The Stories We Keep: Autobiographical Memory in American and Chinese Middle-Aged Adults

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ABSTRACT One hundred and eight European American and Chinese adults, aged between 38 and 60, participated in this questionnaire study. They each recalled 20 memories from any period of their lives. Memory content was analyzed as a function of culture (U.S. and China), life period (childhood, youth, early midlife, and peak midlife), and gender (female and male). Across the four life periods, Americans provided more memories of individual experiences and unique, one-time events and focused on their own roles and emotions. In contrast, Chinese were more inclined to recall memories of social and historical events and placed a great emphasis on social interactions and significant others in their memory narratives. Chinese also more frequently drew upon past events to convey moral messages than did Americans. In addition, memory content evidenced age-related increases in both autonomous and social orientations. Findings are discussed in light of the self-definitional and directive functions of Autobiographical memory in the context of culture.

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Memory tempers prosperity, mitigates adversity, controls youth, and delights old age.

Firmianus Lactantius

Memory is functional, no matter whether it is about semantic knowledge of the world or of significant personal experiences from an individual’s life, that is, autobiographical memory. Many contemporary researchers posit that the retention of personal information strongly depends on the functional significance of such information in sustaining an individual’s current goals, self-theories, attitudes, and beliefs (Baddeley, 1988; Bruce, 1989; Conway & Pleydell-Pearce, 2000; Hyman & Faries, 1992; Nelson, 1996; Pillemer, 1998; Ross, 1989; Singer & Salovey, 1993). Others further maintain that the constructive process of remembering takes place in the context of culture such that the functions autobiographical memory serves need to be congruent with the culture’s goals, values, and belief systems (McAdams, 1988; Nelson, 2003; Schrauf, 2000; Wang, 2001).

Research in areas of developmental, cognitive, social, personality, and clinical psychology has suggested a number of memory functions that can be conceptually mapped onto three broad purposes of autobiographical memory—self (for self-definition and regulation), social (for relationship creation and maintenance), and directive (for the guidance of behavior and problem solving) (for reviews, see Bluck & Alea, 2002; Webster & Cappeliez, 1993). Recent work has further provided empirical evidence for these primary memory uses. For example, Singer and Salovey (1993) observed that individuals often preserve what they called “self-defining memories” which are vivid, repetitive, and affectively charged. Such memories serve to convey knowledge of pain and triumph and inform individuals about the most important conflicts and concerns in their lives, thus forming the central components of one’s self and personality. Webster (2003) administered the Reminiscence Functions Scale (RFS) to 985 participants ranging in age from 17 to 96 and identified the self and social functions of memory in relation to a reactive/loss versus proactive/growth dimension. Through case studies, Pillemer (2003) showed that personal memories provide models for present activities and contribute to successful problem solving in everyday life.

Little is known, however, about the specific ways these memory functions manifest in the context of culture, in spite of the critical role of culture in shaping personal remembering. We address this
issue here by examining the self and directive functions of autobiographical memory in Euro-American and Chinese middle-aged adults, taking a lifespan perspective.\(^1\)

**The Self Function**

Cultural theories pertinent to self and its development foreshadow possible similarities and differences in memory uses across cultures. As many theorists assert, the ultimate goal of human development in any society is to establish social connections and to achieve individuation (Costanzo, 1992; Damon, 1983; Harter, 1999; Kagitcibasi, in press; Kihlstrom, 1993; Spiro, 1993). Consequently, individuals develop both personal (self-perceived distinctiveness) and social (self-perceived connectedness) identities through their cultural experiences. During the early years of life, children develop a sense of individual agency and, in the meantime, learn about the rules and conventions of their society. The youth period is the time for education and employment training, followed by the establishment of early career. An essential goal of this period is for an individual to develop an identity that comprises both unique personal attributes (e.g., being imaginative, efficient, and perfectionist) and important social roles and categories (e.g., being a son, a democrat, and a young scientist). When individuals reach early midlife, many have career and family both in place. They are expected to be responsible not only for themselves but also for others in the family, community, workplace, and so on. During peak midlife, individuals are reaping the rewards of career and family and their personal and social identities become further stabilized. Thus, through ontogenetic development, individuals incorporate increasing autonomy (as opposed to heteronomy) and relatedness (as opposed to separateness) in the construction of their self and identity (Kagitcibasi, in press).

Although autonomy and relatedness emerge in response to basic human needs and universal societal expectations, the crystallized belief system in any cultural or subcultural group tends to prioritize the development and expression of one over the other (Kagitcibasi, 1996; Markus & Kitayama, 1991; Shweder & Bourne, 1984; 1. The social function of memory is often achieved in the context of memory sharing (Fivush, 1994; Pillemer, 1998), which is beyond the scope of present investigation. See Wang (2004) for an analysis of cultural variations in this memory use.
Triandis, 1989; Wang & Brockmeier, 2002). Euro-American culture holds a faith in individuality, agency, and distinctiveness, where individuals are encouraged to develop and maintain their autonomous sense of self by attending to their private beliefs, attributes, and personality traits. In contrast, Chinese culture places a great emphasis on group solidarity and interconnectedness, which prioritizes the development of a relational sense of self that is attuned to significant social roles, duties, and responsibilities. Notably, variations in the cultural conception of selfhood should be viewed as different cultural emphases on the two important aspects or dimensions of the human self rather than dichotomous categories (Barth, 1997; Hollos & Leis, 2002; Voronov & Singer, 2002; Wang & Li, 2003).

