

Culture Effects on Adults' Earliest Childhood Recollection and Self-Description: Implications for the Relation Between Memory and the Self

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American and Chinese college students ($N = 256$) reported their earliest childhood memory on a memory questionnaire and provided self-descriptions on a shortened 20 Statements Test (M. H. Kuhn & T. S. McPartland, 1954). The average age at earliest memory of Americans was almost 6 months earlier than that of Chinese. Americans reported lengthy, specific, self-focused, and emotionally elaborate memories; they also placed emphasis on individual attributes in describing themselves. Chinese provided brief accounts of childhood memories centering on collective activities, general routines, and emotionally neutral events; they also included a great number of social roles in their self-descriptions. Across the entire sample, individuals who described themselves in more self-focused and positive terms provided more specific and self-focused memories. Findings are discussed in light of the interactive relation between autobiographical memory and cultural self-construal.

When asked to think of her earliest childhood memory, a Harvard undergraduate wrote down the following episode that happened when she was about 3 years old:

I remember standing in my aunt's spacious blue bedroom and looking up at the ceiling. Then something caught my eye—it was the white wainscoting that bordered the top of the wall with the ceiling. I remember staring, fixated with its intricate design. And while I was doing this, all of sudden, I had an epiphany, a sort [of] realization. It was almost my first realization of a sense of "self." Because, as I was staring at the ceiling, I realized that no one else was around. I remember being taken aback by the ability to amuse myself without any toys.

This memory presents us with a vivid picture: At the moment of the episode, a child shows the capability of being consciously aware of herself as a physical and psychological being independent from the environment, and of the existence of the self both as subject with active agency and as object that can be acted on or influenced by the surroundings. This emerging sense of conscious self-identity is a cornerstone to many cognitive advances that emerge during this early period of life, including the onset of autobiographical memory, which is built around conscious episodic reflection (Foulkes, 1999).

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The work of early theorists (e.g., Greenwald, 1980; Kelly, 1955; Markus, 1977; Rogers, Kuiper, & Kirker, 1977; Schachtel, 1947) foreshadowed the interface between the self and autobiographical memory. For example, George Kelly (1955) proposed that a personal experience must be supported within an existing self-structure to be remembered clearly. Schachtel (1947) regarded memory as a function of the living personality that is reconstructed from past experiences in the service of present needs, fears, and interests. A number of contemporary investigators have extended the theoretical connection between the self and autobiographical memory. They have posited that the self operates on the encoding, organization, and retrieval of personally meaningful events (Brewer, 1986; Conway, 1996; Neisser, 1994; Ross & Wilson, 2000; Thompson, Skowronski, Larsen, & Betz, 1996), and that the constructive process of autobiographical remembering is crucial for the development, expression, and maintenance of a dynamic self-concept (Bruner, 1990; Fitzgerald, 1992; Fivush, 1994; Nelson, 1996; Pillemer, 1998; Singer & Salovey, 1993).

Earliest childhood memories signify the emergence of an autobiographical self and therefore provide a unique and useful lens through which to investigate the interactive relation between memory and self. The phenomenon of infantile amnesia (i.e., the common inability to remember experiences from the first years of life) has long been a puzzle intriguing philosophers and psychologists. A number of explanations have been offered since Freud's (1949) proposal that such amnesia results from repression of forbidden desires, and the topic remains the focus of a great deal of theoretical debate (e.g., Harley & Reese, 1999; Howe & Courage, 1993, 1997; Neisser, 1967; Nelson, 1996; Pillemer & White, 1989; Schachtel, 1947; Wang, Leichtman, & White, 1998). Current research indicates that the emergence of autobiographical memory is associated with a host of neurological, cognitive, linguistic, and social mechanisms. One aspect of the cognitive mechanism suggested by researchers is the development of a cognitive sense of self as indicated, for example, by mirror self-recognition,

which is thought to be a critical precursor to personal event memory (Howe & Courage, 1993, 1997). However, if both memory and self are indeed socially formulated (e.g., Bruner, 1990; Fivush, 1994), one can hardly understand the emergence and development of memory and self by focusing only on individual cognitive processes and neglecting their social contexts.

To address this issue, my colleagues and I (Wang et al., 1998) examined childhood recollection and self-description in young Chinese adults who came from either only-child or multiple-child families. Consistent with previous observation that the copious adult attention paid to only children within the Chinese family tends to produce more egotistical offspring (Jiao, Ji, & Jing, 1986; Lee, 1992), we found that only-child Chinese adults were more individually oriented than were those with siblings, describing themselves in more self-focused terms and providing earlier and more self-focused childhood memories. Thus, early upbringing appears to largely shape how the self is organized and how personal experiences are remembered. We suggested that in addition to requiring that a cognitive self be in place (Howe & Courage, 1993, 1997), the onset of autobiographical memory may be facilitated or inhibited by particular forms of self-organization sustained by diverse socialization practices (Wang et al., 1998).

The very few cross-cultural studies to date on adults' and children's personal recollections have given rise to new questions concerning the relation between autobiographical memory and the self. Mullen (1994) found that the age at earliest memory for Asian adults was significantly later than for Americans, who on average recalled their childhood memories back to as early as 3.5 years (Pillemer & White, 1989). Observation has suggested that free-flowing, self-revealing, lengthy accounts of discrete, one-point-in-time personal events are more prevalent among Westerners than Asians (Pillemer, 1998; Röttger-Rössler, 1993; Weintraub, 1978). In addition, my colleagues and I have recently documented a number of content and stylistic differences between autobiographical narratives in American and Asian preschoolers (Han, Leichtman, & Wang, 1998; Wang & Leichtman, 2000). Even at the early stage of life, American children tend to provide more elaborate, more specific, and more self-focused autobiographical accounts than their Asian peers.

What has contributed to the cross-cultural variation in autobiographical memory—"memory for information related to the self" (Brewer, 1986, p. 26)? It is likely that the cultural construal of the self is an important determining factor. A rich body of literature in psychology and anthropology indicates that cultures tend to hold different conceptions of selfhood. In many Western cultures, like the United States, a cultural ideology that emphasizes self-expression, individual uniqueness, and personal sufficiency facilitates the development of an *independently oriented* self-construal. The self is conceived of as an autonomous entity that is essentially well-bounded, distinct, and separate from other people or social contexts (Geertz, 1973). In contrast, many East Asian cultures, like China, emphasize the importance of group solidarity, interpersonal connectedness, and personal humility. This cultural ideology, together with relevant customs and institutions, gives rise to an *interdependently oriented* self-construal, in which the self is viewed as part of ongoing relationships, as unbounded, and as containing significant social roles, duties, and responsibilities.

Although variation exists in the degree to which individuals exhibit an independent versus an interdependent orientation in self-construal both within and across East Asian and Western cultures (Lee & Zane, 1998; P. J. Miller & Sperry, 1987; Nakamura, 1964; Spiro, 1993; Wang & Hsueh, 2000), normative differences between particular Eastern and Western cultures are marked (Fiske, Kitayama, Markus, & Nisbett, 1998; Hsu, 1953; Kagitcibasi, 1996; Markus & Kitayama, 1991; Triandis, 1989).

These cultural differences in the conceptual representation of the self should correspond with different forms of autobiographical remembering. As Markus and Kitayama (1991) commented, a consequence of "having an interdependent self as opposed to an independent self concerns the ways in which knowledge about self and other is processed, organized, and retrieved from memory" (p. 232). Although researchers have speculated on the possible relations between different cultural construals of the self and different forms of autobiographical remembering (Mullen, 1994; Pillemer, 1998), no empirical study has been conducted to date to directly examine this crucial link. In addition, there has been no systematic investigation of cultural differences in the cognitive style and socioemotional substance of adults' childhood recollections. The present study redresses these deficiencies by systematically examining cultural variation in adults' earliest childhood recollection, cultural self-construal, and the relation between the two among Americans and Chinese. It integrates developmental, cognitive, and sociocultural perspectives, and uses a method with the strength of both cognitive and social psychology.

