

Representation of the inner self in autobiography: Women's and men's use of internal states language in personal narratives

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Adult women and men differ in the affective qualities of their autobiographical reports. In the present study, we tested whether gender differences in emotional content are apparent in memories of both the remote past and the recent past, as well as whether they extend to internal states other than emotion. A total of 48 women and 30 men provided written accounts of four events from early in life (events from before age 7) and four events from later in life (events from age 7 or later). The narratives were coded for mention of emotions, cognitions, perceptions, and physiological states. Women used more emotion terms in their descriptions of events from later in life, relative to men; across life phases, similar trends were observed for cognition and perception terms, but not for physiological states terms. The category of internal states terms was found to be more coherent for women than for men. Results are consistent with suggestions that females and males experience differential socialisation regarding expression of internal states.

Memories of past experiences are an important part of our lives: It is through them that we identify ourselves and maintain continuity of self over time. We build relationships by sharing with others experiences from our pasts and by listening to memories that others share with us. Women and men alike talk about past experiences on a frequent basis. A common and salient characteristic of autobiographical reports is their emotional content. Whether the subject of research is children's memories of their experiences (e.g., Fivush & Kuebli, 1997), adults' recollections of childhood experiences (e.g., Howes, Siegel, & Brown, 1993), or adults' recollections of more recent autobiographical events (e.g., West & Bauer, 1999), emotion is well represented in reports of past experience. Also represented in

the literature on autobiographical memory are findings of gender differences in reference to emotional states: Girls and women refer to their own and others' emotions more frequently than do boys and men (see Fivush, 1998, for a review). In the present research we investigated whether gender-related differences (a) are apparent in adults' recollections of remote as well as recent events, and (b) extend to internal states categories other than emotion. In addition, we examined the patterns of interrelation among different internal states categories for women and for men. The investigation informs as to the dimensions of similarity and difference in women's and men's autobiographies. In so doing, it provides insight into the nature of gender differences in personal memory.

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When asked to recount life events, relative to men, women tend to provide narratives that are longer, more detailed, and more vivid (e.g., Friedman & Pines, 1991; see Buckner & Fivush, 1998, 2000, for reviews). One of the features that makes women's narratives more vivid is reference to the emotional states and reactions of the actors in the event. That is, women tend to include more emotional content in their autobiographical memories, relative to men (Davis, 1991; cited in Fivush, 1998). There also are suggestions in the literature that emotion-laden memories are more readily available to women than to men. For example, Davis (1999) found that when asked to recall memories from their childhoods (defined as up to 14 years of age), women recalled more emotional memories than did men. Moreover, they needed less time to report their memories, relative to men. The difference was unique to emotion-laden memories: Adult women and men did not differ in the number of non-emotional memories they recalled. Fujita, Diener, and Sandvik (1991) found that women's advantage in recall of emotional memories extended to events with both positive and negative valence: Women recalled both more happy and more unhappy events, relative to men (see also Davis, 1999). These findings are consistent with accounts of gender differences in emotionality more broadly. Relative to men, women are more emotional overall, they are more emotionally expressive, and they report being emotionally stimulated by a larger variety of interpersonal settings (e.g., Allen & Haccoun, 1976; see Davis, 1999, for a review).

Gender differences in the emotional content of autobiographical memories have also been found in children's accounts of the experiences of their lives. In their very earliest contributions to conversations about past events, girls and boys do not differ on the dimension of emotionality. By the age of 6, however, in recounting past events, girls use both a greater number and greater variety of emotion words, relative to boys (Adams, Kuebli, Boyle, & Fivush, 1995; Kuebli, Butler, & Fivush, 1995). There is reason to believe that this pattern emerges at least in part in response to socialisation by parents. In the context of conversations between parents and their children about past experiences, mothers and fathers use a greater number and variety of emotion terms with their daughters than with their sons (Adams et al., 1995). Fivush (1998) and her colleagues have suggested that because girls hear and come to use a larger and more varied vocabulary for recounting emotional

experiences, they may come to understand past emotions as being more personally meaningful, think about them more often, and view their own and others' past experiences as more emotionally diverse than do boys (e.g., Fivush & Kuebli, 1997; Reese, Haden, & Fivush, 1996).

The possibility that adult women and men have different "relationships" with emotion in their autobiographies at least in part as a function of differential childhood socialisation raises a number of intriguing questions. One is the extent to which gender differences in emotionality pervade the entire corpus of autobiographical memories. Whereas attention has been focused on differential prevalence of emotion in the memory narratives provided by young girls and young boys (see Fivush, 1998; Fivush & Kuebli, 1997, for reviews), there actually has been little research on the prominence of emotional content in adults' recall of personal experiences (see West & Bauer, 1999, for discussion) and even less research on possible gender differences in the emotional content of autobiographical reports of adult women and adult men. Indeed, as noted by Davis (1999), with the exception of the possibility that women have memories of events from earlier in life than do men, the issue of possible gender differences in adults' autobiographical memories has been largely ignored.

The limited research that has been conducted on possible gender differences in adults' autobiographical reports has focused on adults' memories of their childhoods (Buckner & Fivush, 2000; Davis, 1999). Thus, it is not known whether there is equal representation of emotional content in the later autobiographical narratives of adult women and adult men. Moreover, because researchers rarely ask for autobiographical reports from more than one life phase (i.e., attention has been focused either on memories from childhood or on memories from adulthood), it is not known whether the distribution of emotional content in adults' memory reports changes across life phases. Although West and Bauer (1999) and Weigle and Bauer (2000) included reports of both early and later autobiographical memories by adult women and adult men, because the data for women and men were reported separately and not directly compared (West & Bauer) and because of small sample sizes that did not permit examination of possible gender differences (Weigle & Bauer), neither afforded a test of the question. As a result, at present, it is not known whether gender differences in emotional content of personal memory

narratives are apparent only in adults' recollections of events from the more distant past, or whether the difference extends to adults' recollections of the more recent past. In the present research, we obtained narratives about recent memories and about memories from the remote past, from the same adult participants. This permits direct evaluation of the pervasiveness of gender differences in emotional content across the entire autobiography.

The second question addressed in the present research is whether gender differences extend to internal states categories other than emotion. Reference to the emotional states and reactions of actors in an event is not the only way to make an account more detailed or vivid. In addition to emotion, actors experience cognitions, perceptions, and physiological states. These internal states may be just as salient as emotional states. Whereas adults include information about these other internal states in their narratives (e.g., Howes et al., 1993; West & Bauer, 1999), there apparently have been no investigations of possible gender differences in frequency of inclusion of internal states other than emotion. This is a potentially important omission because, just as are emotions, cognitions, perceptions, and physiological states are excellent candidates for socialisation. Like emotions, these internal states cannot be directly observed, they may be fleeting, they are sometimes conflictual, and they often require interpretation and evaluation. It is not unreasonable then to expect that just as children are tutored in the interpretation of their own and others' emotional states, they also receive implicit and perhaps explicit "instruction" in the interpretation of their own and others' cognitive, perceptual, and physiological states. Indeed, sensitivity to the full range of internal experience, rather than to emotional reaction alone, would facilitate important goals of reminiscing, namely, to further connections and relationships with others (e.g., Buckner & Fivush, 2000) and to forge explicit links between personal memories and self concept (Fivush, 1998). To investigate whether gender differences in autobiographical narrative extend to a wider range of internal states, or are unique to the internal state of emotion, in addition to emotions, we coded adults' narratives for cognitions, perceptions, and physiological states. Following the logic outlined earlier, we asked the question in the context of adults' recollections of events from the recent as well as the remote past.

