

CULTURAL DIFFERENCES IN GENERAL AND SPECIFIC MEMORY

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by

Jiayi Zhang

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## **ABSTRACT**

In this study, 68 Asian or Asian American students and 84 European American or White students from Cornell University were asked to recall their general memories and specific memories. Participants also rated their memory detailedness, memory valence, and emotional intensity for each of their memories, as well as their self-construal. This empirical study found that across cultures, people tend to recall more specific memories than general memories. Moreover, this study found an interaction effect between memory type and culture on memory accessibility, with Asians recalling more general events, whereas European Americans recalling more specific events. Our findings suggested that specific memories, compared with general memories, tended to be stronger in emotional intensity. Lastly, we found that independent self-construal would be helpful for individual to report positive and intense emotion in their specific memory.

Keywords: Specific memory; Autobiographical memory; General memory; Memory accessibility; Memory valence; Self-construal; Culture

## **BIOGRAPHICAL SKETCH**

Jiayi Zhang is pursuing a master's degree in Human Development in Dr. Qi Wang's laboratory. Prior to coming to Cornell, she received her bachelor's degree from the Department of Psychology, University of Minnesota — Twin Cities, Minnesota, United States in 2015. During this time, she was honored to be on the Dean's List for three semesters. Prior her time at the University of Minnesota, she studied in the Beijing Forestry University, and was awarded academic scholarships for three years because of her outstanding academic performance.

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## INTRODUCTION

Traditionally, one might believe that memory only has to do with the brain. Tulving (2002) argued that conventional psychological research considered memory as neurological processes, and it particularly emphasized human neuropsychological significance of memory system. Previous research has largely focused on memory in the personal and individual levels and has not considered cultural differences. However, recent research has suggested that culture and memory are closely connected. According to Wang (2010), “the relation between culture and memory is bidirectional” (pp.1). Culture can shape people’s memories (Wang & Ross, 2007). The different cultural views can be gradually internalized by individuals through socialization (Wang, 2009). Similarly, memory can preserve a culture. Inarguably, individuals have to remember their history, values, and customs in order to preserve a culture (Kashima, 2000). As culture and memory are closely related to each other, in the recent three decades, researchers have examined cultural variations in the different aspects of memory and have tried to understand the underlying mechanisms contributing to such cultural variations. In particular, this study aims to examine cultural differences in both general and specific memories. In the following paragraphs, I will 1) give definitions of general memory and specific memory; 2) I will briefly discuss the cultural difference in self-construal and how that may influence various aspects of memory, including memory accessibility, memory valence, and memory detailedness; 3) review empirical evidence of the cultural differences in the three autobiographical memory variables and 4) provide some indications of cultural differences in generic memory using previous research even though this topic has not been fully explored.

## **Definitions of types of memory**

When asked to recall their past personal events, people's recalled events can usually be categorized into two types, general memory and specific memory. According to Wang (2009), general memory is usually defined as memory for events that happen regularly and frequently for a long period of time. For instance, my mom and I usually walk my dog after dinner every day. Specific memory is the memory of unique individual events that usually takes place in an exclusive time and in a particular place. An example of a specific memory would be "I got my first poodle at my 18-year-old birthday party". Previous research, to a large extent, has focused on specific memory. Most of the initial research on this topic investigated specific memory in laboratory settings, which involves priming participants with some information and asking participants to recall it after a certain time interval. Later studies investigated specific memories by asking participants to recall their distinguished personal past events, namely, autobiographical memories (Nelson & Fivush, 2004).

Like previously implied, people from different cultural backgrounds typically tell diverse stories about themselves. Cross-cultural studies investigating autobiographical memory have found significant cultural differences in various autobiographical memory variables.

## **Cultural Self-construal**

Previous empirical research has indicated that self-construal plays a role in influencing the cultural difference in both episodic specificity and autobiographical memory valence (Libby & Eibach, 2007). Episodic specificity refers to the autobiographical memory accessibility and autobiographical memory detailedness. Markus and Kitayama (1991) have suggested that in Western cultures, where autonomy and independence are emphasized, individuals tend to