From a functionalist perspective, personal event memories with specific details and elaboration are important for people with an independently oriented self-construal to distinguish themselves as unique individuals. In contrast, there may be less need for elaborated, detailed autobiographical memories among people with an interdependently oriented self-construal, whose paramount concerns are collective activities and interrelatedness. From a cognitive perspective, two aspects of cultural self-construal are particularly important in affecting the *content* and *accessibility* of memory for an event over the long term. The first aspect is the extent to which the meaning of selfhood in a given culture is tied to individual unique attributes versus social stratification. Such a distinction in self-construal shapes how the self is represented: for example, which aspects of self-related information are active, well-elaborated, salient, and accessible in memory. The different modes of self-representation further influence the encoding, organization, and retrieval of personal memories. Representing the self as a collection of unique individual attributes may result in encoding and recollecting self-focused events that reflect and express such individuality. The second aspect is the extent to which an individual focuses on his or her own versus others' thoughts, feelings, and personal roles during an ongoing event or afterward. Focusing on the self as a centrally important agent taking part in life events may increase the chances of encoding durable, consciously accessible memories for later retrieval.

The emotional content of personal memories is of particular interest. Researchers have noted that in the United States, adults' recollections of early childhood events are mostly characterized by salient emotions (Dudyca & Dudyca, 1941; Howes, Siegel, & Brown, 1993). No such data are available among people in other cultures who hold different views of emotion than do Americans.

Cross-cultural studies have indicated that for independently oriented selves, emotions are often regarded as a direct expression of the self and as an affirmation of the importance of the individual, whereas for interdependently oriented selves, emotions tend to be viewed as disruptive or even dangerous to interpersonal relations and need to be strictly controlled (Kitayama & Markus, 1994; Wang, in press). Given that emotions are “seeped with the apprehension that ‘I am involved’” (Rosaldo, 1984, p. 143), they give prominence to the individual agency during life events and therefore may manifest more frequently in the memories of independently oriented selves than those of interdependently oriented selves.

In light of these theoretical outlines, the present study empirically tests the interactive relation between autobiographical memory and cultural construal of the self. It compares American and Chinese college students' earliest childhood recollections on a memory questionnaire and their self-descriptions on a revised version of the Twenty Statements Test (TST; Kuhn & McPartland, 1954).¹ I predicted that at the level of culture (i.e., Americans vs. Chinese), American participants would report early dated, voluminous, specific (i.e., one-point-in-time events), emotionally elaborate, and self-focused earliest childhood memories, whereas Chinese participants would report later dated, skeletal, routine-related, emotionally unexpressive, and relation-centered earliest childhood memories. Correspondingly, I predicted that Americans would focus more on individual attributes and less on social roles when describing themselves than would their Chinese counterparts. Also, given that American culture emphasizes self-enhancement, whereas Chinese culture promotes personal modesty (Hsu, 1953; Markus & Kitayama, 1991; Wilson & Ross, 2000), Americans would provide more positive and fewer negative self-descriptions than Chinese participants. In addition, I expected that at the level of the individual (i.e., across the entire sample), autobiographical memory and self-construal would also be related. Specifically, individuals who focused on their personal attributes in describing themselves on the TST (i.e., more independently oriented self-construal) would recall earlier, more voluminous, more specific, more emotional, and more self-focused childhood memories than would those who tended to describe themselves in social roles and group memberships (i.e., more interdependently oriented self-construal).

The present study also seeks to examine gender effects on autobiographical memory and self-construal. Cross and Madson (1997) suggested that men and women in the United States develop different self-construals that may have given rise to many of the observed gender differences in cognition, motivation, emotion, and social behavior. They argued that multiple social influences in American society result in women tending to develop an interdependent self-construal and men tending to develop an independent self-construal. However, given the different cultural and societal ideologies in the United States and China, gender differences in self-construal may appear in different forms in the two cultures (Mu, Lee, & Stevenson, 1997; Wang et al., 1998). Also, gender and culture effects on self-construal along the independent-interdependent dimension may differ in nature and magnitude, and therefore would have a different impact on personal remembering. The present study attempts to investigate these issues.

Method

Participants

The participants were 119 undergraduate students from Harvard University (ages ranging from 17.7 to 25.4 years, $M = 19.4$) and 137 undergraduate students from Beijing University in China (ages ranging from 16.7 to 29.4 years, $M = 20.8$).² Students in the two universities are comparable in their intellectual achievement and social status in their respective countries, which ensured the equivalence of the samples as much as possible. The U.S. sample consisted of 54 men and 65 women (10 only children, 61 firstborns, and 48 later borns), all from a European American cultural background. The Chinese sample consisted of 90 men and 47 women (38 only children, 34 firstborns, and 65 later borns). American participants were recruited from an introductory psychology class and received experimental credit for their participation. Chinese participants were recruited from four different classes with the assistance of their teachers. Both samples were composed of a mixed group of students from science, social science, and humanity disciplines. In both cultural groups, participation was entirely voluntary.

Procedure

All materials used in the present study were written in the participants' native language. Bilingual research assistants translated and back-translated the materials to ensure the between-cultures equivalence of the questions in both literal and sense meaning. Participants met with the researcher in small groups. At the beginning of the study, they were reminded of their right to leave the experiment at any time. They were then given a booklet containing two questionnaires to fill out.

The first questionnaire inquired about the participants' earliest childhood memory; some of the items were adopted from Mullen (1994). After providing demographic information, participants were asked to take a moment to think of their earliest childhood memory and to describe it as precisely as they could. Participants were told that the memory must be their own memory from earliest childhood, not something they only saw in a picture or heard from someone else. Following the memory question, participants were asked (a) how old they were at the time of the memory event, (b) how they felt at the time (rating from *very pleasant* to *very unpleasant* on a 5-point scale), (c) what specific emotions they experienced, (d) whether they had ever thought or talked about this memory, and

¹ In the TST, participants were asked to describe themselves by completing 20 sentences—each beginning with “I am”—with a short phrase. This test has been widely used to assess variation in the organization and salience of self-related information across cultural groups (e.g., Bochner, 1994; Bond & Cheung, 1983; Trafimow, Triandis, & Goto, 1991; Triandis, 1989). Findings consistently indicate that participants from independently oriented cultures overwhelmingly provide private self-descriptions such as traits, states, or behaviors, whereas participants from interdependently oriented cultures provide more collective self-descriptions such as group memberships. This test is therefore regarded as a reliable measure for indexing the cultural construal of the self in the dimension of independence–interdependence.

² The Chinese college sample was a subsample of a larger study conducted with Chinese high school and college students that explored the impact of growing up as an only child on childhood memory and self-description in young Chinese adults (Wang, Leichtman, & White, 1998). The present study only includes data from the college sample.

(e) how often they had thought or talked about their childhood memories in general (rating from *never before* to *very often* on a 5-point scale).³

The second questionnaire was a shortened version of the TST. Ten incomplete sentences were listed on consecutive lines, each beginning with *I am*. For the Chinese participants, the Chinese term *wo shi* was used, an expression closest to *I am* in both meaning and grammatical structure. Participants were instructed to complete each sentence with a short phrase.

After participants had finished filling out both questionnaires, they turned them in to the researcher and were thanked for their participation.