The suggestion that a range of internal states, not just emotion, may be differentially represented in the autobiographical narratives of adult women and men raises a third important question: What is the relation between inclusion of emotions in narrative descriptions and inclusion of cognitions, perceptions, and physiological states? Do individuals who incorporate emotional state information into their narratives also incorporate information about the actors' other internal states? If emotion plays a unique role in narrative, then there is no reason to expect individuals to differ from one another on a broader dimension that includes other internal states. If, however, emotion is but one in a larger category of experiences, all of which are woven into the texture of a narrative, then systematic variability across internal states categories would be expected. We investigated this question by examining the pattern of intercorrelation across internal states categories.

Employing the free-recall methodology created by Howes et al. (1993), in the present research we asked adult participants to provide written narratives of four memories of events from early in life and four memories of events from later in life. Following West and Bauer (1999), "early" memories were defined as those resulting from events that took place before the age of 7; "later" memories were defined as those resulting from events that occurred at age 7 or after. We selected the age of 7 as the division between early and later memories in consideration of the phenomenon of infantile or childhood amnesia: Among adults, there is a relative paucity of verbally accessible memories from before age 3–3½; between 3½ and 7, the number of accessible memories is smaller than the number that would be expected based on forgetting alone; beginning at age 7, an adult-like distribution of memories is assumed (see West & Bauer, 1999, for a review). Moreover, by age 7, gender-related differences in children's autobiographical reports are readily apparent (Buckner & Fivush, 1998; Fivush & Kuebli, 1997). We coded the narratives for mention of emotions, cognitions, perceptions, and physiological states. We used the resulting data to address the questions of whether (a) gender-related differences in use of internal states terms are differentially present in narratives about events from the recent compared with the remote past, (b) gender-related differences in use of internal states terms extend beyond emotions to cognitions, perceptions, and physiological states, and (c) use of internal states terms is correlated across categories. Finally, to address the

possibility that any observed gender differences in the prevalence of internal states terms in the autobiographical narratives of women and men are due to differences in the types of events about which they reported, we asked participants to rate the events on a number of potentially significant dimensions (e.g., personal significance and affective intensity of the event).

METHOD

Participants

A total of 48 women and 30 men participated. The female participants ranged in age from 19–47 years, with a mean age of 24 years; the male participants ranged in age from 19–31 years, with a mean age of 24 years. The participants were recruited in two ways: (a) 51 undergraduate students (48 women, 3 men) participated as part of a class project, and (b) an additional 27 male undergraduate and graduate students and non-students participated in response to announcements in classes and word of mouth. Of these participants, 17 were compensated with class credit; the remaining 10 participants were compensated with a \$10.00 gift certificate to a local merchant. Portions of the data from all of the women and 15 of the men were reported in West and Bauer (1999; Experiments 1 and 2, respectively). The present report is an analysis of unique aspects of those data, and the first report of the data from 15 additional male participants.¹ An additional 12 women and 1 man participated but were

¹The female and male participants were recruited in somewhat different ways because the undergraduate student body that served as the original source of participants, namely the Institute of Child Development, University of Minnesota, is overwhelmingly female. As a result, few male participants were available to be recruited through departmental classes. Although many of the males were recruited from sources other than that from which the females were recruited, the two gender groups were drawn from the same population. Moreover, the 15 males recruited for the present study were drawn from the same population as the 15 males whose data were included in West and Bauer (1999). All of the female participants were undergraduate students at the time of the study; they were at various stages of their baccalaureate careers. Of the males, 27 were undergraduate students ($n = 25$) or graduate students ($n = 2$) at the time of the study. The remaining three male participants were recent college graduates. The mean age of the female participants was 24 years (range = 19–47). The mean age of the males included in West and Bauer (1999) was 24 years (range = 20–29 years); the 15 additional males recruited for the present study had a mean age of 24.2 years (range = 19–31). Thus, the female and male participants were comparable to one another in age and level of educational attainment; the two subgroups of males likewise were comparable to one another on these dimensions.

not included in the final sample because they did not follow the instructions or they turned in incomplete data. Most of the participants were Caucasian. The larger population from which they were drawn includes individuals from diverse socioeconomic backgrounds.

Materials and procedure

All participants were asked to provide handwritten reports of eight personal memories: four of events that occurred before the age of 7 years, and four of events that occurred at age 7 years or later. Participants were advised that whereas their reports would remain confidential, they should choose memories they were comfortable sharing. No further restrictions on the selection of memories were imposed.

The materials and procedures for the participants from West and Bauer (1999) were somewhat different from those for the participants recruited for purposes of the present study. First, the 63 participants in West and Bauer were asked to report their memories over a 2-week interval. At the beginning of the first week, they were given instructions to report on two memories of events from before the age of 7 years and two memories of events from the age of 7 years or later. For each memory, the participants were given a sheet of paper, blank with the exception of the instruction to report a memory of an event from before the age of 7 years or the instruction to report a memory of an event from age 7 years or later. Participants completed the narratives at their leisure, over the course of 1 week. Upon return of the first set of four narratives, the participants were given instructions to report on two more memories of events from before the age of 7 years and two more memories of events from age 7 years or later (for a total of four memories of events from before the age of 7 years and four memories of events from the age of 7 years or later). Again, participants had 1 week in which to complete the narratives. The 15 participants recruited anew for the present analysis were given only one set of instructions, in which they were asked to report on four memories of events from before the age of 7 years and four memories of events from the age of 7 years or later. The participants were given 2 weeks to provide the narratives. In both samples, the order in which participants were requested to report early and later memories was counterbalanced.

The second difference in treatment of the participants was that in West and Bauer (1999), for

each of the memories reported in the second week, the participants were asked to complete a questionnaire. The questionnaire was derived from Howes et al. (1993) and consisted of “yes” or “no” answers to questions about the recall of details, colour, spatial locations, thoughts, spoken words, and the locale of the event. The questionnaire was given only for the second set of narratives to permit within-participant examination of memories reported without any specific cues (memories reported during Week 1) and memories reported with the specific cues provided by the questionnaire (memories reported during Week 2). Because West and Bauer found no substantive effects of the questionnaire (see West & Bauer, 1999, for details), the 15 male volunteers recruited specifically for the present study were not asked to complete it.