A focus on autonomy versus relatedness in the self at the macro cultural level may affect the content and organization of individuals’ autobiographical memory, which, in turn, modifies the self function memory serves (i.e., to construct an autonomous or a relational sense of self). As Figure 1 illustrates, the relations between culture, self, and memory are complex and dynamic. We here focus on cultural effects on autobiographical memory uses in constituting individual selves (as depicted by the solid arrows).

A cultural emphasis on autonomy may encourage remembering significant personal experiences with specific details and salient emotion, especially those of one-moment-in-time events unique to

![Figure 1](image-url)

Relation between culture, self, and memory.
an individual and with the individual cast as “the leading player” in the drama (Greenwald, 1980, p. 604) (e.g., “the time I was elected as the class president”). Such memories may serve as an important means to differentiate the self from others, thereby reaffirming the self as an autonomous entity. A cultural emphasis on relatedness, in contrast, may prioritize memories of group activities and with a salient social orientation (e.g., “going to church with family every Sunday”). Such memories may help to engage individuals in ongoing relationships and reinforce social conventions, thereby reaffirming the self as a relational entity (Mullen, 1994; Wang, 2001, 2003; Wang & Leichtman, 2000). Thus, by taking different forms and contents, autobiographical memories may sustain and regulate different modes of selfhood endorsed by particular cultures.

In addition, cultural conception of selfhood determines the perceived importance of autobiographical memory in constituting one’s self and identity. It is a predominant view in Western philosophy and psychology that the self is developed, expressed, and reconstructed from one’s accumulated life history (Bruner, 1990; Hume, 1739/1882; McAdams, 1993; Nelson, 1996; Pillemer, 1998; Singer & Salovey, 1993). As Hume (1739/1882, p. 542) claimed, “Had we no memory, we never shou’d have any notion . . . of that chain of causes and effects, which constitute our self or person.” In Chinese culture, on the other hand, the self is defined less by one’s unique autobiographical history, but more by an individual’s place within his or her system of relationships (Markus & Kitayama, 1991; Triandis, 1989; Wang, 2001). Current social status and roles are regarded as crucial elements constituting one’s self and identity. Autobiographical memories thus seem more important to Euro-Americans than to Chinese in serving the self function. As a result, Euro-Americans may come to view their memories as personally more important and to think or talk about their memories more frequently, compared with Chinese.

Of interest, gender differences provide another channel to examine the use of memories in constructing the autonomous and relational sense of self. Theorists argue that multiple societal influences lead women to focus on social connectedness and men to focus on individual agency and autonomy (Gilligan, 1992; Cross & Madson, 1997). Accordingly, empirical research has shown that women tend to provide memories with detailed interpersonal episodes and vivid emotions, whereas men tend to provide skeletal descriptions of personal events focusing on independence and often remember for
the purpose of savoring a triumph or evaluating their progress in life (e.g., Davis, 1999; Merriam & Cross, 1982; Ross & Holmberg, 1990; Thorne, 1995). It is of theoretical importance to further examine the narrative construction of the gendered self across the lifespan and in the context of culture.

The Directive Function

Cultures differ in how much they value the moral and intellectual importance attached to past events. Chinese culture places a great emphasis on history and respect for the past, where "learning implies full knowledge of the precedents of a past age" (Nakamura, 1964, p. 205). Individuals are encouraged to learn from past experiences lived by themselves, others, and their ancestors. The Confucian fundamental concept ren (仁), the supreme virtue of benevolence, moral vitality, and a sensitive concern for others, further gives the past its ultimate moral purpose. According to Confucian teachings, ren is the highest purpose of life, and an individual must actively seek it through practices that help to cultivate and perfect the self. One essential practice for achieving ren is self-reflection (zi-xing, 自省), which urges individuals to examine their own past mistakes as well as to reflect upon historical events as a caution on their current and future behavior.

In contrast, individuals in Euro-American culture tend not to appreciate the directive function of memories to the same extent as they do for other functions. Using two different methods to solicit autobiographical memories, Hyman and Faries (1992) asked their U.S. participants to describe previous times when they had consulted their memories of past events. They found that while self-definitional and social functions were very common uses of autobiographical memories, the directive function was rarely evident in either of their two data sets. The researchers argued that, although this finding might be related to their methodology which did not provide a problem-oriented context, it could also reflect the fact that autobiographical memories were not particularly important for guiding behavior on a daily basis. Other researchers have observed situations where Euro-American individuals do use their memories for behavior guidance (Pillemer, 1998, 2003; Singer & Salovey, 1993; Webster, 2003). However, the directive function of autobiographical memory appears to take a different form such that past experiences are instrumental for
individuals’ current problem solving—a pragmatic goal—as opposed to one’s moral or intellectual self-perfection—a metaphysical goal. The focus of the reminiscing is now on the affirmation of the present, rather than the negation of the past (Wang, 2004).

