Coaching mothers of typical and conduct problem children in elaborative parent-child reminiscing: Influences of a randomized controlled trial on reminiscing behaviour and everyday talk preferences

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A B S T R A C T

This study compared the effects of mother-child reminiscing coaching on mothers of typically developing children (community sample) and mothers of children with conduct problems (clinical sample). It also tested whether intervention effects generalize to mothers' preferences for elaborative and mental-state oriented talk with their children in other contexts. Mother-child dyads (n = 88) in each sample were randomly allocated to condition: reminiscing intervention or active control. Pre-intervention, sample differences emerged. Mothers in the community sample were more elaborative during reminiscing than mothers in the clinical sample, and also expressed stronger preferences for elaborative talk in everyday contexts. Post-intervention, an intervention effect emerged. In both the community and clinical samples, mothers who had participated in the elaborative reminiscing intervention were more elaborative and emotion-focused during reminiscing than mothers in the active control condition. They also increased their preferences for elaborative and mental-state-oriented language in everyday contexts. While the mothers in the community sample remained more elaborative than mothers in the clinical sample, both experienced equivalent intervention gains. These findings highlight the value of reminiscing coaching for changing mothers' interactional preferences and behaviours.

1. Introduction

Parent-child conversation about the past plays a critical role in children's cognitive and social development (Fivush, Haden, & Reese, 2006; Salmon & Reese, 2016; Wareham & Salmon, 2006). In early childhood and beyond, parents who use an elaborative reminiscing style, encouraging their child's contribution via open questions and supportive detail, have children who later come to provide more complete autobiographical narrative reports (Fivush, 2011; Leyva, Sparks, & Reese, 2012; Raikes & Thompson, 2008; also see; Hedrick, Haden, & Ornstein, 2009). When these conversations include reference to emotions, beliefs, and thoughts, children eventually come to include this same mental state content in their own reminiscing, and to show greater understanding of emotions and minds (Taumoepeau & Reese, 2013; Van Bergen & Salmon, 2009; 2010). While much of the research in the field is observational, experimental studies adopting an intervention design with mothers have demonstrated that elaborative reminiscing has a causal influence on children's positive cognitive and socio-emotional outcomes (e.g., Peterson, Jesso, & McCabe, 1999; Reese & Newcombe, 2007; Taumoepeau & Reese, 2013; Van Bergen, Salmon, Dadds, & Allen, 2009).

Given the benefits of elaborative and emotion-rich reminiscing, research has recently begun to focus on at-risk children (Salmon & Reese, 2016). Many children with emotional and behavioural problems have particular difficulties understanding others' emotions and minds, together with delayed autobiographical memory skill (Ensor, Spencer, & Hughes, 2011; von Salisch, Denham, & Koch, 2017; see Salmon & O'Kearney, 2014, for review). Emerging evidence also demonstrates that mothers who are maltreating, economically disadvantaged, or exposed to highly stressful life events are less likely than other mothers to be elaborative (Raikes & Thompson, 2008; Valentino et al., 2015) or to use emotion language in conversations with their children (Raikes & Thompson, 2008), with maternal reminiscing mediating the relationship between maltreatment and children's negative physiological functioning (Valentino et al., 2015). Yet rich and elaborative emotional discussion may be particularly important for children in at-risk clinical

cohorts. While frequent expression of negative emotion in families is associated with poor emotion understanding amongst children (Halberstadt & Eaton, 2002), reminiscing about youth negative emotion may actually be beneficial. For example, elaborative reminiscing about both positive and negative experiences offers similar benefits to emotion coaching (Johnson, Hawes, Eisenberg, Kohlhoff, & Dudeney, 2017): emotions are labelled, causes discussed, and resolutions explored in reflective and explanatory dialogue (Johnson et al., 2017; Sales, Fivush, & Peterson, 2003; Wareham & Salmon, 2006).

Reminiscing conversations also occur with the potential for 'reflective distance', with parents and children each less likely to be negatively aroused than during conversations at the time of the event (Fivush, Brotman, Buckner, & Goodman, 2000; Thompson, Laible, & Ontai, 2003; Van Bergen & Salmon, 2010). This distance is important, as parents' own negative emotionality may contribute to conversations that are more coercive or ruminating in nature. Given the developmental difficulties that at-risk children face, therefore, reminiscing interventions may be particularly valuable.

The aims of the current study were two-fold. First, we aimed to extend existing reminiscing intervention research by comparing pre-existing reminiscing differences and intervention responsiveness between a typical community sample and an at-risk clinical sample of children with conduct problems. Despite a small but growing number of reminiscing intervention studies, no research has yet determined whether community and at-risk clinical dyads are equally benefited. Second, we aimed to extend existing intervention research by investigating whether reminiscing coaching would also influence maternal preferences for elaboration and mental state talk in other everyday contexts and, if so, whether these preferences would change differentially for community and at-risk clinical samples. We therefore also measured pre-existing differences and intervention responsiveness in mothers' everyday talk preferences.

1.1. Reminiscing coaching amongst community and clinical samples

The first aim of our study was to compare pre-existing reminiscing differences and intervention responsiveness amongst a community sample and an at-risk clinical sample. To date, only one study has undertaken a direct comparison of reminiscing behavior between clinical and typical dyads: as noted above, Valentino et al. (2015) found that maltreating mothers were less elaborative with their children than other mothers. No research has yet compared reminiscing between dyads of typically developing children and dyads where children themselves show clinical difficulties, however, and none has directly compared the responses of clinical and typical dyads to intervention coaching.

Our focus in the current study is children with conduct problems. Conduct problems are amongst the most commonly occurring difficulties presenting at child mental health services and are precursors to many other psychological difficulties across the lifespan (Fergusson, Horwood, & Ridder, 2005; Fleming, McMahon, & King, 2017; Odgers et al., 2007). Families of children with conduct problems experience high levels of stress and distress, and parent-child interactions in conduct problems can be characterized by negative attention (Fleming et al., 2017; see Salmon, 2018, for review), suggesting less opportunity for elaboration and less constructive emotion conversation relative to typical dyads.

While no research has directly compared reminiscing amongst typical community dyads and those in which children have conduct problems, there is evidence that both respond to intervention. In two separate studies, we coached mothers to reminisce in an elaborative and emotion-rich style with their preschool-aged children (Salmon, Allen, Dadds, & Hawes, 2009; Van Bergen et al., 2009). One sample included non-clinical mothers-child dyads (3.5–5 years) while the other included mother-child dyads where the child had significant conduct problems (3.5–8 years; see Valentino, Comas, Nuttall, & Thomas, 2013,

for replication with maltreating parents). In both studies we included an active control, child-directed play, to match the reminiscing condition for facilitator-mother time and mother-child attentiveness. Following the intervention, mothers in the reminiscing condition used more elaborative, emotion-rich talk during reminiscing than did those in the control condition.

As both previous studies were analyzed and published separately, we cannot tell whether the community and clinical samples were equally elaborative. We also cannot tell whether the intervention was equally beneficial. Given the matched elements between the two studies, however, we are in a unique position to address questions about these similarities and differences by combining our samples. In the current study, we directly compare both their natural style of reminiscing and their responsiveness to the intervention.

1.2. Reminiscing coaching and everyday talk preferences

The second aim of our study was to extend existing reminiscing intervention research by considering the impact of reminiscing coaching in high-elaborative reminiscing on mothers' everyday talk preferences. To determine this impact we measured pre-existing differences and intervention responsiveness in everyday talk preferences between the community and clinical samples.

The effects of reminiscing interventions on everyday talk preferences have not previously been tested. Yet the coached elements of a high-elaborative style, including open-ended questioning and sensitive scaffolding of the unfolding narrative, may well extend to other conversations located in the present and future. By measuring preferences for such talk amongst our community and our clinical sample, we add to current reminiscing intervention findings in two ways.

First, any increase in mothers' preferences for elaboration in everyday contexts provides additional evidence of the extent to which the high-elaborative style has been internalized and adopted. Standard reminiscing assessments are somewhat vulnerable to experimental demand characteristics. Because the assessments take the same form as the reminiscing practiced during intervention coaching, dyads in each sample may attempt to replicate the coached style. Testing mothers' preferences for conversational elaboration in unpractised everyday contexts offers a strong test of the coached style as it manifests in everyday life.