After recording their memories, all of the participants filled out an evaluation form for each memory reported. They were requested to indicate their approximate age at the time of the event, and their perspective on it (i.e., if they remembered the event as they experienced it [1st person] or as if they were watching the event happen to somebody else [3rd person]). They also used 5-point scales to rate each event on their confidence in the details provided, the frequency with which the event had been discussed, the personal significance of the event, the visual versus propositional or “verbal” qualities of the event, the uniqueness of the event, and the affective intensity of the experience (see Appendix A for specific questions). Participants’ responses to these questions originally were used to determine whether memories of events from early and later in participants’ lives were evaluated differently by them (see West & Bauer, 1999). In the present study, they were used to determine whether the events on which women and men reported differed in ways that might affect use of internal states language (see *Ratings of reported events and memories*).

Coding

All internal states terms in the narratives were coded into one of four, mutually exclusive categories: (1) emotion (e.g., *happy*, *sad*), (2) cognition (e.g., *thinking*, *wondering*), (3) perception (e.g., *see*, *hear*), and (4) physiological (e.g., *tired*, *hungry*). Terms were categorised in accord with their meaning in the narrative. For example, in the utterance “She helped me *see* what was really

going on”, *see* was categorised as a cognition term (i.e., meaning to come to understanding), whereas in the utterance “I was able to *see* the deer in the road”, *see* was categorised as a perception term. Examples from each category are provided in Appendix B. In instances in which they were part of the narrative itself, metacognitive terms were coded (e.g., “I *think* I was really upset at the time”). Comments outside the narrative (e.g., “I *thought* about this experience just recently”) were not coded. In addition, emotion terms only were coded for valence. Valence refers to whether the term was positive (e.g., *love*), negative (e.g., *angry*), or neutral (e.g., *not sad*). Allowing for the possibility that men, in particular, might imply emotional states, rather than represent them explicitly, emotion terms were further categorised as explicit (e.g., “I was happy”, “I felt sad”) or implied (e.g., “I laughed”, “I cried”). For all categories, the terms were evaluated for experiencer or the person (self or other) to whom the internal state was attributed. Separate calculations then were made of the total number of terms in each category for events from early in life and events from later in life. Finally, we derived a total internal states score by summing the number of internal states terms in each category.

All of the narratives were coded by the third author and 19 (24%) of the narratives were independently coded by the second author. Reliability on classification by internal states category was 94% (range = 85–98%); reliability on classification of emotion terms by valence was 98% (range = 88–100%); reliability on classification of emotion terms as explicit or implied was 100%. We did not examine reliability on the variable of experiencer because virtually all of the internal states were attributed to the respondent herself or himself. As a result, there was not enough information about use of internal states terms to refer to others’ states to make analysis meaningful. For this reason, the variable of experiencer was not considered further.

RESULTS

General characteristics of the events and narratives

A total of 624 memory narratives were obtained: 308 narratives about events from before age 7 years, and 316 narratives about events from age 7 years or later. Three of the narratives provided in response to the request to describe events that

happened “before the age of 7” were identified by participants as having taken place at age 7 years; one of the events reported in this category was estimated to have occurred when the participant was age 10 years. Because in each case the participants indicated that they reported on these events because they could not remember any other events that fitted the category, these events were accepted as “early” memories. Even with these later early memories included, the estimated mean ages of the participants at the time the events took place were well within the requested range, with means of 4.57 and 5.12 years ($SDs = 1.01$ and 2.92 ; ranges in estimated age at the time of events reported $1\frac{1}{2}$ – $6\frac{1}{2}$ and 1–10 years) for women and men, respectively; the estimated mean ages of the participants at the time of events reported as later memories were 14.50 and 11.76 years ($SDs = 4.71$ and 3.77 ; ranges in estimated age at the time of events reported 7–32 and $7\frac{1}{2}$ –28 years) for women and men, respectively. A 2 (gender: female, male) $\times$ 2 (phase: early [before age 7], later [age 7 or later]) mixed analysis of variance (ANOVA; phase is a within-subject variable) revealed that, overall, women reported on events from later in life than did men: $F(1, 76) = 4.05, p < .05, Ms = 9.54$ and 8.44 years ($SDs = 6.04$ and 4.73), respectively. However, the main effect was qualified by the interaction with phase: $F(1, 76) = 8.28, p < .01$. Women and men did not differ in their average estimated ages at the time of events on which they reported for early memories. In contrast, the average estimated age of participants at the time of events reported for later memories was later for women than for men: $F(1, 76) = 7.25, p < .01$ (see *Ratings of reported events and memories* for discussion of analyses of the balance of the ratings provided by participants).

The events on which participants reported included (a) transitional or life-threatening events (e.g., birth of a sibling or one’s own child, death of a loved one or beloved pet, and one’s own or another’s illness or injury); (b) special occasions (e.g., getting a pet, one’s own or another’s engagement or wedding, birthdays, and holidays); (c) personal or interpersonal conflicts (e.g., fears and being afraid, and fights or altercations with others); and (d) travel and recreational activities (e.g., vacations, participation in games or sports, and observations of sporting events). The full range of event types was represented in each gender group. The written narratives in which the participants described these events varied in

length from 1 sentence to 36 sentences. A 2 (gender: female, male) $\times$ 2 (phase: early, later) mixed ANOVA on narrative length revealed that, across life phases, women provided longer narratives relative to men: $F(1, 76) = 3.92, p = .05, M$ number of sentences = 8.85 and 7.38 ($SDs = 3.96$ and 3.74), respectively. In addition, across gender groups, participants’ narratives about events from before the age of 7 years were shorter than their narratives about events from age 7 years and later: $F(1, 76) = 20.14, p < .0001, M$ number of sentences = 7.21 and 9.36 ($SDs = 2.64$ and 4.67), respectively. Gender and phase did not interact.

Frequency of use of internal states terms

To evaluate the use of internal states terms as a function of gender and phase of life from which events were drawn, we conducted 2 (gender: female, male) $\times$ 2 (phase: early, later) mixed ANOVAs for the total number of internal states terms used and for each internal states category. Because (a) across life phases, women provided longer narratives than men, and (b) across gender groups, participants provided shorter narratives about events from earlier in life relative to events from later in life, in addition to the ANOVAs, we conducted analyses of covariance (ANCOVAs) with narrative length controlled. For emotion terms only, we also conducted a 2 (gender) $\times$ 2 (phase) $\times$ 3 (valence: positive, negative, neutral) $\times$ 2 (mode of conveyance: explicit, implied) mixed analysis of variance to determine the distribution of emotion terms as a function of valence and whether the emotional state was described explicitly or whether it was implied (valence and mode of conveyance are within-subject variables). The total number of internal states terms used by participants and the numbers of terms used in each internal states category are provided in Table 1. Analyses for total internal states terms and for each category are discussed in turn.