Coding

Memory Variables

Memory volume. Two criteria were adopted to measure the volume of memory narratives: (a) the number of Chinese characters or English words, and (b) the number of propositions, defined by Fivush, Haden, and Adam (1995) as subject-verb constructions. Although these are not perfect indications of the length of memories in different languages, double measures can help to minimize the possible interference of linguistic differences (C. E. Snow, personal communication, June 24, 1999).

Age at earliest memory. The age estimate reported by participants was coded in months.

Memory content. On the basis of the classification scheme outlined by Waldfogel (1948), each memory was coded into one of the following four categories that reflect the distinct aspects of children's lives: individual (e.g., success, frustration, dreams and nightmares), family (e.g., parental discipline, family activities), neighborhood (e.g., playing or arguing with neighbors), and school (e.g., teachers, favorite subjects). Memory content was categorized on the basis of the central theme rather than the contextual background of each event.

Memory specificity. Each memory was coded as either specific, referring to events that happened at a particular point in time (e.g., "When I was about 4, I got stung by a bee"), or general, referring to events that took place regularly or on multiple occasions (e.g., "My mom took me to school every day"; Pillemer, 1998).

Memory emotionality. Three aspects of memory emotionality were coded: (a) appearance and frequency of participants' spontaneous mentions of emotions in their memory narratives, (b) feeling states during memory events that participants rated on a 5-point scale from *very pleasant* to *very unpleasant*, and (c) specific emotions participants reported in the questionnaire.

Autonomous orientation. Participants' tendency to express autonomy and self-determination in their earliest memory was coded according to the narrative content analysis scheme developed by Wang and Leichtman (2000). The number of occurrences of the following instances was counted and combined to produce a score of autonomous orientation for each participant: (a) reference to personal needs, desires, or preferences; (b) reference to personal dislikes or avoidance; (c) reference to personal evaluations, judgments, or opinions regarding other people, objects, or events; and (d) reference to retaining control over one's own actions and resisting group or social pressure.

Other-self ratio. The number of times participants mentioned themselves and other people in their memory was counted, respectively. An other-self ratio was then calculated for each participant to index his or her social orientation.

Prior recollection. Participants' responses in the memory questionnaire were recorded as follows: (a) prior recollection of the earliest memory, and (b) frequency of thinking or talking about childhood memories in general, as rated on a 5-point scale ranging from 1 (*never before*) to 5 (*very often*).

Self-Description Variables

In keeping with the method of previous studies (Bochner, 1994; Wang et al., 1998), only the first 7 self-description sentences in the shortened TST

were coded and used in later analysis. This was due to the fact that after approximately 7 sentences, participants tended to repeat themselves or stop giving answers.

Organization. Each participant's self-descriptions were coded as referring to private, collective, or public aspects of the self, according to the definitions provided by Triandis and colleagues (Trafimow, Triandis, & Goto, 1991; Triandis, 1989). On the basis of their criteria, self-descriptions were coded as follows: (a) Responses referring to personal qualities, attitudes, beliefs, or behaviors that were not related to other people were coded as *private self-descriptions* (e.g., "I am honest, happy, intelligent"); (b) responses concerning demographic categories or groups with which the participant may experience a common fate were coded as *collective self-descriptions* (e.g., "I am a Catholic, a son, a student"); (c) responses about interdependence, friendship, responsiveness to others, or sensitivity to the viewpoints of others were coded as *public self-descriptions* (e.g., "I am deeply attached to my boyfriend," "I am someone who likes to help other people"). Each participant received three separate scores, indicating the number of his or her responses that corresponded to each of these categories.

Evaluation. Each *I am* sentence was further coded as positive, negative, or neutral, depending on whether it implied a clearly positive or negative self-evaluation (Bond & Cheung, 1983; Ip & Bond, 1995). For example, statements such as "I am talented, pretty, and good-natured" were coded as positive, whereas statements such as "I am boring, ugly, and stressed" were coded as negative. Each participant received three separate scores, indicating the number of his or her responses that corresponded to each of these self-evaluation categories.

All coding was performed on participants' responses in their original language. One English-Chinese bilingual research assistant coded all the data. A second independent bilingual assistant recoded 20% of the data for reliability. Both coders were unaware of the hypotheses of the study. The intercoder reliabilities (r) were .90-.99 for memory variables and .83-.91 for self-description variables. The main coder's scores were used in data analyses.

Results

Culture and gender effects were examined across all the variables of interest; 2 (culture) \times 2 (gender) analyses of variance (ANOVAs) were performed with numerical variables and loglinear analyses with categorical variables. Participants' birth order was treated as a covariate and partialled out across all the analyses.⁴ All p values reported are exact figures. All t tests performed are two-tailed. Some of the participants did not answer every question, so the degrees of freedom vary slightly across tests. In connection with the hypotheses, findings are presented in the sequence of earliest childhood memory, self-description, and the relationship between them across the entire sample. Two memory examples from each cultural group are illustrated in the Appendix, each followed by the first 7 self-descriptions provided by the participant. These examples help demonstrate cultural differences in the content and style of memory narratives, and in the organization and evaluation of the self.

³ In the Chinese study (Wang et al., 1998), following the questions about the earliest memory, participants were asked to describe three other memories that occurred when they were under 8 years of age. Only their earliest childhood memory was included in the analysis of the present study.

⁴ Birth order effects were fully addressed in Mullen (1994) and Wang et al. (1998) and therefore are not discussed in the present study. Overall, the effects that arose from the present study confirm previous findings within both American and Chinese populations.

Earliest Childhood Memory

Memory Volume

The number of words or characters and the number of propositions were highly correlated, $r = .91$, $p < .0001$. Two-way ANOVAs on the number of words and the number of propositions both revealed a significant main effect of culture, $F(1, 250) = 75.22$, $p < .0001$, for word; $F(1, 250) = 92.79$, $p < .0001$, for proposition, with American participants' memory narratives containing more words and more propositions than those of Chinese (Americans: $M = 92.79$ and 10.39 , respectively, $SD = 41.34$ and 4.49 ; Chinese: $M = 42.23$ and 4.52 , $SD = 41.42$ and 4.07).

Significant gender effects were also identified in which women tended to provide lengthier memories than men, $F(1, 250) = 4.35$, $p = .04$, for word; $F(1, 250) = 4.36$, $p = .04$, for proposition. These gender effects were qualified by a significant Culture \times Gender interaction in both memory volume measures, $F(1, 250) = 5.82$, $p = .02$, for word; $F(1, 250) = 7.27$, $p = .008$, for proposition. Only Chinese participants showed significant gender differences for both word count (men: $M = 34.36$, $SD = 37.13$; women: $M = 57.30$, $SD = 45.30$), $t(135) = 3.18$, $p = .002$, and proposition count (men: $M = 3.66$, $SD = 3.51$; women: $M = 6.17$, $SD = 4.57$), $t(135) = 3.58$, $p = .0005$, whereas no gender differences were evident among American participants in either of the measures.

Age at Earliest Memory (Months)

American participants' earliest memories ($M = 41.88$, $SD = 12.07$) were dated significantly earlier than Chinese participants' ($M = 47.45$, $SD = 18.33$), $F(1, 249) = 9.24$, $p = .003$. There was no significant gender or Culture \times Gender interaction effect pertinent to the age at earliest memory (American men: $M = 41.35$, $SD = 10.55$, women: $M = 42.32$, $SD = 13.27$; Chinese men: $M = 48.83$, $SD = 19.34$, women: $M = 44.74$, $SD = 16.03$).