Second, preferences enable us to consider whether intervention effects might generalize to other aspects of social cognition, such as mental state talk. This is particularly important for at-risk dyads in clinical settings (Salmon & O'Kearney, 2014). While the number of naturally occurring mental state references made during mother-child reminiscing is often very low, even in community samples (Rudek & Haden, 2005), research has long suggested that mental state talk in a range of other everyday contexts is important for children's developing understanding of others' minds (Garner, Jones, Gaddy, & Rennie, 1997; Hughes et al., 2005; Peterson & Slaughter, 2003). Given the relatively greater frequency of mental state talk in everyday contexts, relative to reminiscing, changes in mothers' social cognition following a reminiscing intervention might manifest in preferences for mental state utterances during everyday talk.

1.3. The present study

To assess pre-existing reminiscing differences and intervention responsiveness between a community sample and an at-risk clinical sample we combined two independent datasets from which we have previously published separate reminiscing data. One dataset included typically developing children (Van Bergen et al., 2009) and one included children with clinical-level conduct problems (Salmon, Dadds, Allen, & Hawes, 2009). In both samples, mothers were asked to discuss two shared past events with their child at two time-points, before and after the intervention.

To assess pre-existing differences and intervention responsiveness in mothers' preferences for elaboration and mental state talk, mothers in both samples were also asked to complete the Maternal Mental State Input Inventory (MMSII; Peterson & Slaughter, 2003). Although these data were collected at the time of our original community and clinical interventions, it has not previously been published. The MMSII includes 12 hypothetical vignettes in everyday contexts (e.g., cooking, shopping for a birthday present). Each vignette includes four conversational responses varying by elaboration and mental state content. Mothers are asked to rank the responses according to which they most prefer or would be likely to use themselves. Previous findings of research adopting the MMSII reveal significant individual differences in maternal preferences for each of the four response categories. These differences also relate to children's own development, with maternal preferences for elaborated mental state talk (e.g., "*Joyce, I have a terrible memory! I forgot to buy eggs! I was thinking 'we need eggs' … but at the shops that thought was all gone …*") positively associated with pre-schoolers' theory of mind and maternal preferences for elaboration without mental state talk (e.g., "*Joyce, I have a great idea! Let's make shortbread instead of a cake. We don't have any eggs, but that won't matter …*") negatively associated with pre-schoolers' emotion understanding (Peterson & Slaughter, 2003).

Our hypotheses were threefold. First, we predicted naturally occurring differences in reminiscing behaviour and everyday talk preferences between the typical community sample and the at-risk clinical sample. Reflecting consistent and overarching interactional difficulties in families of children with clinical-level conduct problems, we hypothesized that mothers in the community sample would (i) use a more elaborative reminiscing style and make more frequent emotion-oriented utterances during reminiscing, and (ii) express a stronger preference on the MMSII for elaborative mental state talk in everyday contexts.

Second, we hypothesized that our reminiscing coaching intervention would positively benefit both samples. In previously published research, mothers in each sample have demonstrated significant changes in their reminiscing behaviour (style and content) following intervention (Salmon et al., 2009; Van Bergen et al., 2009). No research to date has considered the influence of reminiscing coaching on everyday talk preferences, however. We hypothesized that these intervention benefits would extend to everyday talk preferences on the MMSII, with a significant increase in preferences for elaborative talk that is rich in mental state references.

Third, we hypothesized that there would be differences in intervention efficacy between samples. Reminiscing coaching is arguably most important for mothers in at-risk clinical samples, whose children typically display poorer autobiographical memory and emotion skills than do children in community samples (Ensor et al., 2011; Salmon & O'Kearney, 2014; von Salisch et al., 2017). Given that heightened stress and specific mother-child interactional difficulties may each interfere with the successful implementation of reminiscing coaching, however, we predicted that mothers in the clinical sample would be less responsive to reminiscing coaching than mothers in the community sample. Specifically, we predicted that although mothers in the clinical sample may benefit from reminiscing coaching the most, they will nonetheless show smaller overall gains in elaborative reminiscing and smaller shifts in preference on the MMSII.

2. Method

2.1. Participants

We recruited 115 mother-child dyads using advertisements in a free parenting magazine in metropolitan Sydney, Australia. In the initial community sample (n = 74 dyads), children were 3.5–5 years (M = 46.42 months, SD = 5.50) with no known behavioural problems. The relevant advertisement offered a free intervention for parents and children aimed at enhancing children's development. In the initial

clinical sample (n = 41 dyads), children were 3.5–8 years (M = 61.11 months, SD = 16.42) and their mothers were seeking help for potential behaviour problems. The relevant advertisement offered a free intervention for parents of children with oppositional behaviour. The greater number of participants in the community than the clinical sample therefore reflects natural variation in responses to our two intervention advertisements, yet with sufficient power to detect moderate and large effects in both samples.

We allowed for a wider age range in the clinical sample than the community sample because children in clinical and 'at risk' populations often show delayed autobiographical memory and emotion representation skills (O'Kearney & Dadds, 2005; Shipman & Zeman, 1999; Southam-Gerow & Kendall, 2002). To account for this wider age range statistically, we controlled for age in all analyses. In both samples we advertised for mothers or fathers, noting that the limited research considering gender has typically found no significant influence on parents' naturalistic reminiscing styles (see Fivush et al., 2006; Reese, Haden, & Fivush, 1996). As in other reminiscing studies, however, the parents who were able to take part were all mothers.

Before enrolment in the study, all mothers took part in a screening interview via phone. Children with primary attention deficit hyperactivity disorder (ADHD) and/or major health and developmental difficulties were excluded from both samples, as were children currently in treatment. We made this decision to avoid the influence of confounding factors such as inattention or hyperactivity and because parent-child interactions are a core etiological factor in conduct problems but not ADHD. To confirm the severity of children's behaviour in the clinical sample, experienced clinical psychologists also administered the Diagnostic Interview Schedule for Children, Adolescents, and Parents (DISCAP) via phone. The majority of children included in the sample (78.9%) manifested oppositional behaviour in the range of marked to very severe, while the remainder manifested oppositional behaviour that was mild to moderate in severity (21.1%).

All dyads spoke English at home, and mothers were highly educated. In the community sample, 79.7% had an undergraduate degree and 32.9% also had a postgraduate degree while in the clinical sample, 81.3% had an undergraduate degree and 37.5% also had a postgraduate degree. Approximately two thirds of mothers (72.28% and 66.96% in the community and clinical samples respectively) were born in Australia, with others from the UK, New Zealand, Ireland, South Africa, Iran, and Sweden. Nearly all children were also born in Australia. In the community sample, two children were born in the UK, one in New Zealand, and one in Sri Lanka. In the clinical sample, one child was born in the UK. No participants in either sample identified as being Aboriginal.

Using a computerized random number generator, a research manager randomly allocated dyads to one of two conditions: reminiscing intervention or active control.[1] Twenty-seven dyads left the study either following the pre-intervention assessment or during the intervention period (see Fig. 1), and were removed from all analyses. Explanations included participants who had moved house, mothers who had returned to work or changed work hours during the intervention period, and participants who reported difficulty in attending the university campus to participate in the assessment and intervention sessions. There was no significant difference in the proportion of dyads who prematurely left the study by condition, sample, or gender (all χ^2s < 1.45, all ps > .23).

Eighty-eight dyads completed both the pre-intervention and post-intervention assessments and were included in the final analysis: 60 in the final community sample and 28 in the final clinical sample. There were significant differences in children's age and gender between