Total internal states terms. The Gender $\times$ Phase analysis of variance revealed a main effect of gender: $F(1, 76) = 5.98, p < .02$. Across phases, women used more internal states terms than men. Analysis of the Gender $\times$ Phase interaction, $F(1, 76) = 3.96, p = .05$, revealed that the gender difference was confined to reports of memories of events from later in life. That is, in their reports of memories from earlier in life, the total number of

TABLE 1
Use of internal states language by women and men in autobiographical memories from early and later life phases

Category/Life phase	Participant group					
	Women		Men		Across gender groups	
	Mean	(SD)	Mean	(SD)	Mean	(SD)
<i>Total</i>						
Early	22.98	(11.50)	19.67	(8.09)	21.71	(10.39)
Later	27.98	(16.56)	19.10	(8.19)	24.56	(14.54)
Across phases	25.48	(14.40)	19.38	(8.08)	23.13	(12.68)
<i>Emotion</i>						
Early	6.52	(5.51)	5.10	(3.29)	5.97	(4.81)
Later	9.04	(6.18)	4.63	(4.16)	7.35	(5.87)
Across phases	7.78	(5.96)	4.87	(3.73)	6.66	(5.39)
<i>Cognition</i>						
Early	13.42	(7.37)	11.80	(5.84)	12.80	(6.83)
Later	14.25	(9.18)	11.40	(5.41)	13.15	(8.03)
Across phases	13.83	(8.29)	11.60	(5.59)	12.97	(7.43)
<i>Percept</i>						
Early	2.63	(2.45)	2.23	(1.86)	2.51	(2.34)
Later	3.92	(2.97)	2.43	(2.33)	3.35	(2.82)
Across phases	3.27	(2.79)	2.38	(2.09)	2.93	(2.57)
<i>Physio</i>						
Early	0.42	(0.90)	0.43	(0.68)	0.42	(0.81)
Later	0.77	(1.42)	0.63	(1.10)	0.72	(1.30)
Across phases	0.59	(1.19)	0.53	(0.91)	0.57	(1.09)

internal states terms mentioned by women and men did not differ. It was only in their reports of memories of events from the more recent past that women included more internal states terms, relative to men: $F(1, 76) = 7.46, p < .01$. As implied by this effect, whereas the number of internal states terms used by men in their reports of events from earlier and later life phases did not differ, women included a larger number of internal states terms in their reports of events from later in life than in their reports of events from earlier in life: $F(1, 47) = 6.35, p < .02$. Although diminished in their robustness, these effects remained when, via ANCOVAs, we controlled for narrative length ($ps < .05$). Whether or not narrative length was controlled, the main effect of phase was not reliable.

Emotion terms. The Gender $\times$ Phase analysis of variance revealed a main effect of gender: $F(1, 76) = 7.85, p < .006$. Across life phases, women used more emotion terms than men. Analysis of the Gender $\times$ Phase interaction, $F(1, 76) = 6.26, p < .02$, revealed an effect parallel to that observed for the total number of internal states terms used by women and men. Specifically, in their reports of memories from earlier in life, the total number

of emotion terms mentioned by women and men did not differ. It was only in their reports of memories from the more recent past that women included more emotion terms, relative to men: $F(1, 76) = 11.87, p < .001$. Whereas the number of emotion terms used by men in their reports of events from earlier and later life phases did not differ, women included a larger number of emotion terms in their reports of later events than in their reports of earlier events: $F(1, 47) = 10.30, p < .002$. These effects remained robust when, via ANCOVAs, we controlled for narrative length ($ps \leq .02$). Whether or not narrative length was controlled, the main effect of phase was not reliable.

To determine whether participants used positive, negative, and neutral emotion terms with differential frequency, and whether they made differential use of explicit and implied mentions of emotional state, we conducted a 2 (gender) $\times$ 2 (phase) $\times$ 3 (valence) $\times$ 2 (mode of conveyance) analysis of variance. Descriptive statistics for each cell are provided in Table 2. Because effects of gender and phase have already been described, we present only effects involving valence and mode of conveyance of emotion. The main effect of valence was significant: $F(2, 152) = 93.94, p < .001$.

TABLE 2
Use of emotion terms by women and men as a function of life phase, valence, and mode of conveyance

Life phase/Valence/ Mode of conveyance	Participant group					
	Women		Men		Across gender groups	
	Mean	(SD)	Mean	(SD)	Mean	(SD)
<i>Early memories</i>						
<i>Positive</i>						
Explicit	1.40	(1.41)	1.47	(1.28)	1.42	(1.35)
Implied	0.35	(0.73)	0.30	(0.50)	0.33	(0.68)
<i>Negative</i>						
Explicit	2.79	(2.35)	2.23	(1.85)	2.58	(2.18)
Implied	1.85	(2.78)	0.97	(1.38)	1.51	(2.37)
<i>Neutral</i>						
Explicit	0.02	(0.14)	0.10	(0.31)	0.05	(0.22)
Implied	0.10	(0.37)	0.03	(0.18)	0.08	(0.31)
<i>Later memories</i>						
<i>Positive</i>						
Explicit	2.77	(2.61)	1.37	(1.54)	2.23	(2.35)
Implied	1.27	(1.80)	0.43	(0.77)	0.95	(1.54)
<i>Negative</i>						
Explicit	3.63	(2.94)	1.97	(2.33)	2.99	(2.83)
Implied	1.21	(1.80)	0.70	(0.99)	1.01	(1.55)
<i>Neutral</i>						
Explicit	0.10	(0.37)	0.13	(0.43)	0.12	(0.39)
Implied	0.06	(0.24)	0.03	(0.18)	0.05	(0.22)

.0001. Overall, negative emotion terms ($M = 2.02$, $SD = 2.40$) were used more frequently than positive emotion terms ($M = 1.23$, $SD = 1.73$), which in turn were used more frequently than neutral emotion terms ($M = 0.07$, $SD = 0.30$) (Tukey, $p < .05$). Analysis of the Gender $\times$ Valence interaction, $F(2, 152) = 4.83$, $p < .009$, revealed this pattern for both women and men. Rather than qualifying the pattern for valence, the interaction qualified the main effect for gender. Specifically, more frequent use of emotion terms by women relative to men was found for both positive and negative terms, $F_s(1, 76) = 6.42$ and 6.40 , $ps < .02$, respectively, but not for neutral emotion terms, $M_s = 2.90$ and 1.78 ($SD_s = 3.01$ and 1.64) for women and men for positive terms; $M_s = 4.74$ and 2.93 ($SD_s = 4.16$ and 2.61) for women and men for negative terms.

Valence also interacted with phase: $F(2, 152) = 6.50$, $p < .002$. Reports of events from earlier in life included more mention of negative emotion ($M = 4.09$, $SD = 3.79$) than positive emotion ($M = 1.76$, $SD = 1.51$), which in turn was more frequent than neutral emotion ($M = 0.13$, $SD = 0.37$): $F(2, 154) = 67.96$, $p < .0001$ (Tukey, $p < .05$). In reports of events from later in life, the number of negative

and positive emotion terms did not differ, $M_s = 4.00$ and 3.18 ($SD_s = 3.70$ and 3.25), respectively; both negative and positive emotion terms were more frequently represented than neutral emotion terms ($M = 0.17$, $SD = 0.47$): $F(2, 154) = 49.08$, $p < .001$ (Tukey, $p < .05$).

