding their narratives for better coherence. Furthermore, a high-elaborative style is characterized by the reliance on non-repetitive *wh*-questions (including open-ended prompts followed by direct questions), option posing questions (e.g., yes/no and forced choice), and elaborative statements which build upon details provided by children throughout the ongoing narrative (Lawson et al., 2020; 2021). Confirmations are also a primary characteristic of elaboration, and high-elaborative parents tend to confirm their children's responses more frequently during a conversational exchange (Lawson et al., 2020; Wu & Jobson, 2019).

A recent meta-analysis of the past 30 years of research concluded that elaborative structure is positively associated with children's memory contributions during past event discussions (Waters et al., 2019). Engagement in high-elaborative reminiscing has been shown to impact children's autobiographical memory beyond the influences of children's age, language ability, temperament, and attachment style (Fivush et al., 2006; Fivush, 2011). Caregivers who engage in a high-elaborative style of reminiscing tend to have children who demonstrate the

ability to provide both more detailed and coherent narratives about their personal experiences (Cleveland & Reese, 2005; Levya et al., 2009; Principe et al., 2017). Children as young as three-years old who participate in elaborative joint reminiscing with their caregivers can benefit in their ability to recall information and scaffold their event narratives (Cleveland & Reese, 2005; Doan et al., 2012; Fivush, 2011).

Substantial empirical evidence demonstrates that children's autobiographical memory is facilitated by the quantity of maternal elaborations during reminiscing. In their longitudinal study, Reese and Newcombe (2007) trained mothers to adopt a high-elaborative style of reminiscing and subsequently examined the effects on children's autobiographical memory and event narratives. The results confirmed that mothers who underwent training in high-elaborative reminiscing did in fact become more elaborative through the increased use of open-ended questions, elaborations, and confirmations (Reese & Newcombe, 2007). In turn, children showed a significant increase in their use of memory elaborations and contributed more information to the conversation. Additionally, children demonstrated improvement in their overall narrative coherence (Reese & Newcombe, 2007). This study illuminates the impact that exposure to a high-elaborative conversational partner can have on children's recall and narrative skills (Fivush et al., 2006; Reese & Newcombe, 2007).

A high-elaborative conversational style has also been linked to increases in the accuracy of children's memory reports (Principe et al., 2017). Children who are exposed to high-elaborative reminiscing may be more resistant to suggestive questions (Klemfuss et al., 2016). After observing parent-child reminiscing dyads, Klemfuss and colleagues (2016) classified parents as either high-elaborative or low-elaborative based on their conversational style. Children aged four- to seven-years-old were then randomly assigned to one of two experimental

conditions, one in which children played with a researcher and a series of toys, and one in which two of the toys broke while the child was handling them. In the next phase of the study, children engaged in a memory interview about the previously staged event during which they were asked suggestive questions (e.g., questions that implied an expected answer or assumed information the child had not disclosed; Klemfuss et al., 2016). Children's overall performance during the memory interview, in response to all question types, was associated with parental elaboration, such that children of high-elaborative parents recalled significantly more details about their interaction with the toys and were more accurate in their narrative accounts (Klemfuss et al., 2016). Children of high-elaborative parents were also significantly less inclined to provide incorrect responses to suggestive questions (Klemfuss et al., 2016).

Conversely, a low-elaborative style of reminiscing has been shown to attenuate the accuracy and completeness of children's event narratives, and is negatively associated with children's memory elaborations (i.e., embellishments or expansions of previously disclosed event details; Cleveland & Reese, 2005; Haden et al., 2009). A low-elaborative approach to the conversation is less likely to include open-ended questions. Instead, a low-elaborative style relies on the use of direct questions with a focus on obtaining distinct pieces of information which can inquire about details a child may not have observed or experienced (Van Bergen et al., 2009). Parents with a low-elaborative approach to reminiscing are also more likely to rely on the use of repeated questions about the event, as well as repeated requests for information already provided by the child (Cleveland & Reese, 2005; Van Bergen et al., 2009; Wu & Jobson, 2019). For example, less elaborative parents tend to respond to a child's "empty" conversational turn (e.g., "I don't know") by repeating their previous question, whereas highly elaborative parents respond

to the same child utterance with further elaboration or clarification of their own previous question (Fivush et al., 2006).

Haden and colleagues' (2009) longitudinal study examined the unique impact of specific elaborative reminiscing components on children's autobiographical memory recall over time. Mother-child reminiscing dyads were observed across children's development from 18–30 months of age (Haden et al., 2009). Mother's use of open-ended questions, elaborative statements, yes-no elaborations, and confirmations were significantly correlated with children's unique memory contributions. In contrast, parents' reliance on repeated questions, deemed a characteristic of low-elaborative reminiscing, was moderately negatively correlated with children's unique memory contributions (Haden et al., 2009). In line with previous research, children of high elaborative parents recalled more details about personally experienced events than children of less elaborative parents. With regard to the long-term effects of maternal reminiscing style on children's memory reports, maternal reminiscing with children as early as 18-months of age was shown to impact children's event narratives up to a year later. Thus, children's reminiscing style was demonstrated to be relatively stable across development, and mirrored that of their parent's, with children of high-elaborative caregivers providing significantly more memory contributions than children of low-elaborative caregivers (Haden et al., 2009).

Additional support for the view that high elaborative reminiscing leads to improved autobiographical memory recall comes from a recent study by Lawson and colleagues (2020). The authors discovered differences in children's autobiographical memory specificity among a sample of maltreated and non-maltreated children whose parents engaged in either high-elaborative, low-elaborative, or no reminiscing with their children (Lawson et al., 2020). The

main findings revealed a significant correlation between the quantity of maternal elaborations and children's autobiographical memory recall, and further demonstrated that decreased maternal elaborations among neglected preschoolers accounted for their reduced autobiographical memory specificity (Lawson et al., 2020). Lawson and colleagues' (2020) study further elucidates the role of specific qualities of joint reminiscing, including the use of open-ended questions, elaborative prompts, and confirmations, which contribute to children's memory development and consequent event narratives. Moreover, this study was among the first to generalize findings regarding parental elaboration and children's recall among maltreated and neglected children.

Autonomy Support

A second, independent element of parental reminiscing style is control (Cleveland & Reese, 2005; Kulkofsky, 2010; Levya et al., 2009; Principe et al., 2017). Control encompasses a parent's approach to the conversation; in other words, the agenda a parent sets for the discussion. Caregivers may be classified as either high or low on the dimension of control (i.e., child-centered vs. parent-centered; Cleveland & Reese, 2005; Kulkofsky, 2010; Levya et al., 2009). For instance, some parents may approach the conversation with the goal of participating in collaborative reminiscing for its own sake, whereas other parents may have the goal of gathering and evaluating information shared by their child (Cleveland & Reese, 2005). A less controlling approach on the caregiver's behalf offers more support for the child's autonomy within the conversation by acknowledging the validity of the child's perspective (Wu & Jobson, 2019).