disclose and express themselves. Specific events (e.g., “I got my first poodle on my birthday party”) could be essential ingredients of unrepeatable and unique self-identity (Wang, 2006a). Westerners are more likely to talk about, ruminate, and recollect specific memories, which helps increase their episodic specificity (Mullen, 1994; Wang, 2006b; Wang & Ross, 2007). On the contrary, Asians’ dependent self-construal would be less likely to motivate to recollect specific memories. Furthermore, Asians are unlikely to talk about and recall specific memories with others. Previous empirical research has also indicated that self-construal plays a role in influencing the cultural difference in memory valence (Libby & Eibach, 2007). Specific events are usually accompanied by ego-focused emotions which highlight the independent self-identity (Kitayama & Markus, 1991; Wang, 2006b). Therefore, Westerners report their autobiographical memory with higher emotional positivity and intensity than do Asians. In contrast, Kitayama and Markus (1991) have argued that in East Asian cultures, the nature of self is derived from collectivism in social contexts which results in an emphasis on interrelatedness and connectedness. Therefore, specific memories tend to be lower in specificity in Asian group, as reporting specific events will not help in building and maintaining a dependent self-identity. As for the autobiographical memory valence, ego-focused emotion is considered destructive and devastating in interrelated connections, thus Easterners are more likely to withhold their emotions when reporting specific events (Chang, 1996; Kitayama & Markus, 1994).

### **Cultural difference in autobiographical memory**

Episodic accessibility, or the number of specific events can be recalled, is one of the autobiographical memory variables that have frequently been examined. Previous studies have

indicated that compared with Asians, people from Western cultures tend to recall more specific, distinctive events. This cultural difference is also documented among young children. (Han et al., 1998; Wang, 2001; Wang & Convey, 2004).

Apart from memory accessibility, previous studies have also shown cultural differences in memory valence. Researchers have identified cultural differences in autobiographical memory valence decades ago. It has been noted that Euro-Americans have a greater tendency to report a positive emotion when asked to recall past personal events. However, Asians tend to report similar amounts of positive and negative events and sometimes are more likely to recollect negative events. In addition, Asians are less likely to report their intense emotions than are Westerners, who report strong feelings in their memories (Berntsen & Rubin, 2004; Han et al., 1998; Meijer, 2004).

In addition, cultural differences in memory detailedness have been identified in the recent two decades. Whether the events are extremely clear to the rememberer and whether the recaller can provide highly vivid and detailed descriptions are both indications of memory detailedness. Cross-cultural studies have suggested that Westerners tend to recollect detailed memories and tell their memories to others with highly elaborated language (Han et al., 1998; Wang, 2004; Wang, 2006; Wang, 2014).

### **General memory**

In addition to specific memory, people also recall general memory when asked to retrieve their personal past events. General memories are related to significant norms and regularities of daily life and they play an essential role in connecting people with their important social partners and communities and in following norms and routines that are prevalent in the cultural groups

(Wang, 2009). General events (e.g., “I usually walked my dog with my mother after dinner”) is pivotal ingredients of dependent self-identity (Wang, 2006b). When retrieving generic personal past events, whether people from Western cultures or from Eastern cultures could show significant differences on memory accessibility should be empirically examined. It is predicted that Asians are more likely to retrieve general memories than do European Americans. What’s more, like previously mentioned, Markus and Kitayama (1991) have proposed that while Westerners tend to focus on their ego-focused emotions, and thus Westerners tend to report their intense emotion in the specific memory. Following this logic, whether Asians are more likely to report intense emotion in their general memories is worth testing because researchers also have suggested that Asians tend to show their other-focused emotions which usually are along with general events.

### **Present study**

Previous research, to a large extent, has focused on examining specific memories. Only a few studies have paid attention to general memories. In the present study, we aim to address this gap in the literature by examining cultural differences in both general and specific memories. In this study, we ask participants to recall both specific and general memory as many as possible within the stipulated time. The number of memory will be compared among two groups. After recollection, participants are asked to rate their memory in terms of memory positivity, memory emotional intensity and memory detailedness. We hypothesize that European Americans would have better accessibility on specific memory, whereas Asians or Asian Americans would have greater accessibility on general memory. In addition, we hypothesize that European Americans would report stronger emotional positivity and intensity in their ratings than do Asians. Past

research has found that cultural differences in self-construal is related to variations in memory specificity and memory valence, we therefore also hypothesize that the cultural difference in memory accessibility and in memory valence would be related to self-construal.