The 4-way ANOVA also revealed a main effect of mode of conveyance: $F(1, 76) = 76.23$, $p < .0001$. Participants made more explicit references to emotion ($M = 1.56$, $SD = 2.16$) than implied references to emotion ($M = 0.66$, $SD = 1.45$). Analysis of the significant Valence $\times$ Mode of conveyance interaction, $F(2, 152) = 28.86$, $p < .0001$, revealed this effect in the categories of positive and negative emotion, $F_s(1, 77) = 59.67$ and 45.72 , $ps < .0001$, but not in the category of neutral emotion. Finally, the Phase $\times$ Mode of conveyance interaction was qualified by the 3-way interaction involving gender: $F(1, 76) = 5.15$, $p < .03$. For women, the Phase $\times$ Mode of conveyance interaction was significant: $F(1, 47) = 13.46$, $p < .001$. Women used a larger number of explicit references to emotion in their reports of later life events than in their reports of earlier life events, $M_s = 2.17$ and 1.40 ($SD_s = 2.72$ and 1.94), respectively: $F(1, 47) = 16.98$, $p < .0002$. In con-

trast, the number of implied references did not differ in women's early and later memory narratives, $M_s = 0.77$ and 0.85 ($SD_s = 1.83$ and 1.57), respectively. For men, there was no change in frequency of use of either explicit or implied reference to emotion across the life phases.

Cognition terms. Although there was a trend towards greater use of cognitive states terms by women than by men (see Table 1 for cell means), the main effect of gender was not significant: $F(1, 76) = 2.20$, $p = .14$. Moreover, the trend disappeared when narrative length was controlled via ANCOVA. Whether or not narrative length was controlled, neither the main effect of phase nor the interaction of Gender $\times$ Phase was statistically significant.

Perception terms. The main effect of gender fell just below the conventional level of statistical significance: $F(1, 76) = 3.81$, $p = .055$ (see Table 1 for cell means). Across life phases, women tended to use more perception terms than men. The main effect of phase also approached significance: $F(1, 76) = 3.67$, $p < .06$. The trend was for greater use of perception terms in narratives about events from later in life relative to narratives about

events from earlier in life. The trends were mediated by narrative length, however: With length controlled via ANCOVA, both trends disappeared. The interaction of Gender $\times$ Phase was not significant, whether or not narrative length was controlled.

Physiological states terms. Overall, the narratives contained few mentions of physiological states (see Table 1 for cell means). The Gender $\times$ Phase ANOVA revealed neither main effects of the variables nor an interaction of them. No effects emerged when narrative length was controlled via ANCOVA.

Ratings of reported events and memories

After providing the written accounts of their memories, participants were asked to rate each event on a number of dimensions. For each dimension, we subjected the ratings to 2 (gender: female, male) $\times$ 2 (phase: early, later) mixed ANOVAs (phase is a within-subject variable). Descriptive statistics for the ratings are provided in Table 3.

TABLE 3
Means (and standard deviations) for ratings of early and later memories by women and men

Rating/Life phase	Participant group					
	Women		Men		Across gender groups	
	Mean	(SD)	Mean	(SD)	Mean	(SD)
<i>Confidence in details</i> (5 = very confident)						
Early	3.65	(0.81)	3.72	(0.75)	3.68	(0.78)
Late	4.64	(0.36)	4.39	(0.52)	4.54	(0.44)
<i>Frequency of discussion</i> (5 = frequently)						
Early	1.94	(0.62)	1.83	(0.58)	1.90	(0.60)
Late	2.49	(0.83)	2.18	(0.82)	2.37	(0.83)
<i>Personal significance</i> (5 = very)						
Early	2.57	(1.01)	2.71	(0.70)	2.63	(0.90)
Late	3.56	(0.92)	3.18	(0.96)	3.41	(0.95)
<i>Visual/propositional</i> (1 = visual; 5 = propositional/verbal)						
Early	2.49	(0.74)	2.30	(0.94)	2.42	(0.82)
Late	2.06	(0.95)	2.12	(0.90)	2.08	(0.93)
<i>Uniqueness of event</i> (5 = very)						
Early	3.95	(0.94)	4.00	(0.71)	3.97	(0.85)
Late	4.29	(0.71)	4.19	(0.63)	4.25	(0.68)
<i>Affective intensity</i> (5 = high)						
Early	3.01	(0.85)	3.06	(0.78)	3.03	(0.82)
Late	3.77	(0.70)	3.54	(0.87)	3.68	(0.78)

There were no main effects for gender. That is, across life phases, women and men did not differ in their ratings of the events on which they reported. There were main effects of phase for all six of the ratings: $F_s(1, 76) > 7.40$, $ps < .01$. Contrary to intuition, the participants rated their memories of events from earlier in life as more proposition or verbal and less visual, relative to their memories of later life events (see Table 3 for relevant means). In all other cases, participants gave higher ratings to events from later in life than to events from earlier in life.

The only significant Gender $\times$ Phase interaction was on participants' ratings of the personal significance of the events on which they reported: $F(1, 76) = 4.54$, $p < .05$. Analysis of the interaction by phase revealed no effects: Women's and men's ratings of the personal significance of the events on which they reported did not differ at either life phase. Analysis of the interaction by gender revealed main effects of phase for both gender groups: $F(1, 47) = 39.89$, $p < .0001$ and $F(1, 29) = 6.74$, $p < .05$, for women and men, respectively. Both gender groups rated events from later in life as more personally significant, relative to events from earlier in life (see Table 3 for relevant means); the difference in ratings was almost twice as large for women (difference = 0.99) than for men (difference = 0.47).

Finally, to allow for the possibility that women and men had different perspectives on the events on which they reported, we tallied the number of event memories that participants reported to experience in the first versus the third person. Women and men reported that 77% and 78% of their memories (respectively) were in the first person. Thus, there was no suggestion that women and men had different perspectives on the events on which they reported. Neither was there a suggestion that early and later memories were experienced in different perspective: 74% of early memories were described as being in the first person; 80% of later memories were described as being in the first person. There was no suggestion of a Gender $\times$ Phase interaction.

In summary, analyses of participants' ratings of their memories revealed a number of effects of life phase. The relative paucity of gender-related effects suggests that within a life phase, women and men reported on events that were roughly equivalent in terms of potentially important features such as significance, distinctiveness, and affective intensity. In addition, women and men

indicated the same perspective on the events on which they reported.

Patterns of correlation across categories and life phases

Intercorrelation among internal states categories. To determine the patterns of intercorrelation among the four different categories of internal states terms, we calculated Pearson product-moment correlations (a) for women and for men across life phases (i.e., across early and later memories), and (b) for women and for men at each life phase. The correlation coefficients are provided in Table 4.

