

# The Association Between Parent-child Reminiscing and Children's Emotion Knowledge

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The way that parents discuss the past with their preschool children plays a significant role in the development of children's store of personal memories, that is, their autobiographical memory. In this study we investigated two questions: first, whether parents who engage their children in high- relative to low-elaborative conversations about the past using "wh" questions and descriptive information also include more emotion references, and second, whether emotion content was associated with children's emotion knowledge. Twenty-five European Australian preschoolers discussed four emotion-oriented events with a parent. Controlling for age and language, parents' elaborative utterances and their explanations of emotion causes (but not other emotion references) were each significantly associated with children's emotion knowledge. Follow-up regression analyses revealed high-elaborative utterances to be the stronger predictor. These findings extend those of past research in highlighting the multiple associations between reminiscing and children's developing understanding of emotion.

Conversations between parents and their children are a key process by which children come to internalise important socio-cognitive skills. In particular, a strong body of research shows that individual differences in the way that parents discuss past events with their young children come to be associated with individual differences in the children's fledgling store of personal or autobiographical memories. Specifically, high- relative to low-elaborative parents use detailed descriptions and open-ended questions to construct rich narratives when reminiscing with their preschool aged children, and their children later recall their own autobiographical memories in a rich and elaborative style (see Fivush, Haden, & Reese, 2006; Wareham & Salmon, 2006, for reviews). Similarly, parents who include emotional content during reminiscing have children who come to do the same (Kuebli, Butler, & Fivush, 1995).

Important issues remain regarding the nature and implications of parental reminiscing, however. We aim to address two of these issues in the current study. First, it is unclear whether there is an association between style and content, that is, do highly elaborative parents also include more emotion content? The small body of research addressing this question has yielded inconsistent findings (e.g. Laible, 2004, a, b; Laible & Song, 2006).

Second, it is important to clarify whether parental elaboration and/or emotion content are associated with children's emotion knowledge. Consistent with other researchers in the field, we define emotion knowledge as the awareness and understanding of ones own' and others' emotional states, expressions, causes and outcomes (see Denham, 1998). In other words, children with high emotion knowledge must possess knowledge not just of emotional vocabulary, but also of

the expressions that correspond to particular emotions in self and others, the emotions or mixed emotions that particular situations are likely to evoke, the variation in emotional response that may occur between individuals, and so on. Importantly, research suggests that preschoolers' emotion knowledge correlates positively with their concurrent and future empathic and pro-social behaviour, peer status, and overall psychological adjustment (Denham, 1986; Denham et al., 2003; Hughes & Dunn, 1998; Izard et al., 2001). In a recent study by Denham et al. (2003), for example, preschoolers who score more highly on an emotion knowledge task, in which they were required to identify a puppet's emotional expressions and then identify the puppet's likely emotion in acted out scenarios, were rated as more likeable by their peers and more socially competent by their teacher two years later. At the other end of the spectrum, Izard et al. (2001) found that children's poor emotion knowledge at age 5 was related to internalising behaviour at age 9.

A large body of research shows that children's emotion knowledge is associated with parent-child discussions of emotion - and especially emotion causes - during a variety of everyday family interactions, including talk at mealtimes, shared book reading, and storytelling (Brown & Dunn, 1996; Denham, Zoller & Couchod, 1994; Dunn, et al., 1991; Garner, Carlson Jones, Gaddy, & Rennie, 1997; Martin & Green, 2005). Reminiscing may be a particularly important context for

parent-child discussion of emotion and for children's development of emotion knowledge, as it enables both parent and child to reflect on the causes and consequences of their own and others' emotional experience at a time when they are likely to be less emotionally aroused than during the event (Fivush, Brotman, Buckner, & Goodman, 2000; Thompson, Laible, & Ontai, 2003).