## METHOD

### Participants

Participants were 84 European American (White) students (mean age= 21.24, male=22, female=62) and 68 Asian or Asian American students (mean age= 20.44, male=15, female=53) from Cornell University. Some of the students in the Asian or Asian American group were originally from China (N=30), Korea (N=11), Nepal (N=2), Pakistan (N=1), Philippine (N=1) and India (N=1). The rest of the Asian participants were either born in the United States or moved to the United States at a very young age. Almost all of the participants (92%) reported that they were fluent in English. In addition, 86% of the participants' parents had college degrees or above.

### Materials and procedure

Data were collected online at Cornell University, using a participant pool in the SONA system. Participants were prescreened by their ethnic backgrounds, so that only European American and Asian or Asian American students were recruited. Each participant could either get one extra credit for the course they were taking or five-dollar compensation after they finished the study completely.

This online questionnaire was designed in the Qualtrics platform, through which the survey was delivered. It involved a memory-fluency task and included several sections. One section asked participants to recall as many general events as they could within 4 mins. They then were asked to rate each memory on five-point scales on various memory variables (e.g., memory emotionality, memory detailedness). Another section, participants were asked to recall specific memory events within 4 minutes. They then rated each memory on 5-point scale on different

memory variables as stated above. The order of the two sections was counterbalanced across participants in each culture group.

In addition, participants were asked to complete the Singelis Self-construal Scale (Singelis, 1994) to investigate individuals' self-construal.

## Coding

*Memory accessibility.* The memory accessibility was measured by the number of recollections recalled by participants. The number of recalled memory was counted separately by memory type.

*Reported memory emotional intensity.* Participants were asked to rate on a 5-point scale for memory emotionality from no emotion to most intense emotion. We coded it by calculating the average score of the memory emotional intensity scale to get their reported memory emotional intensity.

*Reported memory valence.* Participants were asked to rate on a 5-point scale for memory valence from very negative to very positive. We coded it by calculating the average score of the memory valance scale to get their reported memory valence.

*Reported memory detailedness.* Participants would finish a 5-point rating scale from not clear to most vivid. We coded it by calculating the average score of the memory detailedness rating scale.

*Self-construal.* The cultural self-construal was coded by the coding scheme of the Singles Self-Construal Scale. There were thirty items in total, and scale ranges from one to seven. Among these items, fifteen statements would be regarded as independent self-construal scales, whereas another fifteen statements would be viewed as interdependent self-construal scales. The final

independent self-construal score was computed by adding up the independence scores, and the final dependent self-construal score was computed by adding up the dependence scores.

### **Analytic plan and data screening**

One concern in data collection was that because of web-based recruitment, participants might leave the survey in the middle and never complete it. To address this concern, it was decided that all participants who did not complete both recall sections would be excluded from data analysis. Also, it was decided that those who were unable to fill in the demographical information would be excluded.

In light of those theoretical outlines mentioned previously, the number of specific and general memories recalled would be compared between the two culture groups. It was expected that Asians would show greater accessibility to general events, whereas European Americans would show greater accessibility to specific events. The memory ratings (memory detailedness, emotion content and emotional intensity) would also be compared to show cultural differences in the specific memory and the general memory. A correlational test would be applied to test whether self-construal can relate to culture and various memory respects.

## RESULTS

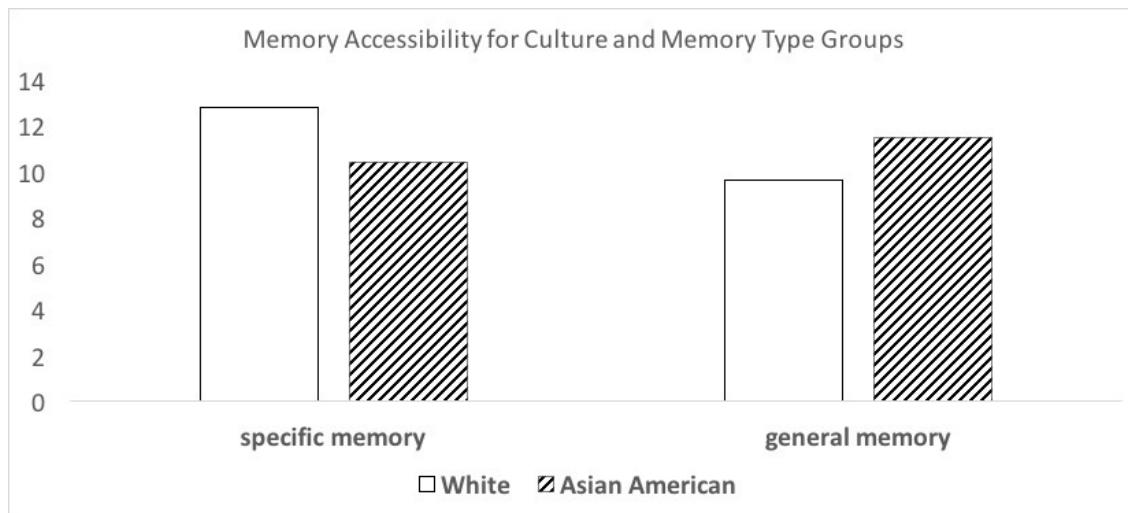
The preliminary test showed that there was no gender effect in the analysis process. Following the analytic plan, we used repeated measure ANOVA to test whether culture and memory type has an effect on memory accessibility. The same test was applied to test memory type effect and culture effect on memory detailedness, memory valence and memory emotional intensity. Finally, we ran bivariate correlation tests to investigate relationship between self-construal and different memory aspects.