An autonomy supportive approach demonstrates naiveté on behalf of the conversational partner (i.e., the parent or caregiver) and emphasizes the importance of the child's personal experience during the event in question. As such, the focus of the conversation centers around

the child's interests, opinions, and involvement (Doan et al., 2012). Autonomy supportive behaviors include (1) the tendency to follow and expand upon the topic or agenda introduced by the child (as opposed to the parent's own agenda), as well as (2) behaviors which maintain and encourage the child's ongoing narrative (e.g., minimal encouragers; verbal information or feedback, or positive encouraging affect), and demonstrate support for the child's perspective with (3) the use of evaluative questions and internal state language (e.g., "How did you feel when that happened?"; Cleveland & Reese, 2005; Doan et al., 2012; Fivush, 2011; Principe et al., 2017). Caregivers who are high in autonomy support facilitate children's contributions to the conversation by following the child's lead and affirming their memory provisions rather than controlling the interaction according to the parent's own agenda (Cleveland & Reese, 2005; Van Bergen et al., 2009).

An autonomy supportive approach to the conversation is associated with children's motivation, confidence, and engagement during reminiscing (Cleveland & Morris, 2014; Cleveland et al., 2007). Studies have reliably shown that degree of control correlates with children's engagement during narrative conversations with others, interviews with a researcher, as well as children's independently constructed narratives (Cleveland et al., 2007; Leyva et al., 2008). Caregivers who talk with children in a manner that supports the child's autonomy, irrespective of the quantity of maternal elaborations, have children who are more engaged in reminiscing (Cleveland & Morris, 2014). Additionally, autonomy supportive behaviors have been shown to predict children's production of complete and accurate narrative accounts (Doan et al., 2012; Fivush, 2011), such that children of autonomy supportive parents tend to provide more detailed and accurate accounts of their experiences compared with children of caregivers who are more controlling (Principe et al., 2017).

Parents who exercise more control over the direction and content of the conversation tend to focus on their own interests and perspectives, and dictate the conversation by switching topics. Less autonomy supportive parents are also more likely to negate children's memory contributions (e.g., Mother: "Was it scary?" Child: "No." Mother: "It wasn't scary? That usually scares you."); Cleveland & Morris, 2014; Cleveland et al., 2007; Lawson et al., 2020). A controlling conversational turn negates the child's memory contribution and emphasizes the caregiver's own memory and conversational agenda (Cleveland & Reese, 2005). This style of reminiscing is less supportive of the child's point of view and may imply that the parent is more knowledgeable than the child about the child's experience. Thus, less autonomy supportive parents can hinder a child's engagement and willingness to share event details (Cleveland & Reese, 2005; Doan et al., 2012; Fivush, 2011; Haden et al., 2009).

Cleveland and Morris (2014) found further support that autonomy supportive reminiscing enhances children's participation in the recall of event narratives. In their study, mothers were trained to utilize an autonomy supportive style by following the child's conversational leads and perspectives. Results showed that children demonstrated greater engagement and participation throughout the conversation when mothers adapted a supportive style. Moreover, maternal autonomy support remained positively correlated with children's participation, even when the length of the conversation was held constant. Children of mothers who demonstrated more autonomy support also provided more detailed event narratives, regardless of their expressive language ability or attachment style.

A later study by Kelly (2018), sought to determine the individual contributions of autonomy supportive behaviors on children's participation and engagement during a reminiscing conversation. Autonomy support was defined as verbal behaviors which supported the child's

version of the event by demonstrating a willingness to follow the child's lead and validating children's unique memory contributions (Kelly, 2018). In line with previous findings (Cleveland & Morris, 2014) results indicated that children produced longer event narratives with mothers who displayed greater autonomy support during reminiscing. In contrast, conversations between children and more controlling caregivers tended to be shorter in duration, and children demonstrated decreased engagement and participation. Maternal autonomy support was positively associated with child participation, responses, contingent replies, and spontaneous story devices contributed to the conversation (Kelly, 2018). Moreover, autonomy support was positively correlated with children's independent narration, suggesting that mothers who displayed greater autonomy support had children who provided more detailed and elaborate narrative accounts (Kelly, 2018).

Autonomy supportive elements of reminiscing are statistically independent of elaborative elements, yet also predict children's recall performance (Cleveland and Reese, 2005). These dimensions may vary across individual reminiscing styles. A conversational partner might provide a high degree of structure (i.e., high-elaborative) within a conversation, but may do so in a controlling, or parent-centered way (or vice versa). It is widely accepted within the literature that highly elaborative *and* autonomy supportive parental reminiscing leads to children's enhanced recall and may help to facilitate the overall accuracy and completeness of children's autobiographical event narratives (Fivush & Nelson, 2006; Fivush, 2011).

Influences of Elaboration and Autonomy Support on Children's Event Narratives

A number of past studies have examined individual differences in parental reminiscing style in terms of both structure and control, and the ways in which these differences are linked to children's autobiographical memory reports. Structure and control appear to have independent

effects on children's recall during reminiscing conversations (Cleveland & Morris, 2014; Principe et al., 2017). High structure is linked with increases in the length and coherence of children's narratives, whereas high autonomy support is associated with increases in children's motivation to engage in memory sharing (Cleveland & Morris, 2014).

Evidence for this claim is demonstrated in Cleveland and Reese's (2005) longitudinal study, in which the authors examined parents' style of reminiscing in terms of both structure and control, as well as the subsequent impact on children's later event narratives. Mothers were categorized into one of four groups based on their reminiscing style: (a) low-elaborative/parent-centered, (b) low-elaborative/child-centered, (c) high-elaborative/parent-centered, and (d) high-elaborative/child-centered. Children's event narratives were then quantified by the average number of unique memory contributions provided during conversations of both shared and unshared experiences.

Results revealed that children's recall for shared and unshared events varied significantly across conditions of maternal reminiscing style. Children as young as three years of age who participated in high-elaborative, child-centered joint reminiscing recalled considerably more information about their experiences compared to children of mother's whose reminiscing style fell in one of the other three categories (Cleveland & Reese, 2005). In addition, the long-term effects of maternal reminiscing style on children's memory for past experiences were predicted by mothers' reminiscing styles with their children as early as three-years of age. At five-years of age, children exposed to a high-elaborative, autonomy supportive style of reminiscing demonstrated greater recall for both shared and independently experienced events compared with children exposed to other reminiscing styles (Cleveland & Reese, 2005). Cleveland and Reese's (2005) study demonstrates the positive and enduring implications of a high-elaborative,

autonomy supportive approach to reminiscing on children's ability to recall past experiences in a detailed and coherent manner.

In many ways, the accuracy of a memory can be more important than the overall amount of details recalled, especially within the forensic context (Kulkofsky et al., 2008). Although the number of children's unique memory contributions were counted in response to maternal reminiscing style, these contributions were not assessed for accuracy. An important follow up to Cleveland and Reese's (2005) study would therefore include a measure of children's accuracy in their unique memory contributions in response to parent's various reminiscing styles.

Principe and colleagues (2017) investigated the differing impact of parents' natural variations in conversational style in terms of structure and control on the accuracy of children's event narratives for a non-shared experience, about which parents were misinformed. Interestingly, results showed that children of mothers who were high in elaboration and low in autonomy support (e.g., more controlling), provided the highest levels of false reports regarding the event. Conversely, children of high-elaborative, autonomy supportive mothers were both more detailed and accurate in their narrative accounts of the event than children of low-elaborative and controlling mothers.