Across life phases, there was a striking difference in the pattern of intercorrelation among the different internal states categories for women and for men. For women, use of internal states terms was highly intercorrelated. In addition to positive relations among use of emotion, cognition, and perception terms, there was a modest relation between use of emotion and physiological states terms ($p < .10$). The correlations between use of emotion and cognition terms and between use of cognition and perception terms remained significant in analyses that controlled for narrative length. In contrast, for men, although the relation between use of emotion terms and use of cognition terms approached significance ($p < .10$), there were no reliable relations. For men, the lack of interrelation in use of internal states terms was apparent in narratives from both life phases. Indeed, for men, the domain of internal states terms seemed to become less coherent over time: Whereas in reports of events from earlier in life there was both a modest relation between use of emotion terms and use of cognition terms ($p < .10$), and a significant relation between emotion and physiological terms, in narratives of later life events, there were neither significant relations nor trends. The patterns were unchanged in analyses in which we controlled for narrative length.

Whereas for men, the domain of internal states terms seemed to lose coherence over time, for women, the opposite pattern obtained: Women's use of internal states terms became more interrelated over time. In reports of early events, in addition to the positive relation between use of emotion terms and use of cognition terms, there was a modest relation between use of cognition terms and use of physiological states terms ($p < .10$). In narratives about later events, women's use

TABLE 4
Intercorrelations for women's and men's use of internal states terms across life phases and for each life phase separately

	<i>Internal states category by gender</i>					
	<i>Women (n = 48)</i>			<i>Men (n = 30)</i>		
	<i>Cognition</i>	<i>Perception</i>	<i>Physiological</i>	<i>Cognition</i>	<i>Perception</i>	<i>Physiological</i>
<i>Across life phases</i>						
Emotion	.59**	.31*	.26	.32	-.07	-.18
Cognition		.57**	.19		.09	-.02
Perception			.04			.05
<i>Early memories</i>						
Emotion	.39**	.01	.09	.35	.06	.41*
Cognition		.15	.25		.05	-.06
Perception			-.07			.02
<i>Later memories</i>						
Emotion	.68***	.44**	.24	.24	-.07	-.18
Cognition		.66***	.23		.15	.14
Perception			.14			.13

* $p < .05$; ** $p < .01$; *** $p < .001$.

of emotion, cognition, and perception terms was highly interrelated; use of emotion terms bore a modest relation to use of physiological states terms ($p < .10$). The relations remained even when narrative length was controlled.

Patterns of correlation across life phases. To determine whether women and men were consistent in their use of internal states terms in their reports of events from the different life phases, for each internal states category, we calculated Pearson product-moment correlations for frequency of use of terms in reports of early and later events. Women who used a large number of emotion terms in their reports of early life events also used a large number of emotion terms in their reports of later events: $r(46) = .57, p < .001$. In addition, women who made frequent mention of cognitive states in their reports of early events also made frequent mention of cognitive states in their reports of later events: $r(46) = .50, p < .001$. The correlation in use of emotion terms across life phases remained with average narrative length controlled (i.e., mean length of narrative across life phases); the partial correlation for use of cognition terms across life phases failed to reach statistical significance. There was not consistency in women's use of either perception or physiological states terms across life phases ($r_s < .20$). There was only one category of internal states terms on which men were consistent across life

phases: Men who used a larger number of cognitive states terms in their reports of early events also used a larger number of cognitive states terms in their reports of events from later in life: $r(28) = .65, p < .001$. The correlation remained with average narrative length controlled.

Correlations between use of internal states terms and ratings of events and memories

In strictly exploratory analyses, we calculated Pearson product-moment correlations to determine whether participants' ratings of the events on which they reported were predictive of the number of internal states terms they included in their narrative accounts. To reduce the number of tests performed, we conducted the analyses for the total number of internal states terms used, rather than for each internal states category separately. We examined the relations for early and later memories separately. For women, both the personal significance and affective intensity of early events proved predictive of inclusion of internal states terms in narratives about them: $r_s(46) = .35$ and $.45, p_s < .05$, respectively. In addition, the perceived uniqueness or distinctiveness of early events bore a modest relation to inclusion of internal states terms in narratives about them: $r(46) = .28, p < .06$. There were no other relations

between ratings of early events and frequency of use of internal states terms in descriptive narratives about them. There were no relations between women's ratings of the later events on which they reported and frequency of use of internal states terms to describe them.

The pattern of predictive relations for men was the mirror image of that for women. Specifically, there were no relations between men's ratings of their early life events and use of internal states terms to describe them. In contrast, men's ratings of their confidence in the details of the later life events on which they reported and the estimated frequency with which the events were discussed were negatively correlated with use of internal states terms to describe the events: $r_s(28) = -.36$ and $-.38$, $p_s < .05$, respectively. Thus, the more confident men were about the details of more recent life events and the more frequently the events were discussed, the fewer internal states terms men used in their narrative descriptions of the events. There were no other significant correlations between men's ratings of the events on which they reported and their use of internal states terms in descriptive narratives.

DISCUSSION

Adult women and men have been found to differ in the affective qualities of their autobiographical reports (e.g., Allen & Haccoun, 1976; Davis, 1999). Conceptually, gender differences in adults' personal narratives have been related to observed differences in the ways in which parents talk with their young children about emotions, and the ways that young girls and young boys incorporate emotional language into their own accounts of past events (e.g., Adams et al., 1995; Fivush, 1998; Kuebli et al., 1995). In the present research we explored whether in adults (a) differences in emotionality pervade the entire corpus of autobiographical memory, (b) gender differences extend to internal states categories other than emotion, and (c) the broader category of internal states language is differentially coherent in adult women and men.

Across the categories of emotion, cognition, perception, and physiological state, women were found to use more internal states terms than men. However, the effect was confined to narratives about events from later in life (i.e., from age 7 years and later); women and men did not differ in the frequency of use of internal states terms in

their reports of events from early in their lives (i.e., before the age of 7 years). The same pattern was found in examination of the individual category of emotion terms. That is, whereas women and men did not differ in their frequencies of mention of emotion terms in their narratives about early life events, relative to men, women included more emotion terms in their narratives about later life events. The effect obtained because men did not show an increase in the number of emotion terms in their narratives about later relative to earlier life events, whereas women did. In particular, in their narratives about later relative to earlier life events, women increased their frequency of explicit mention of emotion. Across life phases, women included both more positive and negative emotion terms, relative to men; women and men did not differ in their use of neutral emotion terms.

Women's and men's differential use of emotion terms in their narratives about life events clearly informs the first question that motivated the present research. Specifically, gender differences do not pervade the entire corpus of autobiographical narratives: they are most apparent in memories of events that occurred from age 7 years onwards. This finding is complementary to that obtained in the developmental literature. That is, in studies of use of emotion terms by young girls and young boys, researchers have found that gender differences emerge across the 40- to 70-month age range (e.g., Adams et al., 1995; Kuebli et al., 1995). Whereas at 40 months, girls and boys differ neither in the overall number nor in the diversity of emotion terms they use, by 70 months, girls use both a larger number and a wider variety of emotion terms, relative to boys. Thus, developmentally, gender differences in reference to emotional states emerge. In adulthood, they are apparent only in narratives about events from the time in life after girls and boys have begun to diverge in their patterns of reference to emotional states.