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[1] Note that the original trials were not registered as recruitment and assessment took place before the 2016 registry requirement. We nonetheless use 2010 CONSORT reporting requirements throughout the paper proper.
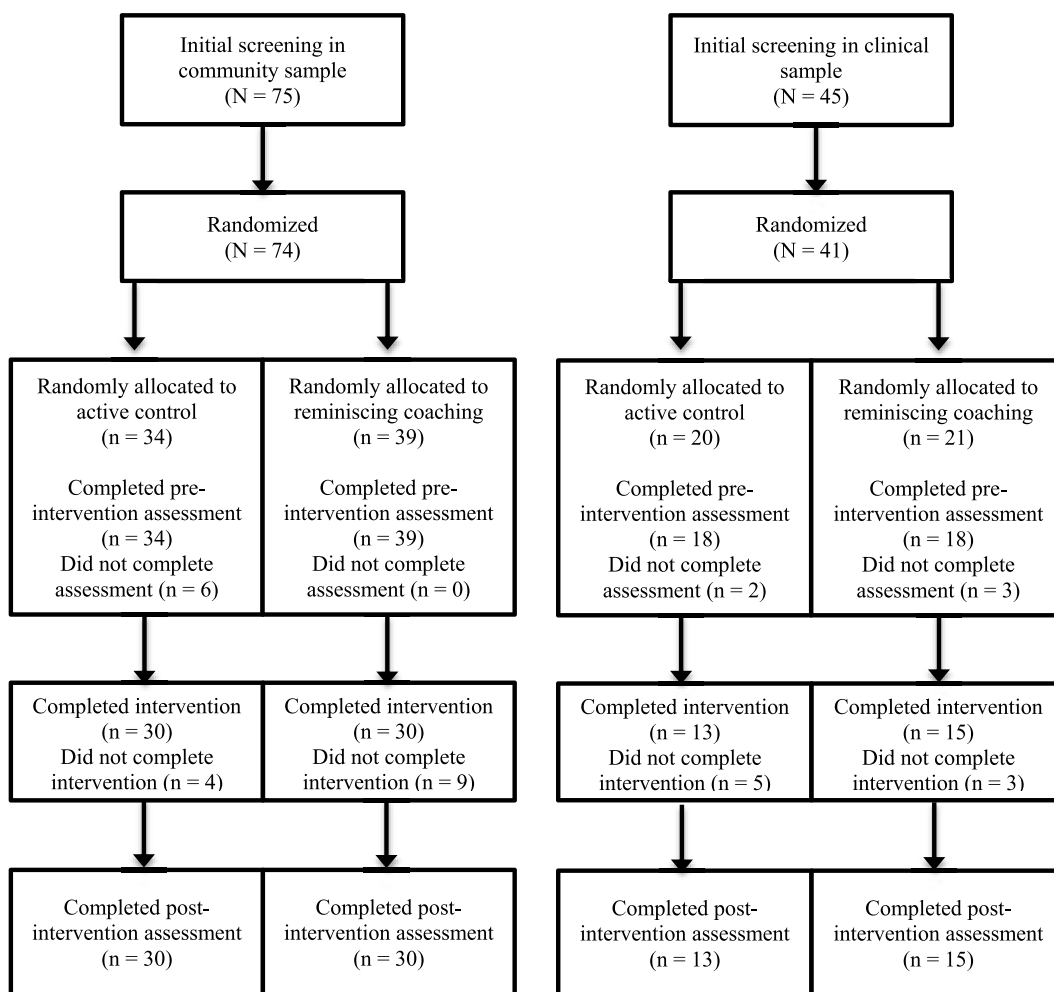
Fig. 1. Flow of participants through randomization and each stage of assessment.

samples. With regards to child age, and following our use of different recruitment advertisements, children in the final clinical sample (M = 57.71 months, SD = 16.68) were significantly older than children in the final community sample (M = 45.98 months, SD = 4.89), t (86) = 5.03, p < .001. As outlined above, we therefore controlled for child age in all analyses. With regards to child gender, and consistent with differences in the prevalence of externalizing behavior amongst boys and girls, there was a greater proportion of boys in the final clinical sample (24 boys, 4 girls) than in the final community sample (30 boys, 30 girls), χ^2 = 10.27, p = .001. Given the mixed findings for child gender differences in parent reminiscing and parent socialization of emotion (see Fivush et al., 2006; Johnson et al., 2017), we conducted preliminary analyses in which we also controlled for child gender. The gender covariate was not significant for any outcome variable, all Fs < 1.94, all ps > .17, and was therefore excluded from our final analyses (preliminary analyses available on request).

2.2. Measures and procedure

All dyads participated in a pre-intervention assessment, four intervention or active control sessions, and a post-intervention assessment, each held 1–2 weeks apart. Because the active control condition also engaged in the same number of sessions, we were able to ensure that all participants were unaware of condition. Sessions were held in the child laboratories in the Psychology Clinic at the University of New South Wales. Prior to beginning the reminiscing intervention or active control sessions, dyads in the clinical sample also completed two sessions of an abbreviated Parent Management Training (Dadds & Hawes, 2006) and these too were held in the same child laboratories.

Four supervised graduate-level students acted as facilitators: conducting assessment and intervention sessions. When conducting assessments, facilitators were always blind to condition. Different trained facilitators conducted each phase, with the allocation of facilitator to phase counterbalanced.

Assessments. Assessments began with a mother-child reminiscing task. Next, mothers completed the Maternal Mental State Input Inventory (MMSII) while children completed the Preschool Language Scale (PLS) as a control for language ability (Zimmerman, Steiner, & Pond, 2002). Finally, children completed two emotion knowledge tasks, and mothers in the clinical sample completed measures of psychological functioning in relation to themselves and their child. These latter measures of emotion knowledge and psychological functioning were not the focus of our current study and are not reported here: however, interested readers are directed to Salmon et al. (2009) and Van Bergen et al. (2009).

Reminiscing Task. The reminiscing task measured maternal style and mental state content during reminiscing. Mothers were asked to nominate four one-time events they had experienced with their child over the past 1–4 weeks. The experimenter then randomly selected two events, excluding any multi-day events and events with an internal storyline (e.g., movie visits). Mothers were asked to discuss these events with her child, as they normally would, while the experimenter stepped out of the room. Discussions were video and audiotaped.

MMSII. The MMSII is a 12-item questionnaire measuring mothers'

preferences for different styles of elaborative and mental state talk (Peterson & Slaughter, 2003). Each item presents a protagonist mother and her 4-year-old child performing everyday tasks (e.g., cooking, shopping for a birthday present, finding lost keys). The protagonist mother has four conversation options, each differing in elaboration and mental state content. These include: elaborated mental state (EMS) ("*I need keys to unlock the garage … I don't know where they are … I thought … maybe I just imagined …*"); elaborated non-mental state (ENMS) ("*I need keys to unlock the garage … I'm glad you are with me because we can comb our hair …*"); non-elaborated mental state (NEMS) ("*I need the keys to unlock the garage … I don't know where they are*"); and non-elaborated non-mental state (NENMS) ("*I need keys … probably by the phone*"). Mothers were asked to rank these options according to which they prefer or would be most likely to use themselves. Using a score of 4 = highest preference and 1 = lowest preference, an overall score of 12–48 was created for each style. Internal consistency scores for each style have previously been shown to be satisfactory, with Chronbach's alpha ranging from 0.61 to 0.72 (Peterson & Slaughter, 2003).

*Preschool Language Scale (*4th *ed.).* The PLS is a 130-item scale measuring expressive and receptive language in children aged 0–7 years. It shows high reliability and validity in a range of child populations, with total scores later converted to age norms (Zimmerman & Castilleja, 2005; Zimmerman et al., 2002). By measuring language we were able to ensure that children's language skills did not influence their mothers' reminiscing behavior and overarching talk preferences.

Intervention. Mother-child dyads participated in four face-to-face coaching sessions, 7–10 days apart. Supervised postgraduate students led each intervention session, with validity checks following each session. Mothers in the reminiscing intervention condition were encouraged to reminisce with their child using open-ended wh-questions, detailed descriptions and emotion talk. Mothers in the control condition were instead encouraged to use child-directed play: observing and supporting their child's play but not attempting to alter it (e.g., Kotler & McMahon, 2004). We chose child-directed play as an 'active control' because it is not does not encourage parents to use any particular style of language. Because reminiscing intervention sessions and control sessions were matched for both mother-child interactions and facilitator-participant interactions, however, we expected to mitigate against expectation biases and to control for maternal sensitivity. We were also able to keep mothers unaware of their experimental condition, with both expecting potential positive benefits.

Both the reminiscing intervention program and the control program included a video demonstration and observed practice in the first session (60 min), and additional practices in the second, third and fourth sessions. The session facilitator offered feedback and guidance during each practice (30 min). Mothers were then asked to practice at home each day with their children before returning for the next session.

As above, we paired coaching sessions in the clinical sample with an abbreviated Parent Management Training (Dadds & Hawes, 2006). Two sessions of Parent Management Training were conducted prior to beginning the reminiscing coaching sessions, to ensure that the child's non-compliance of other behavioural difficulties did not compromise the effectiveness of reminiscing coaching (see Salmon et al., 2009). This coaching was also briefly revisited at the beginning of each reminiscing coaching session. Because Parent Management Training does not contain any coaching in elaborative reminiscing/conversational styles, we did not expect it to impact the style or content of parent-child reminiscing. Dyads in the reminiscing intervention and active control conditions each took part.