To date, much of the research on reminiscing focuses on the discussion of shared events; however, there are important forensic implications for research on children's event narratives for unshared events, as well as for adverse experiences (Fivush & Nelson, 2006; Valentino et al., 2019). Levya and colleagues (2009) study examined the effects of maternal elaborative reminiscing on preschool children's narrative skills when recounting a shared, unshared, and shared negative experience. Maternal elaborations were positively correlated with children's narrative skills across conversations for shared, unshared, and shared negative events (Levya et

al., 2009). Additionally, the use of elaborations and a child-centered approach to joint reminiscing for unshared events was positively correlated with the quality of children's narrative skills (Levy et al., 2009).

Overall, the results suggest that a high-elaborative, child-centered approach to joint reminiscing supports children's ability to communicate more comprehensive and accurate accounts of their experiences (Levy et al., 2009). This study contributes important findings to the empirical literature on joint reminiscing by considering the conversational dynamics between parents and children when discussing shared, unshared, and negative encounters. Evidence from this and other empirical studies suggests that children demonstrate stronger recall of autobiographical memories, as well as narrative skills for sharing such memories, when parents reminisce with them in a high-elaborative, autonomy supportive manner, regardless of event type and whether events were experienced independently or with a caregiver (Kulkofsky et al., 2008; Lawson et al., 2020).

Levy and colleagues' (2009) study highlights children's ability to accurately and completely attest to their experiences regarding unshared negative events. The nature of the event may also impact caregiver reminiscing style during the reminiscing conversation. In an effort to understand whether parents' reminiscing styles differed across discussions of positive versus negative events, Burch and colleagues (2004) examined the influence of event type on parent-child reminiscing dyads. Children's narrative coherence (defined by the use of internal state language, causal references, facilitators, and propositions in their event narratives) was assessed across event type and maternal reminiscing style.

No differences were found in the ways in which mother-child dyads reminisced about either event type; rather, for both types of events, high-elaborative mothers consistently exhibited

this style of reminiscing across conversations with their children (Burch et al., 2004). In turn, children of high-elaborative mothers were observed to use more internal state language, causal references, facilitators, and propositions in their event narratives for negative events overall, contributing to a more detailed and coherent account of their experiences (Burch et al., 2004). Furthermore, children appeared to report more in their event narratives for negative experiences than for positive or neutral encounters (Burch et al., 2004). However, an overarching limitation of this study is the authors' broad definition regarding what constitutes a negative event. For example, experiences that would generally be considered positive, but that contained a negative incident, were defined as negative (Burch et al., 2004). This broad classification of event types imposes a limit on the ability to generalize the results of this study to conversations about more extreme cases of negative events, such as children's experiences with trauma, maltreatment, or abuse.

The overwhelming empirical evidence suggests that the most supportive style of reminiscing is one that is both high-elaborative and autonomy supportive. Caregivers who converse with children in such a way facilitate the child's accurate and complete narrative accounts. A high-elaborative style is predominantly characterized by the use of open-ended and option-posing questions, elaborative statements, and confirmations. In contrast, a low-elaborative approach is predominated by the use of direct and repeated questions (Doan et al., 2012; Lawson et al., 2020; 2021, Fivush, 2011). On the other hand, autonomy support demonstrates interest on the parent's behalf by following the child's conversational lead, and encompasses the integration of the child's responses into the ongoing narrative, while a more controlling approach tends to negate the child's contributions (Doan et al., 2012; Lawson et al., 2020; 2021, Fivush, 2011). Evidence suggests that elaboration may predict increases in children's narrative coherence and

the overall unique memory contributions provided by children, whereas autonomy support has been associated with children's motivation and engagement during the exchange.

Child Variables That Impact Event Narratives

Developmental differences

There is great interest in examining developmental differences in children's disclosure patterns and how these differences are impacted by parental behaviors (Malloy et al., 2013). Children's ability to accurately report details of their past experiences is often debated given growth-related factors of developmental status. It has been established that extrinsic factors such as the nature of the event, delay between the event and the child's disclosure, and the context of the conversation or questioning procedures can affect children's event narratives (Cleveland & Reese, 2005; Kulkofsky et al., 2008; Levya et al., 2009; Principe et al., 2017). In addition, the amount and accuracy of children's recall may also be influenced by intrinsic factors, including developmental age and corresponding language and cognitive abilities (Poole & Dickinson, 2014; Pozzulo 2017).

The majority of research on joint reminiscing has focused on children's memory during the preschool years (Wu & Jobson, 2019). As a result, little is known about children's memory contributions during reminiscing throughout development and into adolescence (Wu & Jobson, 2019). Children begin to verbally participate in conversations with adults around one and a half years of age, generally by confirming or denying adults' statements (Nelson & Fivush, 2000). Around the age of three, children can begin to provide more elaborative responses; however, initiating and maintaining conversations remains up to the adults (Fivush & Haden, 1997; Nelson & Fivush, 2000).

Over the course of development, children's ability to participate in conversations continues to improve. Developmental research has shown that children demonstrate the ability to incorporate narrative components without needing to be directly prompted by approximately six years of age (Fivush & Haden, 1997). Older children also tend to report more unique details compared with younger children (Pozzulo et al., 2013). For instance, studies on children's eyewitness testimony have shown that adolescents may recall as many unique event details as adults (Pozzulo et al., 2013)

In addition to the amount of unique memory contributions provided, the accuracy of children's descriptions may also be comparable to that of adult's (Pozzulo et al., 2013). In their 2011 study examining children's verbal descriptions and lineup performance, Karageorge and Zajac found that, on average, children aged five to 11 years old provided accurate details within their narrative reports up to 70% of the time during an interview with a researcher. Further examination revealed that 43% of children in this age range were entirely accurate in their recall of event-relevant details, including unique person descriptors (Karageorge & Zajac, 2011). Results further revealed that the older children in the sample (8–11 years) were able to provide significantly more accurate descriptions than the younger children (5–7 years).

Despite a plethora of evidence which demonstrates children's ability to relay accurate and detailed information about their experiences, children's competency within the scientific and forensic literature is a long and intensely debated topic. Differing studies consider children of various ages and utilize methodologies which fluctuate in terms of the length of time between the exposure to the target event and the time of children's recall, the methods used to elicit children's accounts of the target event, and event novelty. Measurement outcomes across studies also vary in terms of participant age and the types of descriptors recalled. More research is

required to explore the impacts of parental reminiscing on children's memory contributions and accuracy beyond the preschool years.

Gender differences

To date, limited studies have examined the influences of, and relationship between, parental reminiscing style and child gender. Reminiscing has often been conceptualized as a gendered activity typical of females (Svane et al., 2021). There is some evidence that girls may be more dependent than boys on reminiscing conversations about the past, as such a mechanism facilitates an expression of feelings and experiences in personal narratives (Wu & Jobson, 2019). In support of this, research has found that the significant relationship between mothers' high-elaborative reminiscing and children's memory contributions only held for mother–daughter dyads, but not mother–son dyads (e.g., Fivush & Vasudeva, 2002). However, recent research suggests that mothers do not differ in how they reminisce with either male or female children (Wu & Jobson, 2019). Similarly, children's memory contributions during reminiscing have not been found to differ as a function of child gender (Wu & Jobson, 2019). According to recent meta-analyses, differences in caregiver reminiscing styles with respect to child gender have not been identified (Aznar & Tenenbaum, 2019; Waters et al., 2019).