Purposes of the Present Study

In the present study, adults aged between 38 and 60 years from Euro-American and Chinese cultures filled out a memory questionnaire in which they each provided 20 memories from any period of their lives. We performed content analysis to examine the socioemotional characteristics of the memories pertaining to the self and directive functions. We expected that, to maintain their autonomous sense of self, Euro-American participants would tend to provide memories that focused on unique, one-moment-in-time events and emphasized the individual’s own roles, predilections, and emotions. In contrast, memories of Chinese participants would frequently involve collective activities (including social and historical events), social interactions, and significant others, which would reflect and further reinforce their relational sense of self. Similar cultural differences were found in a previous study comparing earliest childhood memories of Euro-American and Chinese college students (Wang, 2001). We expected that such differences would persist in memories across the lifespan, reflecting differential self functions memories serve. In addition, we predicted that, compared with their Euro-American counterparts, Chinese participants would more frequently draw upon past events to convey moral messages, making reflective comments on how a memory event had taught them about life or the world. Because we employed an open-ended format to elicit participants’ memories and did not create any problem-oriented context, the use of memory as a way of solving practical problems was not directly tabulated.

In addition to addressing cultural differences, we examined the chronological factor that might affect the use of memory. We divided the 60 years equally into four extended life periods: childhood (0 to 15 years), youth (15 to 30 years), early midlife (30 to 45 years), and peak midlife (45 to 60 years). The four life periods roughly correspond in age with the developmental stages outlined by lifespan developmental theories (Alexander & Langer, 1990; Clausen, 1993; Erickson, 1963; Levinson, 1986; Wethington, 2000) and take into
account the characteristics of individual development in both the United States and China. Given the nature of identity formation (e.g., Costanzo, 1992; Harter, 1999; Kagitcibasi, in press), we expected an increase in both autonomous and relational orientations (as opposed to lack of agency and interpersonal distance) in memory content across the lifespan. This would reflect the increasing importance of autobiographical memories in constructing both personal and social identities.

Finally, we also examined gender effects on the recollection of life experiences. We intended to extend previous findings (Davis, 1999; Merriam & Cross, 1982; Ross & Holmberg, 1990; Thorne, 1995) by examining gender differences in memory uses from a lifespan perspective and in the context of culture.

**METHOD**

**Participants**
Fifty-four European Americans (44 women and 10 men) in Ithaca, New York, and 54 Chinese (32 women and 22 men) in Beijing, China, took part.2 They aged between 38 and 60 years (Mean age = 49 years). All participants came from a middle-class background. They were recruited by word of mouth. Participation was voluntary in both cultures.

**Procedure**
All materials employed were written in the participants’ native language. Bilingual research assistants translated and back-translated the materials to ensure the between-culture equivalence of the questions in both literal and sense meanings.

Participants were given a questionnaire and were asked to stay alone in a quiet place to fill it out. It was emphasized at the outset that they were not required to divulge any knowledge they would prefer to keep private and that all responses would be treated confidentially.

On the cover page of the questionnaire, the instruction read: “Think of 20 memory events that took place in your life. Describe them briefly on each page and answer questions about each event. Pay attention to the following: 1) Each memory should be of a specific, one-moment-in-time

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2. This study was part of a larger project that investigated the reminiscence bump phenomenon in Japan, Bangladesh, England, China, and the United States (Conway, Wang, Hanyu, & Haque, in press).
event that did not last over a day. 2) The memories recalled can be of
events from any period of your life, but are at least one year old. 3) Re-
respond with the first memory to come to mind—do not reject memories. 4) 
Once you have completed a page and turned it over, you should close
your eyes, clear your mind and think of another memory. Indeed, you can
even take a short rest between memories.”

Then, on each of the following pages, participants first used a short
phrase of sentence to give a title to the memory. They then provided a
brief written description of what they recalled, followed by ratings of re-
hearsal (“How often you have thought and/or talked about the memory
before?”), personal importance (“How personally important the recalled
experience is to you?”), vividness (“How detailed and clear your memory
is?”), and emotional intensity of the recalled event (“the degree of emo-
tional intensity of the experience”), all on 5-point scales. When partici-
pants got to the end of the booklet, they were instructed to go back to
each memory and put down how old they were to the nearest month when
the recalled event occurred (for example, “23 years 5 months”).

Coding
All coding was performed on participants’ responses in their original
language. A coding scheme was developed based on memory content
variables that had been tested in previous studies (Han, Leichtman, &
Wang, 1998; Wang, 2001; Wang & Leichtman, 2000; Wang, Leichtman,
& White, 1998).

Memory volume. The number of English words or Chinese characters
was counted for each memory to index memory volume. It should be noted
that there is no perfect way to compare narrative volume in cross-linguistic
data. Previous research (Wang, 2001) indicates that the use of word/char-
acter count provides a proximal index of volume in each language.