Coding. We coded maternal contributions to mother-child reminiscing conversations for both style and content. Inter-rater reliability, calculated on 25% of the transcripts using Cohen's Kappa, was 0.82 in the community sample and .80 in the clinical sample. Both coders were blind to participant condition. All disagreements were discussed and resolved before a primary coder continued coding the remainder of the transcripts.

To code for reminiscing style, each subject-verb utterance was coded as high elaborative or low elaborative. High elaborative utterances included open-ended questions ("What did you do when Jess fell off the swing?") and information statements about people, places, activities, and other aspects of the event ("You ran back to get me!"). Low elaborative utterances included repetitions of previously provided information and information requests, together with close-ended yes-no questions ("Did you like the boat?"). Because we were interested only in utterances with content relevant to the narrative in question, confirmations, placeholders, and off-topic utterances were each excluded from the analysis.

Note that close-ended questions are sometimes coded in the literature as high-rather than low-elaborative: despite being more limited than open-ended questions, they nonetheless provide an event cue and invite the child to respond (Fivush et al., 2006; Leichtman, Pillemer, Wang, Koreishi, & Han, 2000; Reese & Brown, 2000; Wang & Fivush, 2005; but see; Boland, Haden, & Ornstein, 2003; Laible, 2004; Laible & Song, 2006; Peterson et al., 1999; Van Bergen & Salmon, 2010). Consistent with Van Bergen et al. (2009), our decision to count close-ended questions as low elaborative was theoretically driven. We acknowledge that even highly elaborative mothers may use both open- and closed-ended questions, particularly for younger children (see Fivush et al., 2006; Hudson, 1993). More elaborative conversation should nonetheless include a greater proportion of open-ended questions, in order to elicit more extensive child contributions. In addition, two key goals of our reminiscing intervention were to enhance open-ended questions and information statements. This made it more appropriate to include only these targeted elements in our assessment of high elaboration.

To ensure that our decision to code close-ended questions as low elaborative did not influence our pattern of findings we extracted close-ended questions for individual analysis. The pattern of findings was consistent with the overarching pattern for repetitions (low-elaborative), and differed from open-ended questions (high-elaborative) and information statements (high-elaborative). For both low-elaborative and high-elaborative utterances, therefore, the findings for each individual coding category matched the findings for the overarching parent category.

To code for mental state content, mothers' references to beliefs/thoughts, emotions, and desires were counted. References to belief/thought were those in which the mother attributed true or false knowledge of a situation to herself, the child, or another actor in the narrative (e.g., "I thought you had gone upstairs"). Such references were rare during the reminiscing conversations, with predominantly null scores at both time points, and were therefore excluded from subsequent analyses. References to emotions were those in which the mother attributed a specific emotional state to herself, the child, or another actor in the narrative (e.g., "Sam felt really sad, didn't she?"), discussed an emotion cause or consequence, or described an emotional expression or behavior (e.g., "you were crying big tears"). Finally, references to desire were those in which the mother attributed a positive or negative preference to herself, the child, or another active in the narrative (e.g., "he really liked the clown"), or discussed a desired cause or consequence, without reference to any specific emotion.

3. Results

We conducted two repeated-measures ANCOVAs: one on mothers' elaborative style and mental state content during reminiscing, and one on mothers' preferences for elaboration and mental state content during everyday talk. Condition (intervention, control) and sample (community, clinical) were entered as between-participants variables and time (pre-intervention, post-intervention) was entered as a within-participants variable. Child age was included as a covariate, but language scores on the PLS were excluded because our preliminary analyses showed that language did not interact significantly with any other variable, all $ps > .05$. As in our method, we also excluded child gender

as a covariate, all *p*s > .05. No model assumptions were violated in either of the two ANCOVAs.

In addition to our overarching ANCOVAs comparing intervention effectiveness, we also aimed to identify pre-existing similarities and differences between the samples in reminiscing and everyday talk preferences. Because the main effect of sample is averaged across time and condition, findings may be driven by differences in intervention efficacy. To address this concern, we conducted an initial simple effects analysis comparing the performance of the community and clinical samples at the pre-intervention assessment specifically.

3.1. Reminiscing

The first ANCOVA investigated the influence of sample, condition, and time on mothers' reminiscing style and mental state content. Mothers' high-elaborative utterances, low-elaborative utterances, references to emotion, and references to desire were each entered as dependent variables. As above, references to beliefs were rare across all groups and were not considered further. We report the simple effect analysis of pre-existing differences between samples first, followed by the effects of the intervention (time x condition), and, lastly, interactions of sample and intervention (sample x time x condition). Descriptive statistics are presented in Table 1.

Pre-existing Differences Between Samples. To understand the pre-existing differences between the clinical and community samples, we turned to our simple effects analysis at the pre-intervention assessment. There were significant differences between the community and clinical samples in high-elaborative utterances, $F(1, 82) = 5.26$, $p = .024$, $\eta_p^2 = 0.06$, emotion references, $F(1, 82) = 5.28$, $p = .024$. $\eta_p^2 = 0.06$, and desire references, $F(1, 82) = 4.34$, $p = .040$. $\eta_p^2 = 0.05$, but not low-elaborative utterances, $F(1, 82) = 0.75$, $p = .388$. As shown in Table 1, mothers in the community sample made significantly more high-elaborative utterances than did mothers in the clinical sample. In contrast, mothers in the clinical sample made significantly more emotion references than did mothers in the community sample, and also made significantly more references to desire. While mothers in the community sample were more elaborative, therefore, mothers in the clinical sample made more mental state references overall.

Because the greater use of emotion references by mothers in the clinical sample was contrary to our hypothesis, we recoded and analyzed emotion references from each sample to determine if they referred to positive or negative emotions. A supplementary exploratory simple effects comparison of positive and negative emotion references at the pre-intervention assessment showed that there was no difference between the community sample ($M = 0.45$, $SD = 0.14$) and clinical sample ($M = 0.49$, $SD = 0.22$) in references to positive emotions, $p = .882$. There was a difference in references to negative emotions,

however, with mothers in the clinical sample ($M = 2.58$, $SD = 0.70$) making more references to negative emotions than mothers in the community sample ($M = 0.87$, $SD = 0.46$), $p = .029$.

Effects of the Intervention. To determine the effects of the reminiscing coaching intervention we turned to our main ANCOVA analysis. There was a significant main effect of intervention condition on mothers' high-elaborative utterances, $F(1, 82) = 25.13$, $p < .001$. $\eta_p^2 = 0.23$, modified by a significant time x intervention condition interaction, $F(1, 82) = 27.36$, $p < .001$, $\eta_p^2 = 0.25$. Averaged across samples, there was no significant difference at the pre-intervention assessment between mothers in the reminiscing intervention condition ($M = 37.15$, $SD = 17.34$) and mothers in the control condition ($M = 30.93$, $SD = 17.97$), $p = .100$. At the post-intervention assessment, however, mothers in the reminiscing intervention ($M = 63.86$, $SD = 27.66$) made significantly more high-elaborative utterances than did mothers in the control condition ($M = 28.62$, $SD = 16.09$), $p < .001$.

There was also a significant main effect of intervention condition on mothers' emotion references, $F(1, 82) = 17.79$, $p < .001$. $\eta_p^2 = 0.18$, modified by a time × condition interaction, $F(1, 82) = 48.43$, $p < .001$, $\eta_p^2 = 0.37$. Averaged across samples, there was no significant difference at the pre-intervention assessment between mothers in the reminiscing intervention condition ($M = 1.44$, $SD = 2.84$) and mothers in the control condition ($M = 2.35$, $SD = 5.11$), $p = .090$. At the post-intervention assessment, however, mothers in the reminiscing intervention ($M = 10.05$, $SD = 7.28$) made significantly more emotion references than did mothers in the control condition ($M = 0.98$, $SD = 2.09$), $p < .001$ (supplementary analyses confirmed that this was the case for references to both positive emotions, $p < .001$, and negative emotions, $p < .001$, with approximately 48.5% of emotion references positively valenced in each sample). Taken together, these findings show a significant increase in high-elaborative utterances and emotion references as a direct consequence of the intervention.

There was no significant time × condition interaction for mothers' low elaborative utterances or references to preferences, both Fs < 0.79, both ps > .378. Averaged across samples, low-elaborative utterances and preferences were unaffected by time or by intervention coaching.

Interactions between Sample and Intervention. There were no significant interactions of the intervention (time x condition) with sample, all Fs(1, 82) < 2.58, all ps > .113. Thus, despite pre-existing differences in the way that community and clinical mothers reminisce with their children about the past, intervention gains were equivalent in both groups.