Summary

Many children fall victim to crimes each year, including physical and/or sexual assault and maltreatment (Finkelhor et al., 2009; Malloy et al., 2013). In many cases, the child's statement is the only evidence by which triers of fact can evaluate the validity or likelihood of the allegations (London et al., 2008). Allegations of crimes against children most often arise during informal conversations between a child and a non-maltreating adult (usually a parent or caregiver). In fact, a forensic interview is often based upon what the parent or caregiver shares

with law enforcement about what the child said during this conversation, making the initial event report paramount to the proceeding legal investigation (London et al., 2008).

Conversations which center around children's disclosures of maltreatment may vary considerably across parent-child dyads. These conversations have critical implications for children's disclosure patterns. Caregiver reminiscing style has been identified as a significant predictor of specific elements of children's narrative accounts. The amount and accuracy of children's unique memory contributions, narrative coherence, and resistance to suggestive questions (Cleveland & Reese, 2005; Klemfuss et al., 2016), as well as likelihood of recantation (i.e., retracting an allegation; Malloy & Mugno, 2016) are largely subject to parental reminiscing style. Parents who offer structure through elaboration and support their children's autonomy throughout the discussion can aid the overall accuracy and completeness of children's narrative accounts (Fivush & Nelson, 2006; Fivush, 2011).

Children have unique capabilities as eyewitnesses in regards to their cognitive and language development, as well as their ability to form and relay information about their memories (Poole & Dickinson, 2014). Understanding children's disclosure patterns across parental reminiscing style, child age, and gender has both theoretical and practical importance (Malloy & Mugno, 2016). Conversations about transgressions between caregivers and their children, and the details gathered there within, are vital within the forensic and legal arena.

Chapter Two: The Present Study

Despite the important role that parent–child conversations play in the disclosure process, little is known about the extent to which parents’ conversational styles may impact the accuracy and completeness of children’s narrative accounts regarding unshared events. More often than not, a child may be the only witness to a crime, resulting in an investigation built solely upon a child’s descriptive narrative of the crime and their eyewitness account regarding the target and event (Pozzulo, 2017). Yet, to date the majority of research on parent–child conversations about past events has focused on events experienced by both the parent and child, of which parents already have accurate information.

Events about which children are later asked to testify are largely experienced in the absence of parents (Sun et al., 2016). Parents are particularly likely to talk with children about such events to find out what happened; as such, the emphasis is placed on an exchange of knowledge from children to their caregivers (Lawson et al., 2018; Sun et al., 2016). While previous research has demonstrated the facilitative nature of an elaborative and autonomy supportive reminiscing style on children’s event narratives when parents are informed about the event, such parent-guided talk may interfere, or contaminate, children’s memory when parents are unaware or hold false beliefs about children’s experiences (Sun et al., 2016). Thus, it is of theoretical and practical importance to understand how children disclose transgressions of adult wrongdoing, and how caregiver’s reactions influence the quality of children’s reports (Malloy & Mugno, 2016).

Additionally, a great deal of the empirical literature to date examines children’s event narratives in regard to only minor transgressions. Including ecologically valid transgressions in which children may be more reluctant to disclose has merit in generalizing characteristics of

children's event narratives to the forensic literature (Klemfuss et al., 2016). The current study utilizes a paradigm with enhanced ecological validity in an effort to increase children's motivation to make false disclosures about a potential transgression.

The current study examined conversational dynamics between children and their parents regarding a non-shared event in the context of a potentially concerning incident of inappropriate touching by a stranger. Though a number of past studies have examined parent-child conversational style and its role in promoting testimonial accuracy, this study will be the first to examine parent-child conversations within an experimental design that captures many complex elements of the disclosure process, including secrecy, grooming behavior, and reluctance to report wrongdoing by an adult transgressor. The results of this study will ultimately inform practices in child maltreatment investigations and help investigators, as well as triers-of-fact, evaluate the reliability of children's testimony.

To understand how caregiver support, in terms of level of structure and control, influences the accuracy and completeness of children's event narratives, the present study analyzed secondary data, collected as part of a larger study, from parent-child conversations about a concerning transgression committed by an adult stranger whom the parents did not know. By utilizing an experimental design in which the details of the event are known, the current study aimed to evaluate both the completeness with which children recalled the event, as well as the accuracy of children's unique memory contributions to the conversation. This study will build on insights provided by previous research on parent-child conversations and children's memories for personal experiences. Due to the independent nature of each construct (Cleveland & Reese, 2005), parents' reminiscing style may be characterized by variations of the two dimensions. It is therefore expected that children of caregivers who offer both high structure and autonomy

support will provide more memory contributions than children of caregivers who are high on only one, or low on both dimensions.

Research Questions and Hypotheses

Research question 1. Do the influences of caregiver elaboration and autonomy support independently predict the completeness and accuracy of children's event reports for non-shared events?

Hypothesis 1. Caregiver elaboration and autonomy support will be significantly positively correlated with children's unique memory contributions during the parent-child conversation.

Hypothesis 2. Caregiver elaboration and autonomy support will be significantly positively correlated with children's accuracy during the parent-child conversation.

Research question 2. Does caregiver autonomy support influence the relationship between elaborative reminiscing style and the quality of children's event reports in regards to accuracy and completeness?

Hypothesis 1. Children of high elaborative and autonomy supportive caregivers were hypothesized to provide more complete accounts of the staged event (i.e., provide more memory contributions), than children of caregivers who are high on only one dimension or low on both (see Nelson & Fivush, 2004).

Hypothesis 2. In accordance with the majority of previous research (Cleveland & Reese, 2005; Haden et al., 2009; Klemfuss et al., 2016), children of both high elaborative and autonomy supportive caregivers were hypothesized to be more accurate in their reports of the staged event compared to children of caregivers who are high on only one dimension or low on both.

Research question 3. How do conversational dynamics between parents and children differ in regards to children's developmental age?

Hypothesis 1. Due to the developmental nature by which children learn from caregivers to structure their event narratives, it was hypothesized that caregivers would be less autonomy supportive (i.e., more controlling) during reminiscing with younger children than older children.

Hypothesis 2. Based on previous research which demonstrates that mothers tend to become more elaborative as children age and are better able to elaborate during conversations (Reese, Haden, & Fivush, 1993), it is hypothesized that caregiver elaborativeness will vary with children's age such that caregivers will be more elaborative with older children than younger children.

Research question 4. Do conversational dynamics between parents and children differ with regard to child gender?

Hypothesis 1. Previous research shows that females may be socialized more generally to talk about their past experiences in more detailed ways (Fivush, 2011). It was therefore predicted that caregivers of female children will adapt a more elaborative reminiscing style than caregivers of male children.

Hypothesis 2. Given autobiographical memory differences between males and females, it was hypothesized that females would provide more unique event-relevant details than males during the parent-child conversations (Fivush, 2011; Lamb & Garretson, 2003).