Memory Content

I performed loglinear analysis to examine whether memory content was more likely to focus on individual, family, neighborhood, or school as a function of culture and gender. I identified only a significant culture effect on memory content categories, $\chi^2(3, N = 256) = 19.09$, $p = .0003$.

I further conducted focused tests by contrasting each memory category with all other categories combined. The analysis comparing the likelihood that participants reported memories of individual experiences with the likelihood that they reported memories concerning family, neighborhood, and school (i.e., a contrast between purely personal memories and those with social content) as a function of culture and gender revealed a significant main effect of culture, $\chi^2(1, N = 256) = 13.35$, $p = .0003$. A larger percentage of American participants (42.02%) than Chinese participants (23.36%) provided memories focusing on their own experiences, feelings, and attitudes.

In addition, I examined the effects of culture and gender on the likelihood that earliest childhood memories fell into the category of family versus all other content categories. The analysis showed only a significant culture effect, $\chi^2(1, N = 256) = 9.36$, $p = .002$.

Compared with American participants (35.29%), Chinese participants (49.64%) were more likely to center their earliest memories on family activities and practices.

Analysis contrasting memories in the category of neighborhood and those in all other categories revealed only a significant culture effect, $\chi^2(1, N = 256) = 3.99$, $p = .05$, for which memories of Chinese participants (15.31%) focused more frequently on neighborhood activities than did those of Americans (6.72%). No significant main effects or interactions were found in the likelihood that participants reported memories centering on school versus memories of all other content categories.

Memory Specificity

When I examined the culture and gender effects on participants' propensity to provide memories of specific, one-point-in-time events, as opposed to general, routine events, I found that American participants (88.24%) were more likely to provide specific memories than were their Chinese counterparts (69.34%), $\chi^2(1, N = 256) = 8.43$, $p = .004$. In addition, the earliest memories of women (87.50%) were significantly more likely to be one-point-in-time events than were those of men (70.83%), $\chi^2(1, N = 256) = 4.64$, $p = .03$. There was no Culture \times Gender interaction pertinent to this variable.

Memory Emotionality

Compared with Chinese participants (27.01%), American participants (52.94%) were more likely to spontaneously mention emotions and feeling states in their earliest memories, $\chi^2(1, N = 256) = 13.38$, $p = .0003$. Analysis on the average number of spontaneous mentions of emotions revealed only a main effect of culture, $F(1, 250) = 11.65$, $p = .0007$, whereby American participants ($M = 0.95$, $SD = 1.16$) made more spontaneous mentions of emotions in their memory accounts than did Chinese ($M = 0.42$, $SD = 0.81$).

The percentages of participants who rated their feeling states during memory events as very pleasant, pleasant, neutral, unpleasant, or very unpleasant were as follows: for Chinese participants, 19.26%, 19.26%, 23.70%, 17.78%, and 20.00%, respectively; for Americans, 21.85%, 26.05%, 6.72%, 21.85%, and 23.53%, respectively. Analysis of the feeling state ratings showed a significant culture effect, $\chi^2(4, N = 254) = 11.92$, $p = .02$. A further focused analysis indicated that this effect was mainly due to the fact that compared with their Chinese counterparts (76.30%), American participants (93.28%) were more likely to rate their memories as emotional, as opposed to neutral, $\chi^2(1, N = 254) = 11.34$, $p = .0008$. No other effects pertinent to ratings of feeling states neared significance.

Participants' responses to the question about the specific emotions they experienced at the time of the memory event were coded according to the emotion valence. The mean numbers of positive, negative, and unvalenced (e.g., curiosity, anticipation) emotions each participant reported are illustrated in Figure 1 by culture and gender groups. Compared with Chinese participants, American participants on average reported significantly more positive, $F(1, 248) = 7.68$, $p = .006$, and more negative, $F(1, 248) = 12.62$, $p = .0005$, emotions that they experienced at the time of the memory event. No other significant effects appeared.

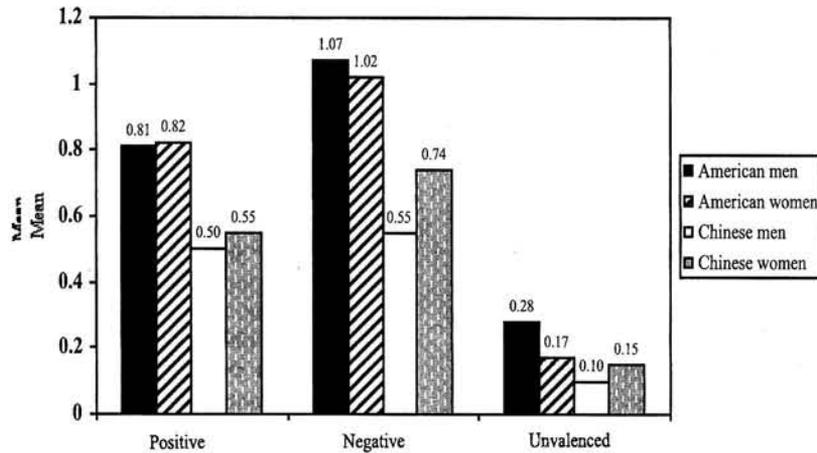


Figure 1. Mean number of positive, negative, and unvalenced emotions by culture and gender groups.

Autonomous Orientation

I conducted a 2 (culture) × 2 (gender) ANOVA to evaluate participants' tendency to express autonomy and self-determination in their earliest memories. The analysis revealed that American participants ($M = 0.51, SD = 0.86$) showed a greater autonomous orientation in their memory narratives than did Chinese participants ($M = 0.21, SD = 0.53$), $F(1, 250) = 12.64, p = .0005$.

A significant Culture × Gender interaction effect was also identified, $F(1, 250) = 4.74, p = .03$. Inspection of the means indicates that although American men ($M = 0.63, SD = 0.99$) scored higher than did American women ($M = 0.41, SD = 0.73$) on autonomous orientation, the difference did not reach significance, $t(117) = -1.35, p = .18$. However, Chinese women ($M = 0.36, SD = 0.73$) scored significantly higher on this variable than did Chinese men ($M = 0.13, SD = 0.37$), $t(135) = 2.42, p = .02$.

Other-Self Ratio

In line with predictions, there was a significant culture effect on the ratio of participants' mentions of other people versus themselves in their memories, $F(1, 250) = 41.69, p < .0001$, whereby Chinese participants ($M = 1.24, SD = 1.12$) mentioned others

proportionately more often than did American participants ($M = 0.63, SD = 0.45$). There were no other significant effects pertaining to this variable.

Prior Recollection

No significant main effects or interactions were present in the likelihood that participants had previously thought or talked about their earliest memory. In general, compared with men, women reported having thought or talked about their childhood memories more frequently, $F(1, 249) = 9.57, p = .002$ (women: $M = 3.62, SD = 0.88$; men: $M = 3.27, SD = 0.89$).