Summary. Relative to the community sample, mothers in the clinical sample were less elaborative and made more mental state references; particularly with a negative valence. These pre-existing differences were not differentially affected by the reminiscing

Table 1
Mothers' reminiscing style and content utterances according to sample (community or clinical) and experimental condition (reminiscing intervention or active control).

	Community Sample			Clinical Sample		
	Reminiscing condition M *(SD)*	Control condition M *(SD)*	Total M *(SD)*	Reminiscing condition M *(SD)*	Control condition M *(SD)*	Total M *(SD)*
Pre-intervention assessment						
High-elaborative utterances	40.70 *(18.45)*	34.34 *(19.86)*	37.57 *(19.26)*	30.07 *(12.60)*	23.31 *(9.53)*	26.93 *(11.59)*
Low-elaborative utterances	10.63 *(6.58)*	9.55 *(7.17)*	10.10 *(6.83)*	8.07 *(4.30)*	11.23 *(6.88)*	9.53 *(5.76)*
Emotion references	1.40 *(2.91)*	1.24 *(2.37)*	1.32 *(2.64)*	2.53 *(2.77)*	3.84 *(8.15)*	3.07 *(6.03)*
Desire references	4.60 *(3.59)*	3.62 *(3.97)*	4.12 *(3.78)*	7.67 *(6.97)*	6.69 *(5.40)*	7.21 *(6.20)*
Post-intervention assessment						
High-elaborative utterances	68.32 *(29.87)*	27.93 *(15.55)*	48.47 *(31.27)*	54.93 *(20.68)*	30.15 *(17.77)*	43.43 *(22.81)*
Low-elaborative utterances	8.14 *(5.49)*	6.28 *(7.69)*	7.22 *(6.67)*	9.07 *(5.38)*	10.38 *(10.29)*	9.67 *(7.91)*
Emotion references	10.98 *(8.01)*	0.79 *(1.47)*	5.97 *(7.71)*	8.20 *(5.26)*	1.38 *(3.09)*	5.03 *(5.53)*
Desire references	5.56 *(4.26)*	3.83 *(4.74)*	4.71 *(4.55)*	10.40 *(7.21)*	7.76 *(6.58)*	9.17 *(6.93)*

intervention, however. Mothers in the reminiscing intervention significantly increased their high elaborative utterances and emotion references, with no difference in intervention gains between samples.

3.2. Everyday talk preferences

The second ANCOVA investigated the influence of condition, sample, and time on mothers' preferences for elaboration and mental state references in everyday conversation. The four MMSI styles – Elaborated Mental State (EMS), Elaborated Non-mental State (ENMS), Non-elaborated Mental State (NEMS), and Non-elaborated Non-mental State (NENMS) – were entered as dependent variables. We report this simple effect analysis of pre-existing differences between samples first, followed by the effects of the intervention (time x condition), and, lastly, any interactions of sample and intervention (time x condition).

Pre-existing Differences Between Samples. As for our reminiscing analyses, we were aware that the effects of the intervention across time could obscure our ability to detect possible pre-exiting differences in everyday talk preferences between the community and clinical samples. We therefore turned to our simple effects analysis to compare samples at the pre-intervention assessment. There was a significant difference for ENMS preferences, $F(1, 70) = 8.94$, $p = .004$, $\eta_p^2 = 0.11$ and NENMS preferences, $F(1, 70) = 5.18$, $p = .026$, $\eta_p^2 = 0.07$, but not EMS preferences, $F(1, 70) = 1.52$, $p = .221$, or NEMS preferences, $F(1, 70) = 2.70$, $p = .104$. Mothers in the community sample ($M = 26.57$, $SD = 3.96$) expressed greater preference for ENMS responses than did mothers in the clinical sample ($M = 23.60$, $SD = 3.40$), while mothers in the clinical sample ($M = 30.11$, $SD = 5.17$) expressed greater preferences for NENMS responses than mothers in the community sample ($M = 26.63$, $SD = 4.40$). Pre-existing preferences for EMS preferences ($M = 31.42$, $SD = 5.49$) and NEMS preferences ($M = 35.15$, $SD = 4.01$) did not differ between mothers in the community and clinical samples.

Taken together these findings show no pre-existing differences in mothers' preferences for mental state talk, elaborative or non-elaborative (EMS and NEMS responses). For non-mental state talk, however, mothers in the community sample show a greater preference for high elaboration (ENMS responses) and mothers in the clinical sample showed a greater preference for low elaboration (NENMS responses).

Effects of the Intervention. To determine the effects of the reminiscing coaching intervention we turned to our main ANCOVA analysis. While there was no significant main effects of intervention condition, $Fs < 0.59$, $p > .443$, there was a significant time × condition interaction for mothers' EMS responses, $F(1, 70) = 4.57$, $p = .036$, $\eta_p^2 = 0.06$, and NENMS responses, $F(1, 70) = 8.33$, $p = .005$, $\eta_p^2 = 0.11$. Pre-intervention, there were no significant differences in preferences for EMS responses between mothers in the reminiscing intervention condition ($M = 31.17$, $SD = 5.63$) and the control condition ($M = 31.67$, $SD = 5.41$), $p = .997$. Post-intervention, however, mothers in the intervention condition ($M = 33.30$, $SD = 5.47$) showed a stronger preference for EMS responses than did mothers in the control ($M = 31.70$, $SD = 5.59$), $p = .003$ (see Fig. 2).

Similarly, there were also no significant pre-intervention differences for NENMS responses between mothers in the reminiscing intervention condition ($M = 28.10$, $SD = 5.39$) and mothers in the control ($M = 27.82$, $SD = 4.61$), $p = .612$. Post-intervention, however, mothers in the intervention condition ($M = 26.15$, $SD = 4.78$) gave lower preferences to NENMS responses than did mothers in the control condition ($M = 28.22$, $SD = 4.93$), $p = .001$ (see Fig. 3). Taken together, these findings show that the intervention was successful in enhancing mothers' preference for elaborative talk and for talk focused on mental states.

Interactions between Sample and Intervention. There were no significant interactions between the intervention (time x intervention condition) and sample for EMS, NEMS, or NENMS responses, all $Fs(1, 70) < 1.03$, all $ps > .313$. Thus, mothers in the clinical and
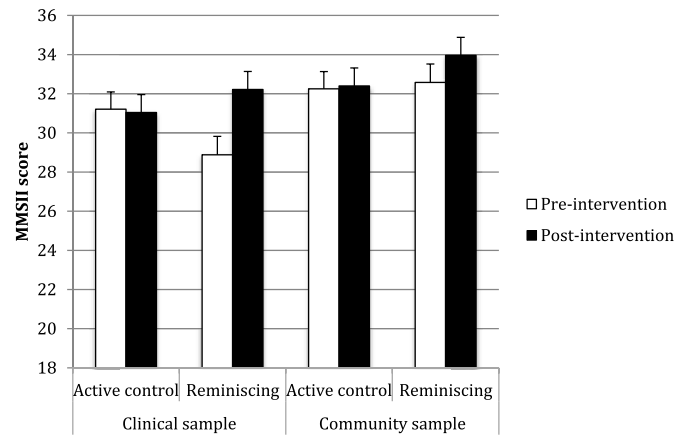

Fig. 2. Pre-intervention and post-intervention preferences for elaborative mental-state talk (EMS) in the control and reminiscing intervention conditions.
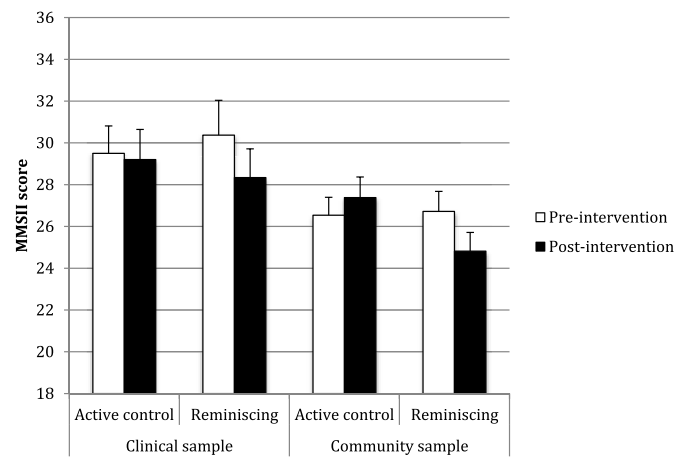

Fig. 3. Pre-intervention and post-intervention preferences for non-elaborative, non-mental-state talk (NENMS) in the control and reminiscing intervention conditions.

community samples showed similar intervention gains.