As is the case for the association between reminiscing and emotion content, findings of the few studies that have investigated the association between reminiscing and emotion knowledge are mixed, however. In two studies, investigating mother-child discussion of children's compliant and non-compliant past behaviour and mother-child discussion of positive and negative past events, respectively, mothers' high elaborative style but not emotion references predicted children's emotion knowledge (Laible, 2004a, Laible & Song, 2006). In a third study, emotion references during the discussion of positive but not negative events predicted emotion knowledge (Laible, 2004b). In each study mothers' elaborative style was measured on a 5-point scale (where 1 = low in elaboration and 5 = high in elaboration), and emotion references included both direct references to an emotional state (e.g. 'happy') and other words indicating an emotional state (e.g. 'crying').

Several explanations may account for these discrepant results. For example, discussion of emotion causes may be critical to children's emotion knowledge, over and above references to emotion states (Brown & Dunn, 1996; Garner, Carlson, Jones, Gaddy, & Rennie, 1997). Alternatively, differences in findings may relate to the way in which emotion references are calculated (whether as a proportion of total talk or simply summed). In particular, it should be noted that whereas Laible (2004a) measured emotion references as a proportion of total talk, to correct for variations in conversation length, Laible (2004b) and Laible and Song (2006) measured total emotion references, summed. We consider it likely that total emotion references, reflecting the absolute amount of children's exposure to emotional information, are a more meaningful measure of the influence

of such talk on children engaged in the conversation (Dunn, Brown, & Beardsall, 1991; Fivush et al., 2000). Finally, high elaborative reminiscing may enhance emotion knowledge irrespective of parental talk about emotion. For example, via reminiscing, when the objects are removed in time and space, children may come to learn implicitly about the subjective nature of mental representations and mental states, including emotions, with implications for their developing knowledge in these domains (Pons, Lawson, Harris, & de Rosnay, 2003; Reese & Cleveland, 2006).

To address these two questions in the present study, we examined the concurrent associations amongst parental reminiscing style, its emotion content, and preschool-aged children's emotion knowledge. We measured total emotion utterances (rather than the proportion of emotion utterances relative to other content), and, in an extension of previous work looking at the development of emotion knowledge in a reminiscing context, also individually investigated the association between different types of emotion content (attributions, causes, and consequences) and emotion knowledge. Given potential associations of children's age and language skill with each of the key variables, we controlled for both in all analyses (e.g., McGuigan & Salmon, 2004; Pons et al., 2003). We expected, first, that parents who engaged in high relative to low elaborative reminiscing would also include more emotion content, and second, that high elaborative reminiscing and emotion causes utterances would both be associated with children's emotion knowledge.

## Method

### Participants

Twenty-five parent-child dyads (eight mother-daughter, 15 mother-son, and 2 father-son) each participated during two home visits to middle-class areas of Sydney, Australia. All dyads were of European origin, and children's average age in months was 48.72 ( $SD = 6.13$ ). There was no significant difference in age between boys and girls,  $t(23) = 0.82, p > .05$ , and results did not differ when fathers were excluded.

## Measures and Procedure

### Parent-child Reminiscing

Parents nominated four shared experiences that occurred within the past month, one each in which their child was happy, sad, angry, and scared. The experimenter requested that the parent: "Discuss each event in turn with [child], as you normally would". The experimenter was not present during the conversation.

*Reminiscing coding.* Parents' and children's utterances (subject-verb propositions) were separately coded once for style, and once for content. Inter-rater reliability of coding, calculated using Cohen's Kappa, was .87 (range .64 – 1.00). With regards to style, each utterance was coded as being high-elaborative (open-ended questions and answers; information statements) or low-elaborative (close-ended questions and answers'; repetitions). With regards to content, each utterance was also coded as factual or emotional. Emotion utterances were further categorised as attributions, causes, or consequences. For example, 'He was sad because you hit him, so he didn't want to play anymore' was coded as one emotion attribution ('He was sad...'), one emotion cause ('...because you hit him'), and one emotion consequence ('...so he didn't want to play anymore').