Self-Description

Mean scores on the TST for responses in self-organization and self-evaluation categories by culture and gender groups are presented in Table 1. Two multivariate analyses of variance (MANOVAs), which considered that self-description scores varied as a function of culture and gender, were first conducted for self-organization and self-evaluation categories, respectively. Both analyses revealed robust culture effects, $F(2, 246) = 20.46, p < .0001$, for self-organization scores; $F(2, 246) = 6.93, p = .001$, for

Table 1
Mean Scores and Standard Deviations for Self-Description Categories by Culture and Gender Groups

	Americans						Chinese					
	Men		Women		Total		Men		Women		Total	
Self-description	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Organization												
Private	5.66	1.33	5.51	1.34	5.58	1.33	3.83	1.73	4.76	1.70	4.15	1.77
Collective	0.70	1.03	0.74	1.02	0.72	1.02	2.47	2.01	1.39	1.61	2.10	1.95
Public	0.64	0.88	0.75	1.05	0.70	0.97	0.70	1.00	0.85	1.15	0.75	1.06
Evaluation												
Positive	3.38	1.83	3.37	1.89	3.37	1.86	2.13	1.73	2.87	1.67	2.39	1.74
Negative	0.87	1.13	0.86	1.14	0.86	1.13	1.20	1.44	1.48	1.41	1.30	1.43
Neutral	2.75	1.74	2.77	1.73	2.76	1.73	3.60	2.05	2.61	1.71	3.26	1.99

self-evaluation scores. For self-organization scores (i.e., private, collective, and public self-description scores), there was also a significant gender effect, $F(2, 246) = 3.38, p = .04$, and a Culture \times Gender interaction, $F(2, 246) = 3.96, p = .02$.

Furthermore, I performed 2 (culture) \times 2 (gender) ANOVAs across all the self-description scores. Compared with Chinese participants, American participants provided significantly more private, $F(1, 247) = 39.14, p < .0001$, and fewer collective self-descriptions, $F(1, 247) = 33.55, p < .0001$. Significant gender differences appeared in both self-description scores, for which it is surprising to note that women had higher private, $F(1, 247) = 3.70, p = .06$, and lower collective, $F(1, 247) = 6.76, p = .01$, self-description scores than did men. These gender differences were further qualified by significant interaction effects for private, $F(1, 247) = 6.72, p = .01$, and collective self-description scores, $F(1, 247) = 7.43, p = .007$, which revealed that the gender differences were only present in the Chinese sample, $t(133) = 2.98, p = .003$, for private self, $t(133) = -3.16, p = .002$, for collective self. No significant effects pertinent to public self-description scores were identified.

Analyses on positive, negative, and neutral self-description scores showed that American participants provided significantly more positive, $F(1, 247) = 11.51, p = .0008$, and fewer negative self-descriptions, $F(1, 247) = 6.41, p = .01$, than did their Chinese counterparts. There was a significant gender effect, $F(1, 247) = 4.45, p = .04$, and a Culture \times Gender interaction, $F(1, 247) = 4.19, p = .04$, for the neutral self-description scores. Inspection of the means (see Table 1) indicates that whereas Chinese men gave more neutral self-descriptions than did Chinese women, $t(133) = -2.80, p = .006$, American men and women did not differ in this variable.

Relations Between Memory Measures and Self-Descriptions

One of the central questions the present study intends to answer is how self-construal (indexed by the self-organization scores) is associated with the age and content of a person's earliest childhood memory, not only at a group level (i.e., culture and gender effects previously reported) but at an individual level as well. To address this question, I performed correlational analyses across the entire sample, with the effects of culture, gender, and birth order partialled out.⁵ Partial correlations among all memory and self-description variables were calculated; these are depicted in Table 2. The difference between private and collective self-description scores (i.e., private–collective scores) was used to index participants' orientation toward private aspects of the self, and the difference between positive and negative self-description scores (i.e., positive–negative scores) was used to index participants' tendency to give positive self-evaluations.

The direct influences of the self-construal scores on the memory constructs independent from culture, gender, and birth order effects were small overall, but they all pointed to the predicted direction. As demonstrated in Table 2, private–collective scores were positively correlated with the number of words and the number of propositions in memories, memory specificity, and autonomous orientation, whereas they were negatively correlated with the participant's age at earliest memory and other–self ratio, although the correlations were only significant for memory specificity and other–self ratio. I also found that participants who had

higher positive–negative scores showed a significantly greater autonomous orientation and were significantly less likely to mention other people in their memories, as compared with those who scored lower on this variable.

The intercorrelations among memory variables further reveal informative messages. First of all, with culture, gender, and birth order effects partialled out, participants' age at earliest memory was positively correlated with their emotional intensity rating and other–self ratio, suggesting that memory events that took place at a younger age tended to involve less intense emotions and less social interaction than did later dated memories.

The two narrative volume measures were found to be positively correlated with memory specificity, the number of spontaneous emotions mentioned, autonomous orientation, and the other–self ratio. Furthermore, memory specificity was positively correlated with the number of spontaneous emotions mentioned but negatively correlated with emotion valence rating. Spontaneous mentions of emotions were positively correlated with emotion intensity rating and autonomous orientation, whereas they were negatively correlated with emotion valence rating. Emotion valence rating was negatively correlated with autonomous orientation. Taken together, these findings suggest that memory accounts of specific one-point-in-time events tended to be lengthy, self-focused, interactive, emotionally intense, and unpleasant, and to contain many spontaneous descriptions of feeling states.

Discussion

The present study represents the first systematic investigation of cultural differences in both adults' childhood recollection and their self-description in two diverse societies—China and the United States. Taking a novel and integrative perspective, this study makes an original contribution to the theorization of memory–self relations by examining, in a broader comparative context, the interaction between cultural self-construal and culture-specific autobiographical memory. The empirical evidence from both the cultural- and the individual-level analyses provides an important missing link between work on earliest childhood memories and cultural self-construal. Findings indicate that the formation of the self and the emergence of autobiographical memory are intertwined within a sociocultural context, both when the first memory of the self is formed at the very beginning and in the continuing coconstructive process of memory and the self.

At the level of the culture, the average age at earliest childhood memory of Americans was 3.5 years, approximately 6 months earlier than that of Chinese. Memories reported by Americans were more likely to be discrete, one-point-in-time events focusing on individual experiences or feelings, whereas memories reported by Chinese participants were more likely to be general, routine events that centered on collective activities of the family and neighborhood. In addition, compared with the memories of Chinese participants, American participants' memory accounts were lengthier, more emotionally elaborate and expressive, more con-

⁵ Correlational analyses were also performed within each cultural group. The results appeared in the same pattern in the two cultures and were consistent with those from the entire sample. The present study therefore reports correlations across the entire sample with culture, gender, and birth order effects partialled out.

Table 2
Intercorrelations Among Memory and Self-Description Variables With Culture, Gender, and Birth Order Effects Partialled Out

Variables	1	2	3	4	5	6	7	8	9	10	11
Memory											
1. No. of words	—	.91****	.04	.25****	.39****	-.05	-.04	.32****	.12*	.07	.02
2. No. of propositions		—	.05	.26****	.44****	.01	-.07	.34****	.13*	.05	.02
3. Age at earliest memory			—	.03	.02	.19**	-.01	-.02	.12*	-.08	.02
4. Specificity (general = 0, specific = 1)				—	.22***	.03	-.23***	.02	.10	.12*	-.03
5. No. of spontaneous emotions					—	.15**	-.16**	.20***	-.00	.01	.05
6. Emotion intensity (three levels) ^a						—	-.02	.09	-.03	.04	.08
7. Emotion valence (three levels) ^a							—	-.13*	.00	.04	.11
8. Autonomous orientation								—	-.04	.09	.13*
9. Other-self ratio									—	-.13*	-.15**
Self-description											
10. Private-collective scores										—	.09
11. Positive-negative scores											—

^a The levels of emotion intensity and valence were obtained from participants' ratings on a 5-point scale ranging from *very pleasant* to *very unpleasant*. Specifically, the scale was contracted to a 3-point scale for emotion intensity (*neutral* = 0, *intense* = 1, *very intense* = 2) and another 3-point scale for emotion valence (*negative* = -1, *neutral* = 0, *positive* = 1).