Surprisingly, a significant sample x time × condition interaction emerged for ENMS preferences, $F(1, 70) = 4.48$, $p = .038$, $\eta_p^2 = 0.06$, and was driven primarily by changes in the control condition. We note above, in our simple effects analysis of sample, that mothers in the community sample ($M = 26.57$, $SD = 3.96$) expressed greater pre-existing preferences for ENMS responses than did mothers in the clinical sample ($M = 23.60$, $SD = 3.40$). Post-intervention, community and clinical mothers in the reminiscing condition maintained these differences. Community and clinical mothers in the control condition each changed their preferences, however, such that they no longer showed any difference from one another ($M = 24.82$, $SD = 4.53$).

Summary. Significant differences in MMSII responses were observed between samples, with mothers in the community sample expressing stronger preferences for ENMS talk and mothers in the clinical sample expressing stronger preferences for NENMS talk. There were no significant differences in preferences for EMS or NEMS talk. This suggests that mothers in the community sample endorsed elaborated talk to a greater extent than did mothers in the clinical sample, with no differences for mental state talk.

Reminiscing coaching had a significant positive effect on mothers' everyday talk preferences, with similar intervention gains across both samples. Mothers in the reminiscing intervention condition significantly increased their preferences for EMS responses over time, and significantly decreased their preferences for NENMS responses. The only significant interaction between intervention and sample was

driven by changes in ENMS preferences in the control condition, and did not appear to relate to the efficacy of the reminiscing coaching intervention. We expand briefly on this finding in our discussion.

4. Discussion

The aims of our study were twofold: first, to compare pre-existing reminiscing differences and intervention responsiveness between a typical community sample and an at-risk clinical sample of children with conduct problems; and second, to compare pre-existing differences and intervention responsiveness in the same mothers' preferences for elaboration and mental state talk in everyday contexts.

As hypothesized, mothers in the community sample initially showed richer and more elaborative talk preferences and reminiscing behaviours than did the clinical sample. A handful of previous studies has found that maltreating mothers and mothers living in difficult circumstances engage in lower levels of elaborative and emotional reminiscing with their children (Raikes & Thompson, 2008; Valentino et al., 2015), with potential implications for mental state references more broadly. We extend these findings for the elaborative reminiscing style to families in which children show conduct problems, and also to everyday talk preferences. Interestingly, however, we did not replicate these findings for reminiscing content. Contrary to our hypotheses, mothers from the clinical sample were initially more likely to reference emotions and desires while reminiscing.

The counterintuitive finding that mothers in the clinical sample made more emotion references at the pre-intervention assessment may reflect the greater behavioural challenges that mothers of children with conduct problems face. Indeed, supplementary analyses considering emotion valence showed that the greater frequency of emotion references amongst clinical mothers was specific to negative emotions. These findings are consistent with other work suggesting that parents of children with conduct problems tend to engage in more negative parenting practices than parents of typically-developing children, and that difficulty shifting flexibly from negative emotional states is one way in which behavioural problems are maintained (Granic, O'Hara, Pepler, & Lewis, 2007; see Salmon, 2018, for review). Thus, our findings suggest that the emotional talk in even this highly educated clinical sample of mothers was more negative in its focus relative to the community sample.

Although we had hypothesized that reminiscing would offer parents and children reflective distance, relative to conversations occurring at the time of an event, it is possible for clinical mothers that the reminiscing conversation itself was sufficient to trigger and maintain emotional negativity. In turn, mothers experiencing strong negativity may become more coercive, controlling, or ruminative when discussing their child's emotion (Salmon, 2018). Alternatively, it is possible that clinical mothers focused more strongly on negative emotions in an attempt to support their children's emotion development. To disentangle these possibilities, we recommend that future research consider the specific context of these negative emotion references, their interrelation with child behaviour, and their interrelation with parents' own emotionality.

Importantly, and as hypothesized, mothers in both samples benefited from a reminiscing coaching intervention in multiple ways. Several previous studies, including ours, have shown the positive effects of engaging mothers in coaching to adopt elaborative and emotion rich reminiscing (Reese & Newcombe, 2007; Salmon et al., 2009; Taumoepeau & Reese, 2013; Valentino et al., 2013; Van Bergen et al., 2009). In the current study we extend these past findings to show that mothers who have taken part in the reminiscing coaching intervention discuss positive and negative emotions relatively equally, with no difference between samples. This represents a significant shift for mothers in the clinical sample, who were initially more likely than mothers in the community sample to reference negative emotions. We also extend these previous studies to also consider mothers' preferences for

elaborated and mental state talk in present and future focused hypothetical vignettes. We found increased maternal preferences for elaborative and mental-state-focused talk in everyday contexts, thus suggesting that coaching in elaborative reminiscing about the past may generalize to scaffolding intentions during other language-based parent-child interactions.

These findings are important for understanding the reach and impact of existing reminiscing coaching interventions on maternal outcomes. Engagement in elaborative and emotion-rich reminiscing has been shown to have strong and pervasive effects on young children's socio-emotional and cognitive functioning, including autobiographical memory, emotion understanding, language, and literacy (Fivush et al., 2006; Johnson et al., 2017; Salmon & Reese, 2016), and has been identified as an important target in interventions with young children aiming to optimize these skills (Salmon, O'Kearney, Reese, & Fortune, 2016; Wareham & Salmon, 2006). Yet no research to date has investigated the influence of reminiscing coaching on maternal social cognition. The current findings both underscore and extent our understanding of the benefits of reminiscing coaching. The robustness of these findings is further indicated by the fact that hypothetical vignettes provide quite a different form of assessment than the behaviours that were the target of coaching, which are the typical means of assessing the effectiveness of reminiscing coaching (Newcombe & Reese, 2007; Salmon et al., 2009; Valentino et al., 2013; Van Bergen et al., 2009).

Overall, while there was no difference between the clinical and community samples in preferences for mental state talk, mothers in the community sample had a more consistent preference for elaborated talk whereas mothers in the clinical sample had a stronger preference for talk that was not elaborated. Findings of research aiming to boost children's language development show that to engage in high quality conversations parents must believe that these are important for their child's development (Leffel & Suskind, 2013; Salmon et al., 2016). Our findings are important, therefore, in revealing that, despite mothers of children with conduct problems being initially less likely to preference elaborative styles of talk than mothers in a typical community sample, their preferences for elaboration in everyday contexts can be readily altered by means of an intervention that targets reminiscing behaviour.

In addition to investigating the broader effects of reminiscing coaching, our clinical and community datasets enabled us to compare the relative effectiveness of the intervention for each group. To date just two reminiscing interventions have focused on at-risk clinical groups, finding that mothers who have maltreated their children (Valentino et al., 2013) or who have children with conduct problems (Salmon et al., 2009) can be coached to adopt a more elaborative reminiscing style. No study has yet compared the breadth of the effect of a reminiscing intervention for community and clinical samples at once. Given the interactional difficulties observed between parents and children in at-risk clinical settings, we had predicted that reminiscing effects would be stronger in the community sample. This hypothesis was not supported, however. While mothers in the clinical condition were naturally more likely to engage in less elaborative reminiscing, and to express a preference for less elaborative responses in everyday talk, their gains on the intervention were equivalent to those of mothers in the community sample.

Note that our reminiscing intervention encouraged attention to the emotional aspects of the memory, such as how the child and other protagonists felt, but not to other mental states such as beliefs and desires. Thus, any increases in mothers' reference to the mind more broadly represent a generalization not only from reminiscing about the past to discussions in other everyday contexts, but also from the emotional to the non-emotional domain. These findings extend previous research that has shown differences between emotional and non-emotional domains: in naturalistic longitudinal research, for example, Ruffman, Slade, and Crowe (2002) found positive associations between mothers' earlier (non-emotional) mental state utterances and children's later theory of mind, but not between earlier emotion references and

later theory of mind. In the current study, however, mothers were encouraged to reminisce about everyday emotional experiences and their causes, and we expected that within this context, mothers would also focus on thoughts, beliefs and desires. While references to belief during our reminiscing task were rare, and were excluded from analysis, our findings on the MMSII show an increase in maternal preferences for mental state talk more broadly.