Memory theme. Each memory was coded into one of the following three
categories that reflected distinct content themes3: (1) Personal experiences
were associated with objects or events in the environment and not par-

3. A memory theme was categorized by referring to both the thematic nature of
the event and the central focus of the memory narrative. For example, a memory
about a historical event (e.g., “During the Cultural Revolution, the whole country
was. . . .”) would be coded as “historical.” However, if the description of the
historical event only served to provide a background or context for a personal or
social event (e.g., “During the Cultural Revolution, I was in Sichuan. . . .” or
“During the Cultural Revolution, our first child was born. . . .”), the memory
would be coded as “personal” or “social.”
particularly related to other people (e.g., success, frustration, fear, nightmare); (2) Social events were about collective activities of the family, community, workplace, or other social groups (e.g., child birth, playing or arguing with neighbors, colleagues, and intimate relationships); and (3) Historical events focused on descriptions of political changes, natural disasters, or other public events (e.g., the Chinese Cultural Revolution, the assassination of President Kennedy) rather than participants’ own experiences during the events.

Memory specificity. Each memory was coded as either “specific,” referring to events that happened at a particular point in time (e.g., “The time when I gave my first professional presentation”), or “general,” referring to events that took place regularly or on multiple occasions (e.g., “We used to have family outings every Saturday”) (Pillemer, 1998). Research has shown that people tend to provide both types of memories even when they are explicitly asked to recall specific episodes, and this tendency varies among individuals and between culture groups (Han et al., 1998; Singer & Salovey, 1993; Williams & Scott, 1988).

Memory emotionality. The frequency of participants’ spontaneous mention of emotions in their narratives was coded for each memory.

Autonomous orientation. This variable indexed participants’ tendency to express autonomy and self-determination in their memories. The number of occurrences of the following instances was counted and combined to produce a score of autonomous orientation for each memory: (1) reference to personal needs, desires, or preferences; (2) reference to personal dislikes or avoidance; (3) reference to personal evaluations, judgments, or opinions regarding other people, objects, or events; and (4) 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 memories was counted, respectively. An “other/self ratio” was then calculated for each memory. Hyman and Neisser (1992) found that U.S. participants frequently recalled their own thoughts and feelings in past events and rarely referred to those of others. We here used the other/self ratio to index the degree to which participants provided nonegotistic memories and thus their social orientation.

Interaction scenario. The number of instances that involved social interactions or group activities was counted for each memory (e.g., “We went to our summer house” and “The teacher told John to be quiet”). Propositions, defined by Fivush, Haden, and Adam (1995) as subject-verb constructions,
were used as the coding unit. Each unique or implied verb in an independent clause forms a new propositional unit (e.g., “We talked and laughed” was two propositions, whereas “We laughed and laughed” was one).

**Reflective comment.** We counted the number of comments participants made that entailed their reflections on mores or world views deriving from a memory event (e.g., “Since then, I realized that there are more good people than bad ones in this world,” and “I learned that practice makes perfection”).

One American research assistant coded the American data and one Chinese research assistant coded the Chinese data. All coders were blind to the study hypotheses and were trained to 90% accuracy based on memory samples previously coded by the first author. Repeated joint coding sessions were held to ensure that the same definitions were applied to the two data sets. A trained Chinese-English bilingual research assistant coded 20 percent of each data set for intercoder reliability estimates. Product-moment correlation coefficient was used as the reliability index (Rosenthal & Rosnow, 1991), which ranged from .77 to 1.00.

**RESULTS**

A total of 2141 memories were collected. We divided the memories in 15-year time bins, 0 to 15, 15 to 30, 30 to 45, and 45 to 60, each corresponding to the period of childhood, youth, early midlife, and peak midlife, respectively. We then performed mixed model analyses using SAS PROC MIXED program for all continuous variables, with culture, gender, and life period being fixed factors and subject being a random factor (Littell, Milliken, Stroup, & Wolfinger, 1996; J. D. Singer, 1998). In addition, culture and gender were between-subject factors, and life period was a within-subject factor. Categorical variables (theme, specificity) were analyzed with generalized linear mixed models using the SAS GLIMMIX macro. We report results pertinent to content coding variables and then participants’ memory ratings. A few participants did not answer all questions, so the degrees of freedom varied slightly across tests. To illustrate the cultural differences in memory content and organization, we present memory examples in the Appendix.

Analysis of memory volume revealed a marginally significant culture effect, $F(1, 104) = 3.54, p = .06$, whereby Chinese ($M = 77.30, SD = 45.25$) provided lengthier memories than did Americans ($M = 61.09, SD = 41.00$). To partial out the possible influence of this baseline difference, memory volume was treated as a covariate.
and controlled for in subsequent analyses of memory variables that were based on sheer frequencies in coding. Mean frequencies of these variables have been adjusted for memory volume in the report. Results pertinent to memory content variables are illustrated in Figure 2 by culture and life period.