* $p < .05$. ** $p < .01$. *** $p < .001$. **** $p < .0001$.

cerned with autonomy and personal predilections, and less sensitive to other people involved. Overall, for the Americans, "the past is remembered as if it were a drama in which self was the leading player" (Greenwald, 1980, p. 604), whereas the Chinese memories showed a heightened sensitivity to information about significant others or about the self in relation to others.

These cultural differences in the age and content characteristics of earliest memories were echoed in participants' self-descriptions along the independent-interdependent dimension. Findings from the shortened TST indicate that Americans focused more on private and less on collective aspects of the self than did their Chinese counterparts. Americans also frequently gave more positive evaluations of themselves than did Chinese, who reported proportionally more negative self-evaluations. These cultural differences in self-description were consistent with findings from previous research that used the TST to compare organizational (Bochner, 1994; Trafimow et al., 1991; Triandis, 1989) and evaluative aspects (Bond & Cheung, 1983; Ip & Bond, 1995) of the self between Westerners and Asians. The individual-focused, self-assured self-descriptions of Americans reflect a cultural emphasis on individuality and self-enhancement, whereas the group-oriented, modest self-descriptions of Chinese reflect a cultural emphasis on interconnectedness and personal humility.

At the level of the individual, correlational analyses across the entire sample, with culture, gender, and birth order effects controlled, showed that individuals who were more focused on private aspects of the self in their self-descriptions provided significantly more specific and more self-focused memories than did those who more often described themselves in terms of social roles and group memberships. Those who described themselves in a more positive manner reported memories that were significantly more autonomous and more self-focused compared with those who evaluated themselves in a less favorable fashion. In addition, the self-construal scores were also associated with the age, volume, and

emotionality of earliest memories in the predicted direction. The partial correlations between the self-construal scores and the memory measures, although small overall, reflect how much contribution the self made to the memory constructs independent from other factors. They suggest that direct relations do exist between cultural self-construals and particular forms of autobiographical memory even at the individual level. The small magnitude of the correlations may be related to the fact that although the TST is an effective measurement for cultural differences in self-construal, it is less sensitive to individual variations (Singelis, 1994). Future studies using alternative measures of cultural self-construal will be required to extend the present findings.

Tessler and Nelson (1994) have claimed that "the relation between autobiographical memory and a sense of self is a dynamic, interactive process in which self and memory organize, construct, and give meaning to each other in a way so intimate that we can truly say that we are what we remember and that our memories are ourselves" (p. 321). Findings from the present study further indicate that such an intimate connection between memory and the self does not occur only within an isolated individual. Instead, it is situated within a cultural context in which both memory and the self are constructed and shaped. Cultural conceptions of selfhood sustain particular forms of autobiographical remembering that, in turn, reinforce the culturally promoted self-construals. Such a two-way constructive process is involved in the lifelong development of the individual and takes place at both a macro and a micro level. Figure 2 illustrates the interactive relation between autobiographical memory and the self across the life course.

At the macro level, cultural conceptions of selfhood establish the perceived importance of autobiographical remembering (Pillemer, 1998; Röttger-Rössler, 1993). In Western cultures, in which a unified, independent, autonomous self is advocated, a coherent, elaborate, well-integrated life history with the individual cast as the central character is of particular importance. It serves as a

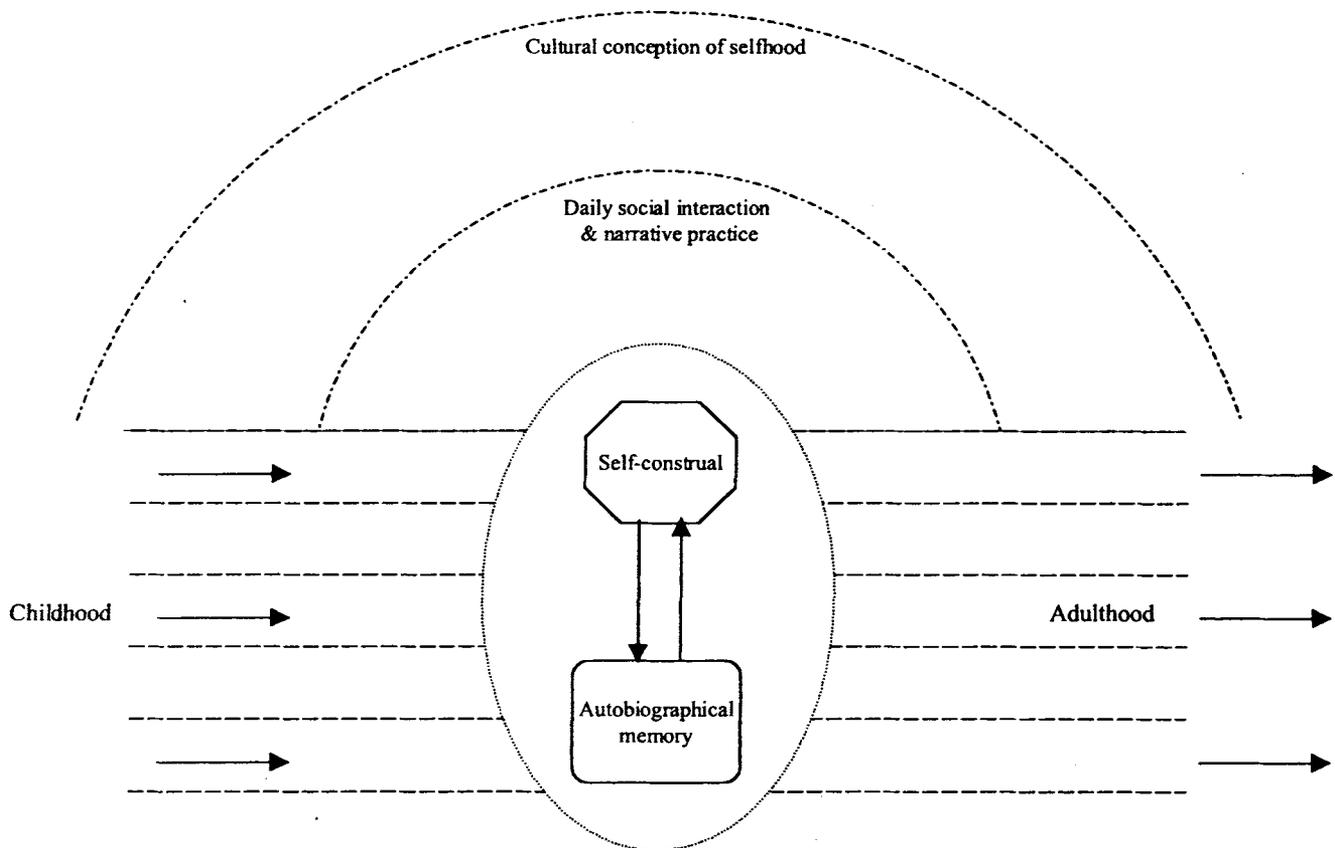


Figure 2. The interactive relation between autobiographical memory and the self across the life course.

primary source not only for self-understanding and an enduring self-concept but, more important, for affirmation of the self as an autonomous entity. In contrast, in many East Asian cultures, in which an unbounded, interdependent, relational self is inculcated, collective activities are often valued over a unique autobiographical history. As a result, personal remembering preserves a social orientation that serves to engage individuals in ongoing relationships, thereby reinforcing the self as an interdependent entity.