Interestingly, research shows that mothers who are naturally elaborative when reminiscing with their young children are not necessarily elaborative in other contexts, such as book reading or free play (Fivush et al., 2006; Haden & Fivush, 1996; see). While our study did not allow us to determine why the elaborative reminiscing intervention may have generalized to preferences for elaboration in everyday talk, one possibility is that the intervention coaching prompted mothers to reflect on their own patterns of talk and to apply the principles of the intervention in multiple contexts. Thus, although naturalistic elaboration is context dependant, explicit reflection may encourage context independence. Similarly, elaborative reminiscing interventions may offer benefits for mothers' awareness of their children's mental states via two avenues: implementation of the intervention requires metacognitive reflection on the child's memory capabilities, and a focus on elaborating on emotions during reminiscing may also generalize to consideration of the beliefs or desires that are associated with these emotions. To investigate these possibilities we highlight the need for future research on the moderating role of maternal (and paternal) reflective capacity.

4.1. Limitations

This study was limited in four ways. First, we report data at just two time-points: pre- and post-intervention. We note the potential for additional intervention effects to emerge after extended practice. In our previous work with the community sample, for example, we found benefits for children's emotion knowledge after six months (Van Bergen et al., 2009). Reese and Newcombe (2007) similarly found benefits for children's independent recall after one year.

Second, we note our relatively small participant pool and relatively large withdrawal rates. We therefore treat this study as an initial trial of reminiscing coaching. While we nonetheless obtained significant effects, both for reminiscing behaviour and everyday talk preferences, replication with larger samples will allow greater focus on individual differences within the two cohorts (e.g., in the severity of conduct problems, in different socioeconomic groups, and with regards to gender differences). It will also allow us to extend our analysis of reminiscing coaching efficacy to dyads in which children have ADHD or other neurodevelopmental difficulties, and to consider coaching efficacy when Parent Management Training is not also used as an adjunct.

Third, while we measured changes in mothers' reminiscing talk and in their preferences for elaborative and mental state talk in a range of everyday contexts, we did not assess actual talk in these same everyday contexts. We suggest future work with reminiscing interventions build on these findings to also include behavioural assessments of everyday talk about the present and future, coded for elaboration, emotion content, and other mental state content. As above, assessments of parent and child emotionality during these same conversations may help to clarify if and when reminiscing conversations are most helpful for children in at-risk cohorts, and when they might be less helpful.

Fourth, we note the limited diversity amongst our participants. Mothers in both samples were predominantly Western, highly educated, and all spoke English fluently. All were also able to attend our child labs during the week, which not all parents are able to do. Unfortunately, no fathers were able to participate. Given this limited diversity, further research is required to test whether the same reminiscing coaching intervention is equally effective for mothers from other ethnic or cultural backgrounds, for mothers from diverse educational and socioeconomic backgrounds, and for fathers. We note for example that while

research to date shows limited differences in reminiscing between mothers and fathers (Reese et al., 1996), suggesting the potential for similar intervention findings, elaborative reminiscing about personal experiences is considered inappropriate in some cultures (Wang, 2013). In such contexts, other pathways to socioemotional and cognitive competency may be more appropriate.

5. Conclusion

In this study we made three key contributions. We demonstrated that mothers of children with conduct problems differed from mothers in a typical community sample in multiple ways, including in their less frequent use of high elaborative utterances during reminiscing and in their preferences for non-elaborative talk in everyday contexts. They did make more references to emotions and desires, however, perhaps in an attempt to scaffold and support emotion regulation and positive behaviour in their children. We further demonstrated that the influence of reminiscing coaching extended to maternal preferences for mental state talk and elaboration in everyday contexts, with benefits for both samples. Finally, we analyzed intervention gains: finding no difference in the strength of the intervention effect between samples. While the community sample retained their advantage over the clinical sample, both showed equivalent gains in elaboration and emotion references during reminiscing, and in preferences for elaborative and mental-state focused talk in everyday contexts. Given the significant role of elaborative and mental state discourse in children's developmental outcomes (Peterson & Slaughter, 2003), and acknowledging possible cultural differences, our findings strengthen the support for elaborative and emotion rich reminiscing interventions in both clinical and community contexts.

Conflicts of interest

None.

Author note

Penny Van Bergen is from the Department of Educational Studies, Macquarie University, Australia.

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Acknowledgements

References

Boland, A. M., Haden, C. A., & Ornstein, P. A. (2003). Boosting children's memory by training mothers in the use of an elaborative conversational style as an event unfolds. *Journal of Cognition and Development, 4*, 39–65. https://doi.org/10.1080/15248372.2003.9669682.

Dadds, M. A., & Hawes, D. (2006). *Integrated family intervention for child conduct problems: A behaviour-attachment-systems intervention for parents.* Bowen Hills: Australian Academic Press.

Ensor, R., Spencer, D., & Hughes, C. (2011). 'You feel sad?' Emotion understanding mediates effects of verbal ability and mother-child mutuality on pro-social behaviors: Findings from 2 years to 4 years. *Social Development, 20*, 93–110. https://doi.org/10.1111/j.1467-9507.2009.00572.x.

Fergusson, D. M., Horwood, L. J., & Ridder, E. M. (2005). Show me the child at seven: The consequences of conduct problems in childhood for psychosocial functioning in adulthood. *Journal of Child Psychology and Psychiatry, 46*, 837–849. https://doi.org/10.1111/j.1469-7610.2004.00387.x.

Fivush, R. (2011). The development of autobiographical memory. *Annual Review of Psychology, 62*, 559–582. https://doi.org/10.1146/annurev.psych.121208.131702.

Fivush, R., Brotman, M. A., Buckner, J. P., & Goodman, S. H. (2000). Gender differences in parent-child emotion narratives. *Sex Roles, 42*, 233–253.

Fivush, R., Haden, C. A., & Reese, E. (2006). Elaborating on elaborations: The role of maternal reminiscing style in cognitive and socioemotional development. *Child Development, 77*, 1568–1588. https://doi.org/10.1111/j.1467-8624.2006.00960.x.

Fleming, A. P., McMahon, R. J., & King, K. M. (2017). Structured parent-child observations predict development of conduct problems: The importance of parental negative attention in child-directed play. *Prevention Science, 18*, 257–267. https://doi.org/10.1007/s11121-016-0672-1.

Garner, P. W., Jones, D. C., Gaddy, G., & Rennie, K. M. (1997). Low-income mothers' conversations about emotions and their children's emotional competence. *Social Development, 6*, 37–52. https://doi.org/10.1111/j.1467-9507.1997.tb00093.x.

Granic, I., O'Hara, A., Pepler, D., & Lewis, M. D. (2007). A dynamic systems analysis of Parent–child changes associated with successful "Real-world" interventions for aggressive children. *Journal of Abnormal Child Psychology, 35*, 845–857. https://doi.org/10.1007/s10802-007-9133-4.

Haden, C. A., & Fivush, R. (1996). Contextual variation in maternal conversational styles. *Merrill-Palmer Quarterly, 42*, 200–227.

Halberstadt, A. G., & Eaton, K. L. (2002). A meta-analysis of family expressiveness and children's emotional expressiveness and understanding. *Marriage & Family Review, 34*, 35–62. https://doi.org/10.1300/J002v34n01_03.

Hedrick, A. M., Haden, C. A., & Ornstein, P. A. (2009). Elaborative talk during and after an event: Conversational style influences children's memory reports. *Journal of Cognition and Development, 10*, 188–209. https://doi.org/10.1080/15248370903155841.

Hudson, J. A. (1993). Reminiscing with mothers and others: Autobiographical memory in young two-year-olds. *Journal of Narrative and Life History, 3*, 1–32. https://doi.org/10.1075/jnlh.3.1.01rem.

Hughes, C., Jaffee, S. R., Happé, F., Taylor, A., Caspi, A., & Moffitt, T. E. (2005). Origins of individual differences in theory of mind: From nature to nurture? *Child Development, 76*, 356–370. https://doi.org/10.1111/j.1467-8624.2005.00850.x.

Johnson, A. M., Hawes, D. J., Eisenberg, N., Kohlhoff, J., & Dudeney, J. (2017). Emotion socialization and child conduct problems: A comprehensive review and meta-analysis. *Clinical Psychology Review, 54*, 65–80. https://doi.org/10.1016/j.cpr.2017.04.001.

Kotler, J. S., & McMahon, R. J. (2004). Compliance and noncompliance in anxious, aggressive, and socially competent children: The impact of the child's game on child and maternal behavior. *Behavior Therapy, 35*, 495–512. https://doi.org/10.1016/S0005-7894(04)80029-7.