**Memory theme.** Chinese participants (3.18%) were more likely than Americans (0.28%) to provide memories of historical events, but, overall, such memories (N = 37) were too few to warrant analysis. We therefore combined historical and social themes and performed analyses to test the probability that participants provided personal versus social-historical memories. A significant culture effect, \( F(1, 104) = 7.85, p = .006 \), indicated that Americans were more likely to provide personal memories (30.53%) and less likely to provide social-historical memories (69.47%) compared with their Chinese counterparts (18.88% and 81.12%, respectively). A main effect of life period also emerged, \( F(3, 2024) = 3.04, p = .03 \), qualified by a Gender X Life period interaction, \( F(3, 2024) = 3.56, p = .01 \). Men provided proportionately fewer memories of personal experiences (25.00%, 28.57%, 16.06%, and 14.47% for childhood, youth, early midlife, and peak midlife, respectively) and more memories of social-historical events (75.00%, 71.43%, 83.94%, and 85.53%) from their later periods of life than from earlier ones, \( F(3, 608) = 3.47, p = .02 \). Women provided similar proportions of memory themes across different life periods (personal experiences: 25.55%, 25.29%, 24.67%, and 26.67%).

**Memory specificity.** Compared with their Chinese counterparts (81.68%), Americans (92.25%) provided proportionately more memories of specific, one-point-in-time events across the four life periods, \( F(1, 104) = 12.15, p = .0007 \). In addition, memories from

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4. Participants were explicitly instructed to recall specific memories in the present study, which might have increased the proportion of specific memories they provided. Singer and Moffitt (1991–1992) found that when asked for autobiographical memories in an open format, their U.S. participants provided approximately 80% specific memories. Notably, cultural differences in memory specificity have been observed in studies with open-format instructions. For example, Wang (2001) found that when asked to describe what their earliest childhood memory was, 88% Euro-Americans and 69% Chinese provided specific memories. Wang and Ross (in press) had similar findings in their Euro-American (85%) and Asian-American samples (68%).
*Mean frequencies have been adjusted for memory volume.

Figure 2
Memory content variables by culture and life period.
the recent past were more likely to be specific than memories from earlier life periods (84.80%, 86.17%, 89.77%, and 89.38%), $F(3, 2024) = 6.13, p = .0004$.

**Memory emotionality.** A mixed model analysis with memory volume as a covariate showed a marginally significant culture effect, $F(1, 104) = 2.78, p = .098$, whereby Americans ($M = .81$) made more references to emotions in their memories than did Chinese ($M = .64$).

**Autonomous orientation.** Analysis of autonomous orientation showed a main effect of life period, $F(3, 2023) = 2.90, p = .03$, qualified by a marginally significant Gender X Life period interaction, $F(3, 2023) = 2.24, p = .08$. While women ($M's = .36, .39, .39$, and $.36$) did not show different degrees of autonomous orientation in memories across the four life periods, men ($M's = .27, .43, .36$, and $.56$) tended to express more personal opinions and predilections in memories from later life periods than in those from earlier ones, $F(3, 607) = 2.63, p = .05$.

**Other/self ratio.** As illustrated in Figure 1, in memories across the four life periods, Chinese ($M = 1.13$) made proportionately more mention of others as opposed to themselves than did Americans ($M = .94$), $F(1, 104) = 4.98, p = .03$. A main effect of life period showed that other/self ratio increased in memories from early to later life periods ($M's = .93, .98, 1.15, and 1.21$), $F(3, 2024) = 6.82, p = .0001$.

**Interaction scenario.** A significant culture effect emerged in interaction scenario, $F(1, 104) = 64.23, p < .0001$. Chinese ($M = 2.99$) more frequently described social interactions in their memories across the four life periods, when compared with Americans ($M = 1.67$). No other effects neared significance.

**Reflective comment.** Analysis revealed a significant culture effect, $F(1, 104) = 11.51, p = .001$, whereby Chinese ($M = .11$) made more reflective comments than did Americans ($M = .02$) in memories across the four life periods. A significant gender effect also emerged, $F(1, 104) = 5.76, p = .02$, followed by a Gender X Life period interaction, $F(3, 2023) = 3.13, p = .02$. Men ($M's = .10, .09, .02$, and $.19$) reflected more frequently than did women ($M's = .03, .02, .05, .04$) upon memories from their childhood, $F(1, 72) = 5.29, p = .02$, youth, $F(1, 74) = 10.42, p = .002$, and peak midlife, $F(1, 45) =$
The gender difference in early midlife period was not significant ($p = .91$).

**Memory ratings.** We performed mixed model analyses on participants’ ratings on 5-point scales of rehearsal, personal importance, vividness, and emotional intensity of the recalled events. Results are illustrated in Figure 3 by culture and life period.

There was a marginally significant culture effect on the frequency of rehearsal, $F(1, 101) = 3.07, p = .08$, whereby Americans ($M = 2.97$) reported to have thought or talked about their memories more frequently than did Chinese ($M = 2.84$). A significant Culture X Gender interaction followed, $F(1, 101) = 4.01, p = .05$. Further analyses indicated that the cultural difference was only apparent between American men ($M = 3.23$) and Chinese men ($M = 2.69$), $F(1, 29) = 7.20, p = .01$, whereas women in the two cultures did not differ in their ratings (U.S.: $M = 2.91$; China: $M = 2.95$). A significant life period effect also emerged, $F(3, 1950) = 35.72, p < .0001$, whereby the frequency of rehearsal increased for memories from more recent life periods compared with earlier ones ($M$’s = 2.59, 2.98, 3.06, and 3.20).