Method

Participants

Participants were recruited from the greater Montclair area, including Passaic, Clifton, and Essex counties. One hundred and fifteen parent-child dyads participated in the study.

Parent–child conversations were obtained for 94 subjects at three-month follow up, and comprise the data set of the remaining analyses. Children were aged 9 to 11 years-old ($M = 9.95$ years, $SD = .79$). Of the 94 participants included in the analyses, 47% were male. Seventy one percent of the sample was made up of White participants, 6.4% of participants identified as Asian or Pacific Islander, and Black participants made up 5.3% of the sample.

Procedure

The procedure consisted of two phases: (1) A lab visit where individual children spent 20-minutes helping an assistant named “Brian” with various science demonstrations, and (2) a recorded parent–child conversation (target conversation) that took place in families’ homes three months after the lab visit.

Lab visit with Brian the Science Teacher

After consent procedures, a female assistant led children to the “science room” where they were told they would be working with “Brian” (a male assistant) to help him practice different science demonstrations. Before meeting Brian, children were told the science room had three rules: (1) no touching was allowed because the staff were concerned about spreading germs and children becoming sick, (2) there was a cabinet in the room that no one was allowed to open, and (3) there was a demonstration, “experiment #5,” in the cabinet that no one was allowed to do. Children were further instructed that if Brian forgot the rules, they should remind him (i.e., children were empowered to refuse participation if rules were broken).

After the rules were delivered, the assistant left and Brian entered the room, introduced himself, and asked children if they would be his assistant while they learned about science together. Brian collaborated with the children on four core activities, which included a demonstration on chemical reactions, pressure, static electricity, and electromagnetism. In

between activities Brian asked children to go into the cabinet (break the first rule) on three occasions: Before the first science demonstration, he asked the child to open the cabinet door (ostensibly because he wanted to show the child how it used magnets to open and close); at the start of the second demonstration, he asked the child to retrieve a soda can from the cabinet needed for the experiment; finally, he asked the child to retrieve a plastic box that contained the fourth experiment. (If a child cited the rule, Brian minimized its seriousness, e.g., “We’re just getting something we need for the experiment”; if the child still refused to comply, he fulfilled the request himself.)

Once the fourth experiment was over, he told the children “You know, there is another experiment that’s my favorite, experiment #5. We’re not allowed to do it. But if we don’t tell anyone I’ll show you.” Brian then took a box from the cabinet that contained the “the touch stick,” its instructions, and three photographs (the experiment is an EnergyStick™, a clear plastic tube with electrodes on each end designed to demonstrate how circuits work). To make it work, each person holds one end of the stick while touching the other person’s skin, which completes the circuit. When the circuit is complete, the stick lights up and makes noise. If the circuit is broken—by letting go of the other person—the stick quits working. After opening the box, Brian showed the child three pictures of other children playing with the touch stick (and commented, “Look at how much fun these kids are having!”) in an effort to soften their resistance to his final request. While reading the instructions aloud, Brian held one end of the stick and invited the child to touch him by holding out his hand. If the child refused to touch hands, he made one attempt at compliance (“It’s okay, we’re just learning about science.”). If the child still refused, Brian completed the circuit himself (held both ends of the stick), and then offered up the touch stick so the child could do it themselves. Next, he turned off the lights and this process was

repeated (but if the child had previously refused to touch hands, Brian didn't ask again). Thus, even if children refused to complete the circuit by touching hands, Brian gave them two opportunities to complete the circuit themselves, which was still against the rules.

Once Brian turned on the lights, the female assistant suddenly entered the room and asked Brian what he was doing. "Nothing," he said, "We're just learning about science." The assistant looked at the pictures on the table and asked, "Did you do the touch stick with these kids too?" Brian responded, "Please don't tell the professor, I don't want to get in trouble." The assistant then assured Brian she wouldn't tell on him, so long as he promised not to do it again, to which he agreed. The assistant then reassured the child that s/he didn't do anything wrong, and that sometimes lab rules are broken and that's okay. She then told the child that if anyone asks about what happened in the science room, it's okay to tell.

Parent–Child Conversation

While children were with Brian, parents were asked not to discuss the session once they left the lab but were told that they would have an opportunity in the future to ask their children as many questions as they liked. Parents were also provided with a form to note anything the child spontaneously mentioned about the science visit with Brian between their visit to the lab and the next phase of the study. Three months later, digital voice recorders were mailed to parents with instructions for having a conversation with their child about their time with Brian. Parents were told that they should find out as much as they could about the visit, that Brian may have broken some rules during the session, and that they should speak with their child for at least 7 minutes. Thus, parents were largely naive to what their children experienced in the science room. The recorders were returned with an envelope and postage that was provided when they received the recorder and instructions.

Coding

Transcripts from 51% of the full sample were coded by two independent coders in order to establish validity and reliability of the constructs and coding schemes for each independent and dependent variable. Discrepancies between coders were discussed and resolved, final scores were used for analyses.

Caregiver Elaboration

A thorough review of the literature has informed the present coding scheme, which has been largely adapted from relevant research (Klemfuss et al., 2016; Lawson et al., 2020; Leichtman et al., 2000; Principe et al., 2017). In line with established coding schemes, invitations and focused questions (*wh*-questions), option-posing questions (yes/no and forced choice), elaborative statements, and confirmations were identified. Elaborative statements were defined as provisions of new information about the event not previously disclosed by the child (Lawson et al., 2020). Confirmations included affirmations of children's contributions to the conversation (i.e., "That's right"; Lawson et al., 2020; Wu & Jobson, 2019).

An elaborative reminiscing composite score was then calculated based on a summation of parent's delivery of non-repetitive invitations and directive questions, option-posing questions, elaborative statements, and confirmations (Lawson et al., 2020). Any repetition of a parent's previous utterance, without new or additional information, was coded as repetitive (Klemfuss et al., 2016). Substantial interrater reliability between the two coders was obtained (Cohen's $\kappa = .79$; Hallgren, 2012).

Caregiver Autonomy Support

Degree of control has been classified and measured differently across studies. Control may be measured holistically throughout the entire conversation (Cleveland & Reese, 2005; Koren-

Kaire et al., 2003; Lawson et al., 2020), or averaged across ratings for each conversational turn (Kulkofsky, 2010; Principe et al., 2017). Adapted from previous coding schemes (Cleveland & Reese, 2005; Lawson et al., 2020; Principe et al., 2017), maternal autonomy support was rated holistically on a 9-point scale, with higher values indicating more autonomy supportive behaviors during the entire memory conversation. A caregiver's overall approach to the conversation was considered based upon the parents' overt willingness to follow the child's lead in the conversation with regard to topics and interests, or conversely, their engagement in "topic-switching" and following of the parents' own agenda (Cleveland & Reese, 2005). Caregivers who expanded on topics introduced by their children, encouraged their children to participate, and supported their children's contributions by following up on this information were rated high on autonomy support (Lawson et al., 2020). Caregivers were rated low on autonomy support if they frequently changed topics and negated their children's contributions (Lawson et al., 2020). Interrater reliability between the two coders was moderate (Cohen's $\kappa = .54$; Hallgren, 2012).