### Emotion Knowledge

Denham's (1986) Emotion Knowledge Task required children to, first, expressively and receptively identify happy, sad, angry, and scared facial expressions, and, second, to correctly predict the emotion of a blank-faced doll in each of 16 vignettes<sup>2</sup>. In eight vignettes, the doll felt the way that most people would feel in that scenario (e.g. happiness at being given ice cream). In the remaining eight vignettes, different emotions were possible (e.g. happiness/fear upon seeing a dog). After confirming the child's most likely reaction with the parent, the doll acted out the opposite emotion. Two points were awarded for each correct answer and one for the correct valence: total possible scores ranged from 0 to 48.

1. Results did not differ when close-ended questions were considered high- rather than low-elaborative.

2 Denham's original task included 12 non-stereotypical vignettes. We balanced the number of stereotypical and non-stereotypical items..

Table 1. Total Parent-child Style and Emotion Content Utterances per Conversation.

Utterance	Parent		Child	
	M	SD	M	SD
<b>Style</b>				
High-Elaborative	8.57	3.14	4.52	2.05
Low-Elaborative	2.63	1.92	1.72	1.12
Total	11.20	3.99	6.24	2.50
<b>Emotion Content</b>				
Attribution	1.04	1.09	0.58	0.66
Cause	0.35	0.43	0.27	0.42
Consequence	0.26	0.41	0.03	0.08
Total	1.65	1.49	0.89	0.95

**Language**

In the Peabody Picture Vocabulary Test-III (PPVT: Dunn & Dunn, 1997) children selected from four line drawings the picture that best represented each stimulus word, following the prompt ‘point to [stimulus]’. After 8 or more items in a set of 12 were answered incorrectly, children were awarded a raw score of their last item minus errors. Age standardised scores (M =100, SD = 15) are reported.

**Results**

**Preliminary Analyses**

Conversations about happy, sad, angry, and scary events each showed the same pattern of results, with regards to both correlation direction and size, and were collapsed. Table 1 shows total parent and child utterances, across

conversation, by style and by content. Mean emotion knowledge scores (on Denham’s Emotion Knowledge Task) and language (PPVT-III) scores were: emotion knowledge,  $M = 39.56$ ,  $SD = 4.29$ , and language,  $M = 101.04$ ,  $SD = 11.25$ . There were no significant gender differences on the PPVT-III, emotion knowledge task, or any reminiscing variable,  $F_s(1, 23) < 0.71$ ,  $ps > .05$ .

**Correlation Analyses**

Correlation analyses, controlling child age and language ability (PPVT-III), determined the associations amongst reminiscing style and content and children’s scores on the emotion knowledge task (see Table 2). In all cases, magnitude is determined by Cohen’s (1992) guidelines of 0.1, 0.3 and 0.5 for small, moderate and large correlations respectively. Importantly,

statements of magnitude should not be interpreted as statements of significance. The major findings are as follows.

First, parents’ and children’s high-elaborative style utterances were moderately but not significantly associated ( $p < .10$ ); additional analyses revealed strong associations between parents’ and children’s low-elaborative utterances,  $r(23) = .86$ ,  $p < .01$ . Parents’ and children’s emotion content utterances were strongly associated,  $r(23) = .82$ .

Second, the associations between parents’ high-elaborative utterances and emotion references (total, attributions, causes, and consequences) were each moderately but not significantly associated (all  $ps < .10$ ). Low-elaborative utterances and emotion references were not significantly associated,  $r_s < -.22$ ,  $ps > .05$ . Children’s own high elaborative utterances were significantly associated with their total emotion references,  $r(23) = 0.51$ , and, in particular, with their emotion cause utterances,  $r(23) = 0.64$ .