Compared with Chinese ($M = 2.94$), Americans rated their memories across all life periods as more personally important ($M = 3.57$), $F(1, 101) = 31.62, p < .0001$. There was also a life period effect on importance rating, $F(3, 1950) = 33.31, p < .0001$, whereby participants rated their earlier memories as less important than memories from more recent life periods ($M$’s = 2.95, 3.27, 3.52, and 3.46).

Analysis of participants’ rating of memory vividness revealed a significant main effect of life period, $F(3, 1951) = 49.88, p < .0001$, whereby memories from earlier life periods were rated as less clear or detailed compared with more recent ones ($M$’s = 3.39, 3.71, 3.95, and 4.05). A Culture X Gender interaction also emerged, $F(1, 101) = 4.20, p = .04$. While women in the two cultures did not differ in their memory vividness ratings (US: $M = 3.70$; China: $M = 3.83$), American men ($M = 3.97$) rated their memories as more vivid than did Chinese men ($M = 3.45$), $F(1, 29) = 5.44, p = .03$.

For the rating of emotional intensity, Americans ($M = 3.85$) scored significantly higher than Chinese ($M = 3.59$) for memories across all life periods, $F(1, 101) = 6.62, p = .01$. Participants rated memories from earlier life periods as less emotionally intense than more recent ones ($M$’s = 3.50, 3.72, 3.93, and 3.88), $F(3, 1950) = 24.91, p < .0001$. 
Figure 3

Memory ratings by culture and life period.
DISCUSSION

Seventy years ago, Bartlett (1932) claimed that “Social organization gives a persistent framework into which all detailed recall must fit, and it very powerfully influences both the manner and the matter of recall” (p. 296). Only until the recent two decades, however, have memory researchers started to look beyond the manifestation of individual mind and to examine the effects of social-cultural factors on processes of remembering. As an integral part of the self-system, autobiographical memory has stimulated a wide range of research interests. Studies have examined mechanisms for autobiographical memory in the context of culture, addressing many important issues such as infantile amnesia (for a review, see Wang, 2003), reminiscence bump (Benson, et al., 1993; Conway, Wang, Hanyu, & Haque, in press), and bilingualism and memory (Marian & Neisser, 2000; Schrauf, 2000). In the present study, we examined the cultural effects on autobiographical memory from a functional perspective, focusing on the most crucial feature of memory—functionality, which has not been sufficiently addressed in cross-cultural research.

Consonant with our predictions, Euro-American, middle-aged, adult participants frequently focused on memories of personal experiences, provided discrete, one-moment-in-time events unique to the individual, and placed a great emphasis on their feelings and personal roles in the memory events. In contrast, Chinese participants were more likely to describe memories of social and historical events, provided proportionately more memories of generic, routine experiences, and focused more on social interactions and the roles of other people. This pattern of cultural differences was consistent in the recollections across childhood, youth, early midlife, and peak midlife. The self-focused autobiographical memories of the Americans may serve to single out the rememberers as unique, self-contained individuals, whereas the group-oriented memories of the Chinese help to highlight the embeddedness of the self within a matrix of social relations. The diverse genres of autobiographical remembering thus serve to construe different views of the self that emphasize autonomy versus relatedness in the two cultures.

In addition, compared with their Chinese counterparts, Americans reported having thought or talked about their memories more frequently and tended to perceive their memories as more personally
important, detailed, and emotionally intense. The cultural differences appeared more prominent among men than among women. These results support the notion that people in the two cultures may not value autobiographical memory to the same extent with regard to its self-definitional function. In American culture, where the past is viewed as an integral part of one’s self and identity, memories of significant life experiences (including the specific details and emotions involved in the events) are often repeatedly evoked, shared, and reevaluated as an important means of consolidating the current self (Bruner, 1990; Fivush, 1994; Freeman, 2001; Pillemer, 1998; Wang, 2004). This practice is less common in Chinese culture where one’s identity tends to be readily defined by existing social orders such as kinship and relational hierarchy (Hsu, 1953). Thus, the self function of autobiographical memory operates in nuanced versions such that (1) memories serve to define and regulate different self-constructs appropriated by specific cultures, and (2) the use of memory to construct one’s self and identity is not emphasized and implemented to the same degree across cultures.