Children's Unique Memory Contributions

In addition to caregiver participation in the conversation, children's unique memory contributions were also summed across the conversation. In line with previous research (Lawson et al., 2020), event-relevant details provided by children (defined as words or phrases describing individuals, objects, locations, and actions related to the science event) were identified. Details were only counted when new information was provided. Accuracy of children's contributions was determined by comparing children's reports to an established list of actual events that occurred during the encounter with Brian. Interrater reliability of children's unique memory contributions between the two coders was substantial (Cohen's $\kappa = .65$).

Chapter Three: Results

Preliminary Analyses

The number of unique memory contributions shared by children during the parent–child conversation ranged from 19–191 ($M = 87.15$, $SD = 34.3$), while children’s accuracy ranged from 70–100% ($M = 91.4\%$, $SD = 6.1\%$). Scores of caregiver elaboration ranged from 7–167 ($M = 70.4$, $SD = 30.6$). Finally, caregiver autonomy support was rated holistically on a 9-point scale, with scores ranging from 1–9 ($M = 4.9$, $SD = 2.2$).

Descriptive statistics and bivariate correlations are shown in Table 1. Bivariate analyses revealed that parental elaboration and autonomy support were significantly positively correlated with the number of unique memory contributions children contributed during the parent–child conversation ($r = .32$, $p < .01$, and $r = .36$, $p < .001$, respectively). No significant relationship between the accuracy of children’s reports and parental elaboration ($r = -.18$, $p = .17$), or autonomy support ($r = .14$, $p = .09$) was found. Interestingly, parental elaboration and autonomy support were significantly negatively correlated ($r = -.27$, $p < .01$).

Influence of Elaboration and Autonomy Support on Children’s Memory Contributions

In order to address the primary research questions, one and two, two separate hierarchical linear regressions were conducted to predict the completeness and accuracy of children’s narrative accounts during the parent–child conversation. For each regression analysis, child age and gender were entered in the first Model as covariates. Model 2 included parental elaboration and autonomy support. Finally, the interaction between parental elaborative reminiscing and autonomy support was entered in Model 3.

Potential outliers and influential cases were examined. None of the individual cases had undue influences on the model (Cook’s distance values $< .35$). The assumption of

multicollinearity was not violated in either regression analysis for Models 1 and 2, as indicated by tolerance values greater than .53 and variance inflation factor values less than 1.88 (Field, 2013). However, the interaction term for elaboration and autonomy support violated the assumption of multicollinearity in each regression analysis. Multicollinearity of the interaction term was anticipated given interaction terms are often correlated with respective main effect terms. Regardless, the interaction term was entered in each hierarchical linear regression in an effort to explore whether additional variance could be accounted for in the relationship between the interaction of elaboration and autonomy support on children's unique memory contributions and accuracy.

The results of the hierarchical linear regression analysis predicting the completeness of children's narrative accounts (defined as the total number of unique memory contributions) are shown in Table 2. Model 2 was statistically significant [$F(4, 93) = 10.4, p < .001$] and accounted for approximately 32% of the variance in the amount of children's memory contributions ($R^2 = .32$). Parental elaboration and autonomy support were independently significantly associated with children's unique memory contributions during the parent-child conversation. The interaction term in Model 3 was not a significant predictor of children's unique memory contributions.

The second hierarchical linear regression examined the hypothesis that parental elaboration and autonomy support would predict children's accuracy (Table 3). None of the Models in the analysis were significant, indicating that neither parental elaboration nor autonomy support were significant predictors of children's accuracy during the parent-child conversation. Additionally, the interaction term (Model 3) of the hierarchical linear regression analysis was not a significant predictor of children's accuracy, suggesting caregiver autonomy support did not influence the

relationship between elaborative reminiscing style and children's event reports (research question 2).

Regarding the third research question, how conversational dynamics between parents and children differ in regard to children's developmental age, bivariate analyses did not reveal significant correlations among child age in respect to parent's elaboration ($r = -.11, p = .29$) or autonomy support ($r = .14, p = .17$). Additionally, child age was not significantly correlated with the number of children's unique memory contributions ($r = .06, p = .59$) or accuracy ($r = .14, p = .17$) of their reports during the parent-child conversation.

Similarly, in response to research question four, whether conversational dynamics between parents and children differ with regard to child gender, no significant relationship was found with regard to child gender and either parent's elaboration ($r = -.14, p = .19$) or autonomy support ($r = .04, p = .68$). Moreover, no significant correlation in child gender and the number of unique memory contributions ($r = -.02, p = .86$) or accuracy ($r = .19, p = .07$) of children's reports during the parent-child conversation were found.

Discussion

The current study aimed to investigate the potential impact of parent-child conversations on children's ability to construct an accurate and complete narrative account of their past experiences by examining conversational dynamics, namely caregiver elaboration and autonomy support, during conversations for unshared events. The study method is unique in that it is the first to examine parent-child conversations within an experimental design that captures many complex elements of the disclosure process, including secrecy, grooming behavior, and reluctance to report wrongdoing by an adult transgressor. The conversation between parents and their children occurred within the context of a potentially concerning incident of inappropriate

touch by a stranger. Results offer further insight into children's ability to construct accurate and complete narrative accounts of their experiences and will ultimately inform practices in child maltreatment investigations in evaluating the reliability of children's testimony.

In line with previous research, and in support of the first research question and corresponding hypothesis (*Hypothesis 1*), parental elaboration and autonomy support were significantly positively correlated with the amount of unique memory contributions children recalled during the parent-child conversation (Cleveland et al., 2007; Cleveland & Morris, 2014; Leyva et al., 2008; Lawson et al., 2020). Unexpectedly, neither parental elaboration nor autonomy support were significantly correlated with the accuracy of children's reports, disputing the first research question's second hypothesis.

Of note, children's unique memory contributions were largely accurate, with the accuracy rate ranging from 70–100% across parent-child dyads. This finding is in line with previous findings, in which 5–11 year-old children demonstrated 70% accuracy in their provision of unique memory contributions (Karageorge & Zajac, 2011). Perhaps children of this age range rely less on parents' contributions to the conversation, as their ability to procure an accurate narrative account of their memory has mostly already developed by this age.

Surprisingly, parental elaboration and autonomy support were significantly negatively correlated. While the direction of the correlation between constructs was unexpected, this finding further supports the independent nature of the two constructs, in line with previous research (Cleveland & Reese, 2005). It is possible that parents who are more elaborative behave less supportively of children's autonomy, in that high elaborative parents contribute more to the conversation than children, thus diminishing parent's degree of autonomy support. However,

more research is needed to clarify the relationship between parental elaboration and autonomy support with older children and adolescents.

A significant relationship between level of caregiver elaboration and autonomy support and the quality of children's disclosures was expected based on previous studies, such that caregivers who were high on both dimensions of elaboration and autonomy support would facilitate more complete and accurate reports from their children (Lawson et al., 2021).

However, support for Research Question 2, *Hypothesis 1*, was not found, as the interaction between parental elaboration and autonomy support was not a significant predictor of the number of children's unique memory contributions. Similarly, the combined effect of elaboration and autonomy support was not a significant predictor of children's accuracy in their narrative accounts, repudiating Research Question 2, *Hypothesis 2*.