At the micro level, cultural conceptions of selfhood endorse specific modes of daily interaction—especially parent–child conversation about shared experiences—that adapt to the self-construct in a particular culture (P. J. Miller, Mintz, Hoogstra, Fung, & Potts, 1992; Mullen & Yi, 1995; Wang, Leichtman, & Davies, 2000). For example, in American culture, in which the meaning of selfhood is intimately tied to unique attributes of the individual, personal storytelling within family contexts often takes on a highly elaborative format and focuses on the individual child's predilections, feelings, and opinions. In contrast, in Chinese culture, in which the meaning of selfhood is linked with social stratification and relationships, parent–child memory conversation often comprises unembellished factual statements but shows a great concern with social responsibilities, moral rules, and behavioral standards. Growing up in such differential narrative environments, American and Chinese children as young as 3 years appear to have internalized different values and styles from their parents in talking about personal experiences (Wang, *in press*; Wang et al.,

2000). Culturally predefined modes of parent–child narrative construction of the shared past contribute to culture-specific ways of self-constructing and autobiographical remembering in the child.

Thus, within a larger cultural context that defines the meaning of the self and the importance of autobiographical memory, children acquire a culture-specific construal of the self and a form of autobiographical remembering through daily interactions with their parents, teachers, and peers. Their memory and their self-construal reinforce each other throughout development, and both are reinforced by cultural values and beliefs related to the self and by daily narrative practices among individuals. It is notable that the content and accessibility of the earliest childhood memory may not only reflect the most salient features of the child's self-construal at the time the memory was formed (Conway, 1996) but also reveal the most valued current goals, attitudes, and concerns that constitute the central themes of the adult's self and personality (Ross & Wilson, 2000; Schachtel, 1947; Singer & Salovey, 1993). The interaction between memory and self is not a one-time occurrence but involves a lifelong development.

Several interesting issues arise in the interpretation of the present findings. The first is related to the participants' age at earliest memory, one of the key memory variables in the present study. The age differences between memories of Americans and Chinese mirror previous cross-cultural findings (Mullen, 1994), and the Americans' age estimates are consistent with findings from past studies in the United States using different samples and

methodologies (for a review, see Pillemer & White, 1989). Yet it is possible that the age differences across cultures simply reflect some systematic dating biases in each cultural group rather than real differences in their onset of autobiographical memory. Pillemer and White (1989) suggested that people tend to date their early memories by relating them temporally to a datable event such as a family move. Research has provided considerable evidence that personal event dating is reconstructed on the basis of knowledge of temporal patterns and landmark events (Friedman, 1993; Larsen, Thompson, & Hansen, 1996). Mullen (1994, Study 3) further confirmed that this is indeed the most common dating strategy used by both Caucasians and Asians. In addition, studies indicate that people are, on average, accurate in dating past events with little systematic bias, but errors do occur and increase with increasing distance into the past (Larsen et al., 1996). Although early childhood recollections have been proven to be, overall, accurate in content, the attempt to verify the accuracy of dating these early events appears to be difficult to carry out (Howes et al., 1993). On the basis of all these findings, a tentative conclusion to be drawn here is that because the current age estimates are obtained from different studies with large samples of participants, they may approximate the actual onsets of autobiographical memory. Still, new experimental strategies need to be developed to test the accuracy of dating very early memories against objective standards.

Another issue that comes forth in the present study is that cultural differences in memory narratives may simply reflect different language uses or norms of expression in the two cultures rather than anything fundamental about the actual memories. This interpretation is related to a classic question in memory research, one that has never been satisfactorily answered: whether memory narratives provided by people reflect their underlying memory representations. Although there is to date no perfect way to make an absolute distinction between memory narrative and memory representation or between language and mind, several suggestions can be made here. First, in the present study care was taken to minimize the interference of linguistic differences, such as the use of double criteria for narrative volume and the "ratio of other mentions to self-mentions" instead of the sheer frequency of each (Lindzey, 1961). The robust cultural differences uncovered in the memory variables are therefore unlikely to be attributable to different language uses alone. Second, past research has shown that the self is a powerful schematic structure manifesting at the encoding, organization, and retrieval stages of memory (e.g., Greenwald, 1980; Rogers et al., 1977; Thompson et al., 1996). It shapes individuals' perceptions, interpretations, emotions, and motivations during an ongoing event and subsequent recounting of the event. Content and stylistic differences in the earliest memories of Americans and Chinese should therefore reflect the effects of cultural self-construal on both memory representations (memory traces originally encoded and reconstructed over time) and memory narratives (at the very moment of retrieval). Norms of expression, as a part of the larger cultural symbolic system (Ochs, 1990), should also play an important role. It is likely that the magnitude of cultural variation formed during memory encoding may be further enlarged during memory retrieval, especially in response to conscious language-based probes. This issue is currently under an investigation that aims at disentangling the effect of narrative style and the nature of memory representation. Finally, information

encoded in memory and information narrativized through language are always intertwined, given that each time of recollection writes and rewrites the memory traces that originally may or may not be encoded in a linguistic format. Above all, it is the narrativized life stories—the very process and result of meaning making—that carry great significance in constituting an individual's self and identity (Bruner, 1990).

The different degrees to which Americans and Chinese reported specific versus general memories are also intriguing. Research has demonstrated that depressed patients tend to recall a larger proportion of general memories than do nondepressed control participants (Williams & Scott, 1988) and that younger children are less capable of reporting specific memories than older children are (Fivush et al., 1995; Nelson, 1996). Studies have also documented substantial individual variations within the United States (Pillemer, 1998; Singer & Salovey, 1993). The mechanisms underlying such differences remain to be fully explained. In a recent study, Han et al. (1998) compared autobiographical memory in Korean, Chinese, and American 4- and 6-year-olds. Although older children in all cultures provided more specific memories than did younger children, by 6 years old Asian children's narratives were similar to those of American 4-year-olds in the degree of specificity and elaboration. Together, these findings show that cultural differences in memory specificity are apparent by early preschool years and persist into adulthood. I speculate that the functionality of specific versus general memories emphasized in each culture is a determining factor for such differences. Specific episodic memories (e.g., memory about having a birthday party with Chelsea Clinton) are unique to the individual and therefore may work better in differentiating the self from others. General script memories (e.g., memory about going to church every Sunday) form the knowledge base of social conventions and therefore may work better in helping the individual fit in the society. It is clear that more studies about memory specificity are called for.

Are the cultural differences identified in the present study generalizable, given that the two samples were both composed of highly elite students? My answer is positive. Although marked individual and group variations exist within each society, the independent versus interdependent social orientations characterize the mainstream values in American and Chinese cultures, respectively. Such orientations have overarching effects on psychological processes and social behaviors among individuals from different social classes and subgroups (e.g., Hsu, 1953; Markus & Kitayama, 1991). Research has also indicated that there is no direct relation between intelligence and the ability to recall childhood events (Waldfoegel, 1948). Therefore, the social status and intellectual attainment of the present participants should not undermine their representativeness of their respective groups in providing childhood memories and self-descriptions.

The present study reveals interesting findings with respect to interrelations among the memory measures examined. Across the entire sample, with group factors partialled out, memory events that occurred when participants were at a younger age tended to be less emotionally intense and less socially interactive than those that took place at an older age. These results mirror developmental findings that children's memories show increases in emotional and social elements across the preschool years (e.g., Haden, Haine, & Fivush, 1997), suggesting distinctive qualities of very early memories. Foulkes (1999) proposed that because of the limited capacity

for conscious self-representation and the lack of a continuing sense of self, autobiographical memories at early ages tend to be fragmentary, emotionally unexpressive, and infrequent in social scenarios. The present findings provide some direct evidence for this notion, indicating that both cognitive capacity and social organization of the self shape the content and quality of early memories. In addition, in this study certain characteristics of memory accounts tended to go together. Specifically, discrete, one-moment-in-time events tended to be emotionally intense, unpleasant, and interactive, focusing on individual autonomy, and they were usually described in a lengthy and emotional manner. These features associated with memories of specific episodes highlight again the importance of such memories in shaping individuals' self, personality, and life course (Pillemer, 1998; Singer & Salovey, 1993).