### ***The interaction effect of memory type and culture on accessibility***

To investigate whether accessibility differs across memory types and cultural contexts, we performed a Repeated Measures ANOVA on accessibility with Memory type (Specific memory versus General memory) as a within-subject factor and culture (European American versus Asian American) as a between-subject factor. We found a marginally significant main effect of memory type on accessibility,  $F(1,150)=3.75, p = 0.055, \eta^2=0.02$ , qualified by a significant interaction between memory type and culture,  $F(1,150)= 14.50, p <.001, \eta^2 = 0.09$ . Post-hoc multiple comparisons (Bonferroni-adjusted) showed that, for specific memory, European Americans had greater accessibility than Asian Americans,  $p =.025, \eta^2 = 0.03$ ; for general memory, Asians or Asian Americans had better accessibility than Euro-Americans,  $p =.053, \eta^2 = 0.03$ . From another perspective, post-hoc multiple comparisons (Bonferroni-adjusted) also showed that European-American participants had higher accessibility for specific memory than general memory,  $p <.001, \eta^2 = 0.11$ ; for Asian participants, there was no significant difference in accessibility between two memory types.

### **Memory Accessibility for Culture and Memory Type Groups**

Memory Type	Culture	Mean	Std. Deviation
Specific Memory	European American	12.81	6.28
	Asian or Asian American	10.43	6.68
General Memory	European American	9.66	5.39
	Asian or Asian American	11.61	6.29



### ***Effect of memory type and culture on reported emotional intensity***

To investigate emotional intensity difference across memory types and cultural contexts, we performed a Repeated Measures ANOVA on accessibility with Memory type (Specific memory versus General memory) as a within-subject factor and culture (European American versus Asian American) as a between-subject factor. We found a significant main effect of memory type on reported memory emotional intensity,  $F(1,150) = 12.20, p = 0.001, \eta^2 = 0.08$ . Post-hoc multiple comparisons (Bonferroni-adjusted) showed that, across both cultures, participants reported stronger emotion for specific memory ( $M = 3.60, SD = 0.06$ ) than for general memory ( $M = 3.36, SD = 0.06$ ),  $p = .001, \eta^2 = 0.08$ .

### ***The effect of memory type and culture on reported memory valence***

To investigate valence difference across memory types and cultural contexts, we performed a Repeated Measures ANOVA on accessibility with Memory type (Specific memory versus General memory) as a within-subject factor and culture (European American versus Asian

American) as a between-subject factor. We didn't find any difference on reported memory valence across cultures and memory types.

### ***The effect of memory type and culture on reported memory detailedness***

To investigate memory detailedness difference across memory types and cultural contexts, we performed a Repeated Measures ANOVA on accessibility with Memory type (Specific memory versus General memory) as a within-subject factor and culture (European American versus Asian American) as a between-subject factor. We didn't find any difference on reported memory detailedness across cultures and memory types.

### ***Cultural difference in self-construal***

We didn't find cultural differences on self-construal. Although European Americans ( $M=71.75$ ,  $SD=10.38$ ) scored higher on independence self-construal questionnaire than did Asians or Asian Americans ( $M=68.47$ ,  $SD=12.81$ ), the difference is not significant. However, for dependence self-construal, Asians or Asian Americans ( $M=72.61$ ,  $SD=9.19$ ) scored higher than did European Americans ( $M=74.60$ ,  $SD=12.66$ ).