Conceivably, parents may be less elaborative during transgression conversations (e.g., Leyva et al., 2008). The present study is also unique in that elements of caregiver reminiscing may differ between parent-child conversations for unshared events in comparison to joint-reminiscing. Moreover, although parental classifications of control appear to be relatively stable across conversational contexts (Cleveland & Reese, 2005), conversations about transgressions may alter caregiver goals, thus impacting caregiver's degree of autonomy support in a unique way (Levy et al., 2009).

With respect to children's developmental age and parental reminiscing style, bivariate analyses did not reveal significant correlations among child age and parent's elaboration or autonomy support. Additionally, child age was not significantly correlated with the number of children's unique memory contributions or accuracy of their reports during the parent-child conversation. Notably, the sample of the current study was comprised of adolescents aged 9–11

years, while the majority of past research on parent–child reminiscing has primarily focused on the preschool years (ages 3–5). Perhaps older children’s narrative accounts are less dependent on caregiver conversational dynamics during the conversation. It is possible that older children have developed the cognitive abilities necessary to scaffold their narratives and do so in an accurate way, irrespective of parents’ varying degrees of structure or control. Previous research has demonstrated that children become more capable of independently contributing to conversations as they age; thus, the need for adults to scaffold the conversation decreases (Fivush & Haden, 1997; Nelson & Fivush, 2004). Comparatively, younger children may require significant prompting from adult conversational partners, as their language, cognitive, and social abilities may limit their propensity to initiate and sustain conversations (Reese et al., 1993). Of note, children’s developmental age in the current sample had a narrow range. Future studies should include a larger range in child and adolescent developmental age.

Finally, no significant relationships were found between child gender and parental reminiscing styles. The research to date has yielded mixed findings with regard to child gender and parental reminiscing styles, with some studies suggesting parents are more elaborative with daughters than sons (Adams et al., 1995; Cervantes & Callanan, 1998), and others finding no differences across gender (Tulviste et al., 2016; Wang & Fivush, 2005). Any association between child gender and caregiver reminiscing style must be further investigated in order to better understand whether parents socialize differently with their male or female children. Furthermore, the current study findings did not support the hypothesis that females would provide more unique memory contributions than males during the parent–child conversations (Fivush, 2011; Lamb & Garretson, 2003), as no significant associations of gender were found between the number of unique memory contributions, nor accuracy.

Limitations

Aside from conversational elements which support children's recall, a child must also be willing to share their experiences. Social and motivational influences, including a child's expectations of consequences and caregiver support, have important implications for whether or not children will report misdeeds or wrongdoing by others (particularly if children feel complicit in the behavior). An important follow up to this study may include data on parent-child relationships (i.e., attachment security). Evidence from previous studies suggests securely attached children may have richer, more in-depth conversations about the past with their caregivers, especially when talking about salient, emotional experiences (Cleveland & Reese, 2005).

The present study is also limited to verbal aspects of the conversation between children and caregivers. Due to the transcript nature of the data, non-verbal cues including body language, facial expressions, and gestures were not able to be included in the evaluation of caregiver's autonomy support. Some previous studies have analyzed emotion content within the reminiscing dyad (Fivush & Sales, 2006) which can be an integral part in examining caregiver responses during reminiscing. Emotional content within the reminiscing dyad was not evaluated in the present study due to restraints presented by the transcript data. While a major benefit of the experimental design is the ability to adequately capture children's responses in terms of unique memory contributions and their accuracy, the nature of the experimental design lacks the ability to adequately capture the influence of multiple, naturally occurring conversations between parents and their children (Van Bergen et al., 2009).

It is also important to consider how parents' naivete may have influenced their levels of elaboration and autonomy support. A lack of knowledge about the unshared event may have

increased parent's drive to determine the facts and acquire more information from their children. Caregiver degree of autonomy support may have been impacted due to the pre-set agenda in the letter sent home (i.e., parents were told to gather as much information as possible about the event from their children). Some parents may have therefore approached the conversation with the goal of enhancing children's recall and evaluating their child's memory for the event, rather than participating in collaborative reminiscing for intrinsically motivated reasons (Cleveland & Reese, 2005). Given the nature of the event, parents may have also approached the conversation with a focus on conveying moral lessons, as was observed within some dyads. Of note, autonomy support is a relatively new construct within the literature on parent-child joint reminiscing. Consistent measures of this construct are necessary across studies to yield agreement between findings.

Finally, the pre-determined length of the parent-child conversation may have been a limitation within some dyads. Parents were instructed to talk with their children for approximately seven minutes, and some parent-child dyads held strictly to this rule, while still others came in under or over the suggested time allotment. The research on forensic interviewing guidelines instructs interviewers not to cut an interview short based on the assumption that expressions of uncertainty indicate lack of memory for the event (Brubacher et al., 2019). Perhaps looser guidelines on the time constraints of the parent-child conversation may have impacted the amount and or accuracy of children's unique memory contributions.

Implications

Brief interventions among maltreating families have been demonstrated to successfully increase maternal elaboration and sensitive guidance during reminiscing, with associated increases in children's memory contributions during collaborative recall with their mothers

(Reese & Newcombe, 2007; Valentino et al., 2019). Because allegations of child maltreatment often arise during informal conversations between a child and a non-offending parent, engagement in memory conversations of past events may have protective factors for children who are at-risk for experiencing maltreatment (Kulkofsky & London, 2010). Training programs that teach parents to adapt a more elaborative style for engaging in conversations with their children could also decrease the risk for psychopathology among maltreated children (Lawson et al., 2020).

Children of low-socioeconomic status are both more likely to experience maltreatment and more likely to have lower language and narrative skills (Kulkofsky & Klemfuss, 2008; Lawson et al., 2020). Therefore, this particular group of individuals might benefit most from training programs in elaborative joint reminiscing. Children's autobiographical accounts of experienced abuse, or maltreatment more broadly, are also central factors for building evidence in a legal case, and may be the only evidence in the majority of child maltreatment cases (Kulkofsky, 2010). Often times, non-offending parents are the first to learn of abuse allegations, and children's initial reports can enter into the legal arena (Kulkofsky & London, 2010). Thus, facilitating the accuracy and completeness of a child's event narrative about past experiences, particularly experiences of maltreatment including abuse or neglect, is paramount to the legal process when disclosures of maltreatment occur.

Should future research continue to support the association between children's autobiographical memory recall and a high-elaborative, autonomy supportive reminiscing style, interventions aimed to bolster these conversational styles among caregivers may improve children's reports of emotionally salient experiences in forensically relevant contexts. Training caregivers to reminisce with children in a high elaborative, autonomy supportive manner can be

advantageous for children's developing socio-cognitive skills, autobiographical memory development, and subsequent event narratives about their past experiences. Such a manner of speaking with children has merit in day to day conversations in addition to forensic implications. Elaborative and autonomy supportive styles of conversation may enhance children's ability to form accurate and complete accounts of their daily experiences, including those which may be more difficult to talk about, such as bullying and peer transgressions.