A few small but intriguing gender differences emerged in the present study. In both cultural groups, women were more likely than men to provide memories of discrete, one-point-in-time events. Women also reported having thought or talked about their childhood memories more frequently than men. These gender effects are in line with findings from previous memory research within American (Pillemer, 1998) and Chinese populations (Wang et al., 1998), suggesting some common gender differences across cultures.

However, a consistent pattern arose: Whenever a significant Culture \times Gender effect was identified, it was always due to the fact that only the Chinese, not the Americans, showed significant differences between the genders. Compared with Chinese men, Chinese women provided lengthier memory accounts and expressed more autonomy and self-determination in their memories. Also, Chinese women's average age at earliest memory was 4 months earlier than that of Chinese men, although this difference did not reach the level of significance. Correspondingly, Chinese women focused more on private and less on collective aspects of the self and reported fewer neutral self-descriptions than did Chinese men. Thus, Chinese women in the present study seemed to be more individually or independently oriented than Chinese men, as reflected in both memory measures and self-descriptions.

The gender differences among the Chinese participants accord with results from our previous study with Chinese high-school and college students (Wang et al., 1998). However, they depart from findings obtained among other Asian groups such as Japanese, Koreans, Hong Kong Chinese, and Malaysians in which no gender differences were identified in self-description on the TST (Bochner, 1994; Bond & Cheung, 1983; Cousins, 1989; Watkins, Yau, Dahlin, & Wondimu, 1997). The special pattern of differences between Chinese men and women may stem from two levels of influences that represent a shift in contemporary Mainland China away from traditional values of gender hierarchy, in which women were perceived as inferior to men. At the macro level, there exists a societal emphasis on gender egalitarianism that is reflected in both legal policies and cultural ideology (Chu & Hsu, 1979; Mu et al., 1997). Very often, women are depicted in the mass media as not only equal to but more competent than men. At the micro level, child-rearing practices in contemporary Chinese families often do not differentiate between genders, and parents place great hopes on girls, as they do on boys (Kessen, 1975; Wu, 1988). Chinese women in the present sample came from a top university in China and, therefore, were among those who benefited most from the egalitarian ideology and practices. The privileged status of these

Chinese women may make them value their individual propensities to the greatest extent, as evidenced by their individual-focused self-descriptions and personal memories.

In comparison, American participants in the present study did not show marked gender differences in either memory measures or self-description categories. The absence of gender difference in self-description among Americans is consistent with previous research using the TST paradigm (e.g., Bond, & Cheung, 1983; Trafimow et al., 1991). However, the lack of gender differences in early childhood recollection among Americans appears to deviate from past memory findings obtained from similar college samples (e.g., Davis, 1999; Mullen, 1994). This pattern of results is probably due to the fact that both the present study and previous TST research focused primarily on the independent-interdependent distinction across cultures. Under such a construct, gender differences, especially between American men and women, may have been masked by the more powerful cultural effects. Indeed, our cross-cultural studies on children's personal narratives and mother-child conversations about shared past have also shown similar minimized gender differences in both American and Chinese samples (Wang & Leichtman, 2000; Wang et al., 2000).

Two messages can be taken from the present findings pertaining to gender effects. First, gender and culture effects on the memory measures and self-description categories showed marked differences in nature and magnitude. Culture effects were consistent and robust, whereas gender effects were scarce and small. This pattern of results challenges some gender researchers' (e.g., Cross & Madson, 1997) attempts to conceptualize gender differences along the same independent-interdependent dimension as that of cultural differences. It points toward the notion that there is no simple parallel between gendered self-construals and cultural self-construals (Markus, Mullanly, & Kitayama, 1997; J. G. Miller, 1994; Wang et al., 2000). Second, gender differences appeared in very different forms in the two cultures. Both childhood recollections and self-descriptions showed a lack of difference between American men and women, and there was a greater independent orientation among Chinese women than men. These results suggest that the traditional gender dichotomy—that is, men are individual-oriented and women are relation-oriented—needs to be revised with the transformation of the macro culture. Particularly in contemporary American society, the larger cultural context emphasizes individuality and personal uniqueness, whereas the gendered ideology promotes interrelatedness and a sense of care in women. How do girls and women develop their identity under such seemingly conflicting value systems? New theoretical frameworks need to be established to account for the transactions between the mainstream culture and subcultures (including gender) in shaping individuals' self-construal and the associated cognitive, social, and emotional processes.

In conclusion, findings from the present study indicate that at both the cultural (i.e., Americans vs. Chinese) and the individual levels (i.e., across the entire sample), an independently oriented self-construal is linked with the early establishment of a coherent, elaborate, emotionally charged, self-focused autobiographical history, whereas an interdependently oriented self-construal is linked with the later establishment of a brief, skeletal, emotionally unexpressive, relation-centered autobiographical history. These results suggest that autobiographical memory and the cultural construal of the self exhibit a dynamic, reciprocal relation in which they con-

stitute and construct each other. Having an independently oriented versus an interdependently oriented self-construal shapes the way that autobiographical information is processed, organized, retained, and retrieved, which in turn facilitates the maintenance of a particular self-construal. Such a two-way interaction between personal remembering and self-constructing provides a possible mechanism for the continuity of both individual personality and collective culture. It also reveals the nature of human development as both self-made and culturally constructed.

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Appendix

Memory and Self-Description Examples

The following are four examples of earliest childhood memories, each followed by the participant’s first 7 self-descriptions.

Participant A26: American, male

It was the summer of ’81. I was in the backseat of our car, and we were driving to the Hamptons for the weekend. I was sorting some baseball cards when I dropped them on the front of the car. As I reached down to get them, I knocked over a jug of iced tea all over them and the car. A Tony Gwynn card was

destroyed. (Participant was 3 years, 2 months old at the time of the memory.)

I am “almost always happy,” “outgoing and friendly,” “always busy doing something,” “emotionally repressed, I keep a lot to myself,” “entranced by gossip about others,” “athletic and energetic,” “used to getting my way on thinking that things have gone well.”

Participant A48: American, female

I have a memory of being at my great aunt and uncle's house. It was some kind of party; I remember I was wearing my purple-flowered party dress. There was a sort of crib on the floor, shaped kind of like this: [a sketch]. I don't know if it was meant for me or for one of my younger cousins, but I crawled into it and lay there on my back. My feet stuck out, but I fit pretty well. I was trying to get the attention of people passing by. I was having fun and feeling slightly mischievous. When I picture the memory, I am lying down in the crib, looking at my party-shoed feet sticking out of the end of the crib. (Participant was 3 years, 6 months old at the time of the memory.)

I am "Jewish," "cheerful and optimistic," "worldly," "curious," "creative," "charismatic," "a performer."

Participant C36: Chinese, male

I used to play with friends when I was little. We went to the bush to pick up wild fruits to eat. And I watched them catch birds. (Participant was 4 years, 6 months old at the time of the memory.)

I am "violent," "a believer in nature," "going to be a father," "nothing," "self-inferior," "hateful towards any rules," "my parents' son, my sisters' brother."

Participant C91: Chinese, female

I was 5 years old. Dad taught me ancient poems. It was always when he was washing vegetables that he would explain a poem to me. It was very moving. I will never forget the poems such as "Pi-Ba-Xing," one of the poems I learned then. (Participant was 5 years old at the time of the memory.)

I am "a college student," "a girl," "fun-loving," "a freshman," "in the Mathematics Department," "rational," "lazy to think."

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