Third, there was a significant, moderate to strong association between total parent high- elaborative utterances and children’s total emotion knowledge score,  $r(23) = .43$ , whereas the association between low-elaborative utterances and scores on the emotion knowledge task was not significant,  $r(23) = -.25$ ,  $p > .05$ . Parents’ total emotion cause references also showed a significant, moderate-strong association with emotion knowledge,  $r(23) = .46$ ,

Table 2. Associations between Parent-child Reminiscing and Emotion Knowledge, controlling Child Age and Language

	2	3	4	5	6	7	8	9	10	11
<b>Parent Variables</b>										
1 High Elaborative utterances	.34	.33	.33	.37	.38	.15	-.03	.31	-.02	.43*
2 Emotion utterances	-	.94**	.75**	.74**	.08	.82**	.70**	.65**	-.08	.29
3 Attributions		-	.55**	.52**	.16	.85**	.81**	.56**	-.18	.22
4 Causes			-	.56**	.15	.65**	.37	.70**	.12	.46*
5 Consequences				-	-.27	.45*	.30	.40	.03	.14
<b>Child Variables</b>										
6 High Elaborative utterances					-	.51*	.37	.64**	-.25	.33
7 Emotion utterances						-	.89**	.74**	-.02	.24
8 Attributions							-	.40	-.16	.13
9 Causes								-	-.11	.29
10 Consequences									-	.23
11 Emotion knowledge										-

\* $p < .05$ , \*\* $p < .01$

whereas attributions and consequences did not (both  $r_s < .22$ , both  $p_s > .05$ ). No child utterances were significantly associated with emotion knowledge (all  $p_s > .05$ ).

### Regression Analysis

To clarify the relative contributions of parents' elaborative utterances and emotion cause references to children's emotion knowledge, controlling for children's age and for parents' total utterances, we conducted a regression analysis. Children's language was also considered as a control variable but supplementary analyses revealed that its inclusion did not alter the significance of either the overall model or of individual predictors. To reduce the number of variables present, therefore, it was omitted. Variables were entered as follows: Step 1, child age; Step 2, parents' total utterances during reminiscing conversations (high + low elaborative, summed); Step 3, parent high elaborative utterances and parent cause references. The equation was significant at Step 3,  $F(5,19) = 3.49$ ,  $p < .05$ ,  $R^2 = .42$ . At Step 3, age ( $\beta = 0.59$ ,  $p = .01$ ), total parental utterances ( $\beta = -0.82$ ,  $p = .05$ ), and high elaborative utterances ( $\beta = 1.10$ ,  $p = .05$ ), were significant predictors, whereas emotion cause references were not ( $\beta = 0.10$ ,  $p > .05$ ).

Importantly, however, it must be remembered that because parents' reminiscing style and content were coded independently for each utterance, in line with previous research, parents' high elaborative utterances include both factual and emotional utterances. To tease out the relative influence of parents' emotion cause references and the elaborative style per se, without any confound of emotion, we reran the regression with a modified elaboration variable in which any high elaborative utterances about emotion had been removed (i.e. parents' elaboration of factual material only). Again, the equation was significant at Step 3,  $F(5,19) = 3.01$ ,  $p < .05$ ,  $R^2 = .39$ . Interestingly, while parents' high elaborative utterances, modified to include factual elaborations only, remained a significant predictor of children's emotion knowledge ( $\beta = 0.46$ ,  $p < .05$ ), parents' emotion cause references were also significant ( $\beta$

$= 0.78$ ,  $p < .05$ ). Age was again a significant predictor ( $\beta = 0.51$ ,  $p = .05$ ), but total parental utterances were not ( $\beta = -0.53$ ,  $p > .05$ ).