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Table 1.*Means, Standard Deviations, and Bivariate Correlations among Primary Study Variables*

Variable	M (SD)	1	2	3	4	5
Child Demographic Characteristics						
1. Age	9.9 (0.8)	-				
2. Gender	-	0.07				
Parent-child conversation						
3. Parental elaboration	70.4 (30.6)	-0.11	-0.14			
4. Parental autonomy support	4.9 (2.2)	0.14	0.04	-.27**		
5. Child unique memory contributions	87.2 (34.3)	0.06	-0.02	.32**	.36***	
6. Child accuracy (%)	91.4 (6.08)	0.14	0.19	-.18	.14	-.05

Note. N = 94. Gender = 0 (male), 1 (female). *p < .05. **p < .01. ***p < .001.

Table 2.***Hierarchical Linear Regression Examining Children's Total Unique Memory Contributions Recalled during Parent-Child Conversation***

Predictors	Model 1			Model 2				Model 3			
	R ²	b (SE)	β	Δ R ²	R ²	b (SE)	β	Δ R ²	R ²	b (SE)	β
Child age	0	2.5 (4.5)	0.06	0.32	.32	1.62 (3.83)	.04	.000	.319	1.62 (3.9)	.04
Child gender		-1.5 (7.2)	-0.02			1.45 (6.04)	.02			1.46 (6.1)	.02
Parental elaboration						.51 (.10)***	.46			.514 (.20)	.46
Parental autonomy support						7.38 (1.4)***	.48			7.4 (3.2)	.48
Elaboration X Autonomy Support										-.001 (.04)	-.00

Note. N = 94. Gender = 0 (male), 1 (female). *p < .05. **p < .01. ***p < .001.

Table 3.***Hierarchical Linear Regression Examining Accuracy of Children's Unique Memory Contributions Recalled during Parent-Child Conversation***

Predictors	Model 1			Model 2				Model 3			
	R ²	<i>b</i> (SE)	β	Δ R ²	R ²	<i>b</i> (SE)	β	Δ R ²	R ²	<i>b</i> (SE)	β
Child age	0.051	.010 (.008)	.13	0.027	0.077	.008 (.008)	.105	.000	0.077	.008 (.008)	.105
Child gender		.021 (0.12)	.18			.019 (.012)	.157			.019 (.013)	.157
Parental elaboration						.000 (.00)	-.118			.000 (.00)	-.125
Parental autonomy support						.002 (.003)	.089			.002 (.007)	.081
Elaboration X Autonomy Support										.000 (.00)	.01

Note. N = 94. Gender = 0 (male), 1 (female). **p* < .05. ***p* < .01.

****p* < .001.

Appendix

Example of the Parent–Child Conversation

Note: Caregiver contributions are displayed in Times New Roman font. Child contributions are in bold Calibri font.

Subject # 037	Transcribed by:	Shadowed by:
	KV	CS

Yyy, do you remember that day when I took you to Montclair State University for that study?

Yeah.

Okay, do you think you can tell me a little bit about it? Like, what did, what did you do when you went into that room with the, Mr. Brian.

Well, we did some, like, science experiments with, I think magnets and, other things like that.

And what did you do with the magnets?

We- I think we put it under the table and just slid it around and, or we spinned it the magnets.

And that's it? Did you do more science experiments?

Yeah, but I don't remember it.

Did you guys talk at all?

Yeah.

What did you talk about?

Something with like static electricity.

And what else?

That's all I remember.

You don't remember anything about that day?

Barely.

Why?

I have bad memory, and it was a long time ago.

Do you remember if there was a, a rule, that Brian broke?

Yes.

What?

Not to go in the cabinet.

Brian broke the rule not to go in the cabinet.

Or do that experiment that was in the cabinet. Because it involved touching. Like.

Touching what?

My finger.

Your finger?!

Yeah.

So he was not supposed to go in the cabinet?

Yeah.

Who told him not to go in the cabinet?

Uhm. The. Other. Girl. The girl.

She said "Brian don't go in that cabinet 'cause you can't do that experiment."?

Yeah. 'Cause of, germs. And like since it like flu season I think.

So that's the reason why?

Yeah.

Because he had a, be- he couldn't do it because, if he touched you he could contract some germs?

Yes.

Whispers to dog Sit. Stop....So, did Brian acknowledge that he, broke the rule?

Yes.

What did he say?

He, He ju-just ignored it and told me to be quiet about it. *Giggles*

So, he told you to keep a secret about it?

Yes.

Did you feel comfortable keeping that secret? Even though you knew he broke the rules?

Not really.

So why'd you keep that secret?

I didn't keep it. I told her.

You told the girl?

Yeah.

And what did she say?

***Giggles* She yelled at Brian.**

She what?

She yelled at Brian.

She yelled at 'em?

Yeah.

What did Brian say?

He said he won't do it again, I think. I don't really remember.

Soo, after the magnet experiment was there any other experiments that were there besides the one that Brian was not supposed to do?

I don't remember. But there- I think there was two other ones.

What do you think the, other two ones were about?

I think one of them was with vinegar.

What'd you have to do with the vinegar?

I forgot. Like, put it in a balloon I think?

Whispers to dog stop... You had to put vinegar in a balloon. And what was the vinegar supposed to do?

I don't really know. I'm not sure.

What did it do?

I did something, I think it popped it.

It popped the balloon?

Yeah.

And what was the other experiment?

I don't remember. I think it was with a, soda bottle?

And what did you do with the soda bottle?

I have no idea. I forgot.

Did you have to put something *in* the soda bottle?

No, but I remember sliding a soda bottle into the trash can.

To like, throw it in the garbage.

No. To like, use something to, put it in there, with science.

To put it in there with science?

Yeah, like...

What do you mean?

Like, it-it move it on the table, to-and to, make it go in the can, like trash bin.

You-you put it in the trash bin with your hand?

No.

Then what'd you use?

I don't remember.

So how did the bottle get into the trash?

I don't know, I forgot.

Is that the only thing that you- remember? Is the vinegar in the balloon, the magnets on the table, and, the garbage can going in-, the bottle can going into the garbage can?

Yes. Yes.

So when you guys were done with the science experiments, what did you talk about? Do you remember?

No.

You don't?

I don't.

Why, were you not paying attention or were you just...

Mom that was a long time ago.

It wasn't that long ago.

Yes it was.

And your brain is fresh, though. Your, your young do you, you should remember this kind of stuff.

No, I don't remember.

Soo. Did. Mr. Brian tell you what you had to do, next? Like after you guys were done with the science experiments?

Yes.

What?

I don't remember.

So how do you know he told you something else if you don't remember?

I barely remember.

You don't remember anything at all?

I barely, remember anything.

Did he tell you that you had to come back for another, session?

I don't think so.

Did he tell you that you had to do like a *phone interview*, or anything like that?

Yes.

Well, did he tell you that, he was gonna ask you like certain questions, or anything like that?

No.

Oh...Okay. Well what else do you remember about that day? How did you feel when you went there?

Good I guess.

Why? Did you think you learned anything?

Yes. I just don't remember it.

Giggles So you re-, so you learned stuff but you just don't remember.

Just like science class.

Laughs...Okay.

Laughs Quietly

Soo, do you think that if they had any moree- studies like that, that you would go back there to-
test them out? Or talk about them?

Uhm, yess. * Giggles*

They're interesting right?

Yeah.

And you're excited about earning some, Amazon gift cards.

Yeahh!

Laughs Alright.