That gender differences in the frequency of use of emotion terms were not apparent in narratives about early life events reported by women and men may, at first glance, appear inconsistent with the results of Davis (1999). That is, in Davis, relative to adult men, adult women were found to have more ready access to emotion-laden memories of their childhoods. This implies that gender differences in emotional memories are apparent from early in life. It is important to note, however, that in Davis, an event from "childhood" was one

that occurred up to 14 years of age. In contrast, in the present study, "early" memories were of events that occurred up to 7 years of age; across women and men, the average age of "later" memories was 13.5 years of age. Effectively then, the life phases from which the childhood memories were drawn in the two studies were different, thereby precluding a direct comparison.

The second major question addressed was whether gender differences in the use of internal states language extend beyond emotion to include cognition, perception, and physiological states. On this question, the results of the present research may be viewed as somewhat equivocal. Whereas in the category of perception terms, there was a strong trend towards greater frequency of use by women than by men, the effect did not reach the conventional level of statistical significance ($p = .055$). A similar yet weaker trend was apparent in women's and men's use of cognition terms ($p = .14$). Perhaps due to low incidence of use overall, the category of physiological states failed to reveal even a trend in line with expectations of gender differences in use of internal states language. Clear trends in the categories of perception and cognition are consistent with the suggestion that internal states other than emotion are "candidates" for socialisation in childhood and beyond. That the effects did not reach statistical significance may indicate that the pressures that presumably contribute to gender differences in use of emotion terms are less salient for other internal states categories. In addition, that the trends disappeared when narrative length was controlled suggests that greater inclusion of perception and cognition terms in narratives by females relative to males is a byproduct of socialisation to produce longer narratives (see Fivush, 1998, for example, for evidence that parents are more elaborative in their conversations about past events with their daughters than with their sons). In future research, it will be important to determine whether, developmentally, differential socialisation of cognition, perception, and physiological states language is observed, and whether adult women and adult men differ in their use of these internal states terms in contexts other than autobiographical reminiscence.

It is noteworthy that significant differences in women's and men's use of emotion terms, and trends towards differential frequency of use of perception and cognition terms by adult women and men, obtained in the absence of any observable differences in the types of events on which

women and men reported. That is, with the exception of the average age of participants at the time of events from later in life (with women reporting on events that took place at later ages), we did not observe gender differences on any of the ratings that the participants provided of their life events. Thus, it was not the case that the events on which women reported were more personally significant, more unique, or of greater affective intensity, relative to those on which men reported. Nor did the gender groups differ in their confidence in the details of the events, the frequency with which the events had been discussed, or the visual versus propositional or "verbal" nature of the events. Moreover, it was not the case that men's less frequent use of emotion terms was due to their taking a more "distant" (i.e., third person) perspective on the events in their lives. While we acknowledge the null nature of these findings, because they serve to eliminate less interesting explanations for the results obtained, we stress them nonetheless. Rather than to features of the events themselves, we must look to other factors to help explain the observed gender differences.

The clear gender differences in the use of emotion terms by adult women and men in the present research, coupled with the trends towards differential use in the internal states categories of cognition and perception, are consistent with the suggestion that individuals in the two gender groups receive differential socialisation in the manner in which internal states are woven into personal narratives (e.g., Fivush, 1998). Although not a necessary corollary of this model, it is reasonable to expect that the implicit and even explicit tutoring implicated in this process would contribute to systematic variability in use of internal states terms across categories. We investigated this possibility by examining patterns of correlation across categories for women and for men, both across life phases and within each life phase. The analyses revealed striking differences in the coherence of the domain of internal states language for women and for men. For women, across life phases, use of internal states terms to describe emotions, cognitions, and perceptions was intercorrelated; the source of strength of intercorrelation was women's descriptions of events from later in life. Thus, the pattern "emerged" developmentally, just as women's greater use of emotion terms, relative to men, seemed to emerge. Whereas use of internal states terms by women was more consistent in narratives

about later than earlier life events, nevertheless there was continuity over time: Women who used a larger number of emotion and cognition terms to describe events from early in life also used a larger number of such terms in their descriptions of events from later in life. In contrast, for men, use of internal states terms across the categories of emotion, cognition, and perception was not intercorrelated, either across or within life phases. Over time, continuity in use of internal states language was apparent only in the category of cognition terms. Findings of differential levels of coherence of the domain of internal states language in adult women and men are “proof” of nothing. They are, however, wholly consistent with the suggestion that either early in development, throughout development, or both, females and males in Western society are permitted or even encouraged to differentially divulge their internal states as they discuss the events of their lives.

One final finding of the present research is worthy of discussion. In strictly exploratory analyses, we examined relations between participants’ use of internal states terms in their autobiographical narratives and their ratings of the events on which they reported. Consistent with the results of prior research (Weigle & Bauer, 2000; West & Bauer, 1999), the analyses revealed relatively few systematic relations. That is, by and large, the contents of adults’ memory reports were not related to their evaluations of the events that they described.² Indeed, for women, there were no relations between ratings of later life events and frequency of use of internal states terms to describe them. There were, however, intriguing relations between ratings of early life events and use of internal states terms. Specifically, the personal significance, affective intensity, and to some extent, the distinctiveness, of the early events were related to use of internal states terms in narratives about the events. It is noteworthy that the features that proved predictive of use of internal states language by women to describe their memories of events from early in life are

precisely those that both our “folk” and our formal theories of autobiographical memory development implicate in the preservation of such memories (see West & Bauer, 1999, for discussion). Moreover, these features are precisely those that would engender discussion about internal states, as “tutors” attempt to help children understand their strong reactions to unique events, and to clarify the significance of the events to children’s lives.

Whereas, for women, there were associations between ratings of events from early in life and internal states language to describe them, for men, there were no relations between ratings of early life events and use of internal states terms in narratives about them. Men’s confidence in the details of the later events on which they reported, and the frequency with which the events were discussed, were negatively correlated with use of internal states terms. Thus, the more confident men were about the details of the events on which they reported, and the more frequently they shared the events, the fewer internal states terms they used to describe the events. These results tempt two conclusions. The first is that the more certain men are about what actually happened in the event, the less need they have to include information about how the event made them feel or think: Objective detail substitutes for subjective evaluation. The second tempting conclusion is that as men talk about the events of their lives, they “strip” from their narratives both explicit and implied mention of how the event impacted them affectively or cognitively. Alternatively, men may more frequently talk about events that have fewer internal states associated with them. We acknowledge both the speculative nature of these interpretations and the moderate magnitude of the relations on which they are based (proportion of variance accounted for ranged from 12% to 20%). The findings nevertheless suggest the need for further research on relations between the clarity of memory and use of internal states language to describe the precipitating event, on changes in the use of internal states language over the course of repeated discussions of life events, and on the themes and types of events about which women and men choose to report (see Buckner & Fivush, 2000, for discussion of gendered themes in autobiographical reminiscing).