### Discussion

The first aim of the current study was to investigate the associations between the style and emotion content of parents' reminiscing in a European Australian sample. Past research highlights that a high-elaborative reminiscing style shapes children's own style of autobiographical remembering, and that reminiscing that is rich in emotion content is similarly associated with the content of children's emotional memories (Fivush et al., 2006; Van Bergen, Salmon, Dadds & Allen, 2009). We found when using Cohen's (1992) effect size guidelines of 0.1, 0.3 and 0.5 for small, moderate, and large correlations respectively that the associations between the style and the total emotional content of parental reminiscing were moderate; although, perhaps due to our limited statistical power, did not reach significance ( $p < .10$ ). In other words, parents who engaged their children in high- rather than low-elaborative reminiscing may have manifested a tendency, albeit relatively weak, to also talk more about emotion during those conversations, yet further research is required to clarify this finding.

As our second aim, we investigated the nature of the associations between the style and content of parents' reminiscing and their children's understanding of emotion. Parents' explanations of emotion causes were associated with children's emotion knowledge, whereas total parent emotion talk was not (note although past research has found mixed evidence for differences in the association between emotion talk and knowledge as a function of event valence, see Laible, 2004a, b, we found a similar pattern of correlations for happy, sad, angry and scary events and therefore collapsed the analyses). This finding suggests that, notwithstanding the way in which emotion content is measured (as a proportion of total content or simply summed), emotion talk overall was less important for emotion knowledge development than was the way in which emotions were discussed. Whereas emotion labels

and attributions tell children only that an emotion state has occurred, causal explanations provide children with the opportunity to internalise socially relevant information about why emotion states occur and what situational factors might predict them (Cervantes & Callanan, 1998). Of course, statistical insignificance does not indicate the magnitude of a relationship, and the weak- to moderate associations between attribution and consequence references and emotion knowledge may reach significance with greater participant numbers (and thus, greater statistical power). Notwithstanding this possibility, however, it is clear when considering the correlation coefficients as a marker of magnitude that even should other variables have also been significantly associated with emotion knowledge, causes nonetheless show the strongest association with emotion knowledge of any emotion talk variable.

Noteworthy was our finding that high- but not low-elaborative utterances were also associated with emotion knowledge. Indeed, notwithstanding the association between emotion cause references and emotion knowledge discussed above, elaboration is as important as emotion cause references when other factors are also taken into account: preliminary regression analysis revealed that children's age and parents' high elaborations and total utterances each predicted children's emotion knowledge, independent of the other factors entered in the model, but emotion cause references did not. When a modified parent elaboration variable was used, such that only elaborations of factual and not emotional material were counted, both parents' high elaborations and their emotion cause references predicted emotion knowledge. Elaboration and children's emotion knowledge may be strongly associated because any rich language use focusing on experiences that are removed in time and space fosters children's understanding of mental representation and mental states, including emotions (Reese & Cleveland, 2006; see also Pons et al., 2003). However, future research should focus not only on children's understanding of emotions, but also their understanding of beliefs and desires, and of the nature

of memory itself.

Given our small sample and its monocultural composition, these current findings provide a springboard not only for replication with a larger sample, but also for exploration in non-European cultural groups. In collectivist cultures such as Chinese, parents have been found to focus more strongly on promoting behavioural norms than on explaining the causes of a child's emotions during reminiscing conversations, and these differing, culturally-driven practices are reflected in the way that children acquire an understanding of emotion (e.g. Wang, 2008). In cultures with a strong oral tradition, such as New Zealand Māori, a different pattern is likely. In particular, Māori relative to Pākehā mothers have been found to be more elaborative when discussing significant life events (Reese, Hayne & MacDonald, 2008). If Māori mothers capitalise on these discussions by elaborating on and explaining the emotional aspects of the event, their children may in turn develop more sophisticated emotion knowledge than their European counterparts.

In conclusion, despite the limitation of a small, monocultural sample and consequent preliminary nature of our findings, we nonetheless extend previous research by focusing on different kinds of emotion talk; thus highlighting the strong, important associations of the way in which parents reminisce with their children, and the multiple pathways by which children develop an understanding of emotion during reminiscing.

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