As predicted, Chinese participants more frequently reflected upon past events to generate moral messages than did Americans. This use of memories may take a retrospective (e.g., “I shouldn’t have done. . . ”) or a prospective term (e.g., “I decided that from then on, I. . . ”). The meaning of a memory, in this case, is no longer simply confined by what had actually happened in the past event but extends beyond it to convey bigger messages of mores or world views. This process often requires self-criticism where individuals scrutinize their past endeavors and mistakes. It seems to contradict the North American ideology that emphasizes self-enhancement and positive self-regard (e.g., Higgins, 1996; Kitayama, Markus, Matsumoto, & Norasakkunkit, 1997). Interestingly, Ross and Wilson (2000, 2003) observed that people in North American culture sometimes derogate their past selves in order to maintain or augment their current favorable self-views: “I’m better than I was before.” In contrast, the purpose of criticizing the past for the Chinese is to reorganize their current and future behaviors because “I learned a lesson.” Such a directive function of memory is consistent with traditional Chinese teachings that emphasize learning from the past, which is regarded as a crucial means to achieve moral and intellectual self-perfection as idealized in the Confucian fundamental concept “ren.”
Some intriguing life period effects emerged. Compared with memories from the distant past, memories from the more recent past were reported having been more frequently rehearsed and were perceived as more important, vivid, and emotional. Events that took place in more recent life periods are more likely to retain a lasting impact on people’s lives. People tend to have fresh memories of the specific details and about how they felt during the events and to think or talk about the events frequently. Events that occurred long time ago, on the other hand, become conceivably less significant to people’s current lives. As a result, people do not think of them as often, and some specific details of the events may be eventually lost following natural forgetting mechanisms (Conway, 1990).

The changes in memory content as a function of life period yielded a general pattern that supports our hypotheses. Participants in both cultures mentioned proportionately more others as opposed to themselves in memories from later life periods than from earlier ones. In addition, across the four life periods, men provided increasingly more memories of social-historical events and fewer memories of personal experiences. On the other hand, participants provided increasingly more memories of unique, one-time events across the life periods, and men in both cultures expressed more personal autonomy in memories from the recent past than from the distant past. These results together suggest an increase in both social and autonomous orientations in memories from childhood to youth then to midlife periods, consistent with the pattern of lifespan development of personal and social identities. They further indicate the increasing importance role of autobiographical memories in the construction of the self.

Interestingly, the life period effects seem more prominent among men than among women. Women showed similar degrees of autonomous orientation in memories and provided similar proportions of various memory themes across the four life periods. These findings may stem from the relatively consistent societal expectations of women across the lifespan. In both the United States and China, women are expected to be caring, nurturing, and attentive to others’ needs and interests. Child-rearing practices often place a great emphasis on interrelatedness to girls from a very early age (Fivush, 1994; Wang, Leichtman, & Davies, 2000). For example, Buckner and Fivush (2000) found that during family conversations of shared experiences, both mothers and fathers chose to discuss with their pre-
school-aged girls socially oriented events more frequently than with boys. Correspondingly, girls spontaneously talked about relationships more than boys did during the memory conversations. The consistency in expected social roles and favorable personal attributes (e.g., being sensitive and caring) may lead girls and women to focus on their social aspects of the self throughout their lives (Cross & Madson, 1997; Gilligan, 1992). In comparison, societal expectations of boys tend to start with an emphasis on autonomy. With age, they are expected to become increasingly independent while assuming more social responsibilities. As a result, we observed greater changes in autonomous and social orientations in memories across the life-span among men than among women. In addition, we found that men in both cultures reflected more frequently than did women upon their memories. This gender difference may reflect men’s greater tendency to use memories to evaluate their progress in life as found in previous studies (Merriam & Cross, 1982; Ross & Holmberg, 1990).

Several postmarks are worth noting. First of all, because our samples were of a modest size, one should be cautious when drawing conclusions based on present findings, particularly those pertinent to gender. The second issue concerns the important distinction/connection between memory representations and memory narratives, an age-old question yet to be fully addressed in empirical research. In relation to our study, it is possible that cultures have different norms in terms of what a life story should be (e.g., the extent of self-disclosure or emotional expressiveness), which may create a type of “response bias” in memory narratives rather than actual differences in memory representations (Conway & Pleydell-Pearce, 2000). In a recent study, Wang and Ross (in press) set forth to test this hypothesis empirically, using priming methods. Their findings suggest that cultural differences in memory reports do reflect the varied ways people remember autobiographical events rather than simply the ways they talk or write about these events. Importantly, the two aspects of memory are inextricably connected and, perhaps, ultimately, it is the very process of narrative construction of personal experiences that gives meaning and substance to one’s self, personality, and life course (Bruner, 1990; Freeman, 2001; McAdams, 1988; Wang & Leichtman, 2000).

Third, the present findings merit more empirical research on autobiographical memory within cultural and cross-cultural frameworks. In addition to addressing the self and directive functions of
memory, studies should examine the social and emotional regulatory functions of memory sharing, thus situating the use of memories not only within the person but between persons. Cultural sensitivity in the research design should go beyond treating culture as an independent variable but should view it as manifesting across various domains, contexts, and situations. Accordingly, studies will examine how people in different cultures use their autobiographical memories in service of particular goals within these domains, contexts, and situations. Further, it is of theoretical and practical significance to investigate the functions of both conscious recollection and involuntary remembering in different populations. Together, these studies will not only enrich our knowledge of cultural diversity in the dynamic processes of memory, self, and personality, but also provide an indispensable means of attaining a genuine understanding of the human psyche.