Finally, in evaluating the results of the present research it is important to keep in mind that we did not attempt to verify the accuracy of the

² We do not, at this time, have a compelling explanation for the lack of relation between the contents of adults’ memory reports and their evaluations of the events giving rise to them. That the events occurred in the past, whereas the ratings were made in the present, is one possible source of discrepancy. This and other potential explanations merit exploration, particularly in light of the methodological implications of relying on content versus ratings, when the two do not seem to be in strong accord.

memory narratives that our adult participants provided. As a result, it is possible that not all of the information reported by the participants was veridical. Although we acknowledge this feature of the design, we do not view it as a major limitation of the research. First, previous research has indicated that adults are accurate in their recall (e.g., Howes et al., 1993; Usher & Neisser, 1993). Second, the focus of the present research was participants' internal states, rather than the objective reality of the circumstances on which they were reporting. Nevertheless, in future studies, it would be desirable to obtain assessments of the accuracy of participants' reports of both earlier and later life events. As suggested by the relation between confidence and use of internal states terms by men to describe events from later in life, the degree of "match" between a participant's report and the way the event actually unfolded could prove predictive of the language used to describe the event.

In conclusion, the present research makes clear that adult women and men differ in their use of emotion terms to describe the events of their lives. Moreover, there are strong suggestions that the differences extend to the internal states category of perception, with weaker suggestion of extension to the category of cognition as well. Women's narratives about events from later in life were more saturated with emotion terms than were those of men; trends towards greater use of perception and cognition terms were a result of women producing longer narratives relative to men. The gender differences are not due to characteristics of the events themselves, as assessed by participants' ratings. Patterns of intercorrelation within and across life phases suggest that the domain of internal states language is more coherent for women than for men. Women used more internal states language to describe early life events that would have engendered reflection and evaluation. In contrast, men used less internal states language to describe later life events about which they were confident and that were frequently discussed. These patterns are suggestive of differential effects of conversation and narrative rehearsal on the memories of adult women and men. They are consistent with theories of the socialisation of emotion in particular and internal states more generally.

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REFERENCES

- Adams, S., Kuebli, J., Boyle, P.A., & Fivush, R. (1995). Gender differences in parent-child conversations about past emotions: A longitudinal investigation. *Sex Roles*, 33, 309-323.
- Allen, J.G., & Haccoun D.M. (1976). Sex differences in emotionality: A multidimensional approach. *Human Relations*, 29, 711-722.
- Buckner, J.P., & Fivush, R. (1998). Gender and self in children's autobiographical narratives. *Applied Cognitive Psychology*, 12, 407-429.
- Buckner, J.P., & Fivush, R. (2000). Gendered themes in family reminiscing. *Memory*, 8, 401-412.
- Davis, P.J. (1991, July). *Gender differences in autobiographical memory*. Paper presented at the NATO Advanced Research Conference: Theoretical perspectives on autobiographical memory, LaGrange, UK.
- Davis, P.J. (1999). Gender differences in autobiographical memory for childhood emotional experiences. *Journal of Personality and Social Psychology*, 76, 498-510.
- Fivush, R. (1998). Gendered narratives: Elaboration, structure, and emotion in parent-child reminiscing across the preschool years. In C.P. Thompson, D.J. Hermann, D. Bruce, J.D. Read, D.G. Payne, & M.P. Toglia (Eds.), *Autobiographical memory: Theoretical and applied perspectives* (pp. 79-103). Mahwah, NJ: Lawrence Erlbaum Associates Inc.
- Fivush, R., & Kuebli, J. (1997). Making everyday events emotional: The construal of emotion in parent-child conversations about the past. In N.C. Stein, P.A. Ornstein, B. Tversky, & C. Brainerd (Eds.), *Memory for everyday and emotional events* (pp. 239-266). Mahwah, NJ: Lawrence Erlbaum Associates Inc.
- Friedman, A., & Pines, A. (1991). Sex differences in gender-related childhood memories. *Sex Roles*, 25, 25-32.
- Fujita, F., Diener, E., & Sandvik, E. (1991). Gender differences in negative affect and well-being: The case for emotional intensity. *Journal of Personality and Social Psychology*, 427-434.
- Howes, M., Siegel, M., & Brown, F. (1993). Early childhood memories: Accuracy and affect. *Cognition*, 47, 95-119.
- Kuebli, J., Butler, S., & Fivush, R. (1995). Mother-child talk about past emotions: Relations of maternal language and child gender over time. *Cognition and Emotion*, 9, 265-283.
- 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.
- Usher, J.A., & Neisser, U. (1993). Childhood amnesia and the beginnings of memory for four early life events. *Journal of Experimental Psychology: General*, 122, 155-165.
- Weigle, T.W., & Bauer, P.J. (2000). Deaf and hearing adults' recollections of childhood and beyond. *Memory*, 8, 293-309.
- West, T.A., & Bauer, P.J. (1999). Assumptions of infantile amnesia: Are there differences between early and later memories? *Memory*, 7, 257-278.

APPENDIX A

For each of the events on which they reported, participants were asked to respond to the following questions.

- (1) What was your probable age when the event took place (years/months)?
- (2) Is your recollection of the event as if you experienced it (first person) or as if you were watching the event "happen" to somebody else (third person)? (Indicate 1 or 3 for each event.)
- (3) On a scale of 1 (not very) to 5 (very), how confident are you about the details of the event reported?
- (4) On a scale of 1 (hardly ever/never) to 5 (frequently), how often has the event been talked about, discussed, or re-told, either by you or your family or friends?
- (5) On a scale of 1 (not very) to 5 (very), how personally meaningful is the event you reported?
- (6) On a scale of 1 (highly visual) to 5 (highly propositional), how visual or imaginal is your recollection?
- (7) On a scale of 1 (routine/everyday) to 5 (unique), how unique is the event?
- (8) On a scale of 1 (no or neutral) to 5 (highly affectively charged), what is the affective intensity of the event?

APPENDIX B

Included here are examples of terms coded into each internal states category. Emotion terms only were coded and as to whether the emotional state was explicitly noted or was implied, and for the valence of the emotion (positive, negative, or neutral).

I. Emotion

A. Explicit

- (1) positive
 - (a) "I was never so *happy* in my life."
 - (b) "I was so *excited* and *thrilled* by this invisible ball."
- (2) negative
 - (a) "I was *upset* that I couldn't walk to school with my sister."
 - (b) "I was *scared* to wear them to school."
- (3) neutral
 - (a) "Oddly enough, I did *not* get *angry*."
 - (b) "I probably *should have been afraid*."

B. Implied

- (1) positive
 - (a) "He *smiled* as I gave him a hug."
 - (b) "We all *laughed*."
- (2) negative
 - (a) "I remember *crying* for a very long time."
 - (b) "He begins to *sob* and runs away."
- (3) neutral
 - (a) "I had seven stitches, but I did *not* *cry*."
 - (b) "*Nobody* *laughed* at the joke."

II. Cognition

- (1) "I *wondered* if it was a stray pet."
- (2) "I rode his bike down to the corner to *see* how fast I could go."

III. Perception

- (1) "I remember how the red dress that I wore *felt*."
- (2) "I *saw* my brother by the lodge a bit downhill from the parking lot."

IV. Physiological States

- (1) "I was so *hungry*."
- (2) "I was very *tired*."