Laible, D. (2004). Mother-child discourse in two contexts: Links with child temperament, attachment security, and socioemotional competence. *Developmental Psychology, 40*, 979–992. https://doi.org/10.1037/0012-1649.40.6.979.

Laible, D., & Song, J. (2006). Constructing emotional and relational understanding: The roles of affect and mother-child discourse. *Merrill-Palmer Quarterly, 52*, 44–69. https://doi.org/10.1353/mpq.2006.0006.

Leffel, K., & Suskind, D. (2013). Parent-directed approaches to enrich the early language environments of children living in poverty. *Seminars in Speech and Language, 34*, 267–278. https://doi.org/10.1055/s-0033-1353443.

Leichtman, M. D., Pillemer, D. B., Wang, Q., Koreishi, A., & Han, J. J. (2000). When baby Maisy came to school: Mothers' interview styles and preschoolers' event memories. *Cognitive Development, 15*, 99–114. https://doi.org/10.1016/S0885-2014(00)00019-8.

Leyva, D., Sparks, A., & Reese, E. (2012). The link between preschoolers' phonological awareness and mothers' book-reading and reminiscing practices in low-income families. *Journal of Literacy Research, 44*(4), 426–447. https://doi.org/10.1177/1086296X12460040.

O'Kearney, R., & Dadds, M. R. (2005). Language for emotions in adolescents with externalizing and internalizing disorders. *Development and Psychopathology, 17*(02), 529–548. https://doi.org/10.1017/S095457940505025X.

Odgers, C. L., Milne, B. J., Avshalom, C., Crump, R., Poulton, R., & Moffitt, T. E. (2007). Predicting prognosis for the conduct-problem boy: Can family history help? *Journal of the American Academy of Child & Adolescent Psychiatry, 46*, 1240–1249. https://doi.org/10.1097/chi.0b013e31813c6c8d.

Peterson, C., Jesso, B., & McCabe, A. (1999). Encouraging narratives in pre-schoolers: An intervention study. *Journal of Child Language, 26*, 49–67.

Peterson, C., & Slaughter, V. (2003). Opening windows into the mind: Mothers' preferences for mental state explanations and children's theory of mind. *Cognitive Development, 18*, 399–429. https://doi.org/10.1016/S0885-2014(03)00041-8.

Raikes, H. A., & Thompson, R. A. (2008). Conversations about emotion in high-risk dyads. *Attachment & Human Development, 10*(4), https://doi.org/10.1080/14616730802461367 359-37.

Reese, E., & Brown, N. (2000). Reminiscing and recounting in the preschool years. *Applied Cognitive Psychology, 14*, 1–17. https://doi.org/10.1002/(SICI)1099-0720(200001)14:1 < 1::AID-ACP625 > 3.0.CO;2-G.

Reese, E., Haden, C. A., & Fivush, R. (1996). Mothers, fathers, daughters, sons: Gender differences in autobiographical reminiscing. *Research on Language and Social*

Interaction, 29, 27–56. https://doi.org/10.1207/s15327973r1si2901_3.

Reese, E., & Newcombe, R. (2007). Training mothers in elaborative reminiscing enhances children's autobiographical memory and narrative. *Child Development, 78*(4), 1153–1170. https://doi.org/10.1111/j.1467-8624.2007.01058.x.

Rudek, D. J., & Haden, C. A. (2005). Mothers and pre-schoolers' mental state language during reminiscing over time. *Merrill-Palmer Quarterly, 51*, 523–549. https://doi.org/10.1353/mpq.2005.0026.

Ruffman, T., Slade, L., & Crowe, E. (2002). The relation between children's and mothers' mental state language and theory-of-mind understanding. *Child Development, 73*, 734–751. https://doi.org/10.1111/1467-8624.00435.

Sales, J. M., Fivush, R., & Peterson, C. (2003). Parental reminiscing about positive and negative events. *Journal of Cognition and Development, 4*, 185–209.

von Salisch, M., Denham, S. A., & Koch, T. (2017). Emotion knowledge and attention problems in young children: A cross-lagged panel study on the direction of effects. *Journal of Abnormal Child Psychology, 45*, 45–56. https://doi.org/10.1007/s10802-016-0157-5.

Salmon, K. (2018). Parent-child construction of personal memories in reminiscing conversations: Implications for the development and treatment of child psychopathology. In M. L. Meade, C. B. Harris, P. Van Bergen, J. Sutton, & A. J. Barnier (Eds.). *Collaborative remembering: Theories, research, & applications* (pp. 334–352). Oxford, UK: Oxford University Press.

Salmon, K., Dadds, M. R., Allen, J., & Hawes, D. J. (2009). Can emotional language skills be taught during parent training for conduct problem children? *Child Psychiatry and Human Development, 40*, 485–498. https://doi.org/10.1007/s10578-009-0139-8.

Salmon, K., & O'Kearney, R. (2014). Emotional memory, psychopathology, and well-being. In P. J. Bauer, & R. Fivush (Vol. Eds.), *The wiley handbook on the development of children's memory: I/II.* Chichester, UK: John Wiley & Sons.

Salmon, K., O'Kearney, R., Reese, E., & Fortune, C.-A. (2016). The role of language skill in child psychopathology: Implications for intervention in the early years. *Clinical Child and Family Psychology Review, 19*(4), 352–367. https://doi.org/10.1007/s10567-016-0214-1.

Salmon, K., & Reese, E. (2016). The benefits of reminiscing with young children. *Current Directions in Psychological Science, 25*(4), 233–238.

Shipman, K. L., & Zeman, J. (1999). Emotional understanding: A comparison of physically maltreating and nonmaltreating mother-child dyads. *Journal of Clinical Child Psychology, 28*, 407–417. https://doi.org/10.1207/S1534424jccp280313.

Southam-Gerow, M. A., & Kendall, P. C. (2002). Emotion regulation and understanding: Implications for child psychopathology and therapy. *Clinical Psychology Review, 22*, 189–222. https://doi.org/10.1016/S0272-7358(01)00087-3.

Taumoepeau, M., & Reese, E. (2013). Maternal reminiscing, elaborative talk, and children's theory of mind: An intervention study. *First Language, 33*, 388–410. https://doi.org/10.1177/0142723713493347.

Thompson, R. A., Laible, D., & Ontai, L. L. (2003). Early understandings of emotion, morality, and self: Developing a working model. In R. V. Kail (Vol. Ed.), *Advances in child development and behavior: Vol. 31*, (pp. 137–171). San Diego, CA: Academic Press.

Valentino, K., Comas, M., Nuttall, A. K., & Thomas, T. (2013). Training maltreating parents in emotion-rich reminiscing with their preschool-aged children. *Child Abuse & Neglect, 37*, 585–595. https://doi.org/10.1016/j.chiabu.2013.02.010.

Valentino, K., Hibel, L. C., Cummings, E. M., Nuttall, A. K., Comas, M., & McDonnell, C. G. (2015). Maternal elaborative reminiscing mediates the effect of child maltreatment on behavioral and physiological functioning. *Development and Psychopathology, 27*, 1515–1526. https://doi.org/10.1017/SO954579415000917.

Van Bergen, P., & Salmon, K. (2010). The association between parent-child reminiscing and children's emotion knowledge. *New Zealand Journal of Psychology, 39*, 51–56.

Van Bergen, P., Salmon, K., Dadds, M. R., & Allen, J. (2009). The effects of mother training in emotion-rich, elaborative reminiscing on children's shared recall and emotion knowledge. *Journal of Cognition and Development, 10*, 162–187. https://doi.org/10.1080/15248370903155825.

Wang, Q. (2013). *The autobiographical self in time and culture.* New York, NY: Oxford University Press.

Wang, Q., & Fivush, R. (2005). Mother-child conversations of emotionally salient events: Exploring the functions of reminiscing in European-American and Chinese families. *Social Development, 14*, 473–495. https://doi.org/10.1111/j.1467-9507.2005.00312.x.

Wareham, P., & Salmon, K. (2006). Mother-child reminiscing about everyday experiences: Implications for psychological interventions in the preschool years. *Clinical Psychology Review, 26*, 535–554. https://doi.org/10.1016/j.cpr.2006.05.001.

Zimmerman, I. L., & Castilleja, N. F. (2005). The role of a language scale for infant and preschool assessment. *Developmental Disabilities Research Reviews, 11*, 238–246. https://doi.org/10.1002/mrdd.20078.

Zimmerman, I. L., Steiner, V. G., & Pond, R. E. (2002). *Preschool language scale* (4th ed.). San Antonio, TX: The Psychological Corporation.