In conclusion, our findings indicate that the self and directive functions of autobiographical memory manifest in different fashions at both the group and individual levels. The life story is, therefore, "a joint product of person and environment" (McAdams, 1988, p. 18). At the group level, Euro-Americans tended to use memories as a means of self-expression and individuality and, thus, to articulate an autonomous sense of self. In contrast, Chinese often employed memories as an instrument to assimilate themselves into the larger collective and, thus, to compose a sense of self that focused on interrelatedness. In addition, remembering appeared to be a process of self-reflection for the Chinese to perfect a moral and intellectual being emphasized by Confucian ethics. At the individual level, there was an age-linked increase in the use of memory to construct both personal and social identities, consistent with the notion that self-development comprises the establishment of social connections and the achievement of individuation.

Individuals construct life stories that provide utility and purpose, stories that they use to define and articulate themselves, to maintain and solidify relationships, and to facilitate problem-solving and behavior guidance. These memory uses are not intrinsic characteristics of autobiographical memory per se but social creations, and hence subject to variation across cultures. Different memory usages, in turn, manifest in the processes and outcomes of everyday mnemonic activities, affecting how personal experiences are remembered and shared.
REFERENCES


Wang, Q., & Ross, M. (in press). What we remember and what we tell: Disentangling cultural effects on memory representations and memory narratives. Memory.

APPENDIX

Appendix: Memory Examples

Memory Examples by U.S. Participants.

Subject# 6 female

Purple Pills  (dated around age 2.1 to 2.5)

I crawled out on the bathroom sink (to the left) and swallowed some purple pills the adult away. I was so proud! Later, I was rushed to the hospital to have my stomach pumped. Dim memory of dark hospital room. It turned out that the purple pills were meant to be dissolved in . . . water for my sister, who had a rash. She was 6 weeks to 6 months old. I was 2 years and 4 weeks to 2 years and 5 1/2 months old.

Subject# 21 female

A Visit from a Classmate One Day  (dated at age 12.5)

I must have been 12 or 13, and was in the den playing some game by myself one weekend morning—I think I had made a tent with a blanket and a table. One of my classmates, a boy, came to visit which was a very rare event. I was intensely embarrassed because I felt that I was not properly dressed (I had not put on a bra that morning) and because I was playing such a childish game.

Subject# 7 female

Gassing Me out of House and Home  (dated at age 29 years 6 months)
I lived in a studio apartment in Malden on a “ground floor” which was somewhat raised from ground level. Someone frequently parked under my windows and let the motor run for up to 1/2 hour, it seemed. It wasn’t logical. One day, with complete self-assurance, I went outside and asked the driver to turn off his engine. I was met with a hostile look and then ignorance. His girlfriend, however, who lived in the building, recognized my attitude, and the car was turned off. It was my first introduction to something I am still trying to analyze.

Subject# 9  male

“Best of . . . ” Anthologies  (dated at age 38)

The only three essays I have published are to be included in “Best of . . . ” anthologies for each of the journals they have been published in. News of all 3 comes to me within a day or two so that I am filled with great joy & satisfaction.

Subject# 41  female

The Conference  (dated at age 58)

The last year before I retired from [omitted] I was given an assignment of setting up a large conference. I did a lot of work for that conference but my memorable moment was when we were on the Keuka Maid for one of the special events and the Dean stood up before the crowd and complimented me and thanked me for the wonderful conference and everyone cheered and clapped for me.

*Memory Examples by Chinese Participants.*

Subject# 3  female

The Day of Guest Visit  (dated at age 3)

That day, my girl cousin and boy cousin came to our house. I remember my boy cousin was wearing a tank top with a number on the back.

Subject# 24  male

Father Getting Mad at Me  (dated at age 11)
One day my teacher came to visit my family. He talked about his expectations to me and happened to mention about the “da-zi-bao” incidence. *My dad was furious after hearing it and picked up a pair of scissors, trying to kill me. Since then, I understand that “A teacher for a day, a parent for life.”

Subject# 46 female
Parade (dated at age 25)
During the Cultural Revolution, whenever the loudspeaker in the yard announced that “Chairman Mao’s highest command was published,” everyone rushed to their unit to gather together and went on the street to parade and celebrate.

Subject# 6 male
Finally Having a Job of My Specialty (dated at age 32)
The director of the design department liked people who were good at techniques. He knew that I loved working as a designer, so he tried his best to transfer me to the design department. At the welcome party, I swore that I would work hard and achieve something so that I would not disappoint my boss.

Subject# 18 female
Being Touched by Students’ Sincerity (dated at age 46)
At the end of 1997, the class I taught had graduated from junior high over a year. The students all called saying that they were coming to see me at school before the New Year. On Dec. 30th, after the school’s New Year party, all the other teachers went home. The snow was heavy that day, about three inches high. I thought probably no one would come. When I was about to leave, wow, there came a bunch of people. Some were riding bikes, and some riding motorcycles. There were 26 people all together. That’s more than half of the class. They came to see me at such a time and in such weather. What could be more honorable than this?

*During the Cultural Revolution, da-zi-bao (big-letter-posters) were used to attack those who were thought to be counter-revolutionary. The participant described in another memory that he made a da-zi-bao against his teacher.
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