### ***Correlational test***

We found independent self-construal and reported specific memory emotional intensity were significantly and positively correlated,  $r(152) = 0.24$ . Also, we found that Independent self-construal and reported specific memory valence are significantly and positively correlated,  $r(152) = 0.23$ .

## DISCUSSION

Consistent with my central hypothesis, we found an interaction effect between memory type and culture on memory accessibility. Specifically, for specific memory, European Americans or Whites had better accessibility for specific memories than did Asians or Asian Americans. As for general memory, Asians or Asian Americans had greater accessibility than did European Americans. From another perspective, European Americans could recall a significantly larger number of specific memories than that of general memories. Although according to the descriptive statistics, Asians or Asian Americans could retrieve a slightly larger number of general memories than that of specific memories, no statistically significant difference was found. The finding that, compared with Asians, European Americans tended to retrieve more specific episodes, is consistent with previous findings. (Wang, 2001; Wang & Convey, 2004). Moreover, we found that Asians or Asian Americans recalled more generic memories than did European Americans, which addressed the question that limited research has explored the cultural differences in general memories.

With regard to reported memory emotional intensity, we found that across two cultural groups, participants were more likely to report intense emotions for specific memory than general memory. It is not surprising to find this result because specific memories are usually unique and distinctive personal events, and people would usually care more about their own emotions in such events. Accordingly, the emotion along with these events is more likely to be remembered and reported, either negative or positive. However, general events tend to be repeated events that happen routinely, and the accompanying emotion is more difficult to remember.

Also, we found a significant and positive correlation between reported specific memory emotionality and independent self-construal. In addition, the correlation between independent

self-construal and reported specific memory positivity are significant correlated. These findings support that independent self-construal can motivate Westerners to report more positive and intense emotion in their specific memories.

## **Limitations**

Differing from previous research, this study did not find any significant cultural difference in reported memory valence and reported memory detailedness. Also, this study failed to support the expected relationship between self-construal and memory accessibility, and between self-construal and memory valence. These could be attributed to the small sample size. The target sample for this study is 200 participants, 100 for each cultural group, in order to achieve a power of .8 for detecting medium effect sizes ( $d=.4$ ), as determined using GPower software. We didn't reach the sample size suggested by the power analysis, which is 100 participants for each cultural group. Further, everyone had their own scale on rating standard. Also, previous research suggested that European American mothers were more likely to share negative past events with daughters than with sons (Fivush et al., 2003). Therefore, females are more likely than males to recollect detailed and negative memory. In this study, although there is no gender effect, we had more female participants than male participants, which could be a potential reason for failing to find the cultural difference in the memory variables mentioned above. Plus, some Asian Americans moved to the United States at very young ages, so they may have American tendencies, which may influence the results. In addition, we noticed that 86% of our participants are from high socioeconomic status (SES) family, which indicates that our sample is kind of limited to high SES backgrounds.

## **Future direction**

My main finding in this study is the interaction effect of memory type and culture on memory accessibility. Previous studies have suggested that avoidant style is also related to memory accessibility. Studies have provided evidence that autobiographical memory accessibilities were related to the avoidant coping style. Researchers have reported that the lack of episodic specificity is relevant to an avoidant coping strategy in regulating negative emotions (Hermans et al., 2005; William et al., 2007). It has been suggested that the number of the specific recollections is negatively correlated to the avoidant coping style (Raes, 2006). In the future study, the mediation analysis should be applied to investigate the relation between culture and accessibility of both specific and general memory.

In addition, like it was mentioned in the limitation part, this study may be limited to individuals from high SES background. In order to get better result, future studies can investigate individuals from low SES background in order to examine whether the cultural differences in various aspects still can be found.

In summary, in addition to examine the episodic specificity, this study finds that compared with European Americans, Asians or Asian Americans have better accessibility on generic memories, which addresses the problem of lacking research on general memory accessibility. Plus, this study finds that people tend to recall more specific memory than general memory could be further attributed to that specific memories that are along with intense emotion would be helpful for the memory retrieving process. Also, consistent with previous findings, this study confirms that independent self-construal can be helpful for people to recall their memories with higher positivity and intensity.

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