

HOW CULTURE IMPACTS AUTOBIOGRAPHICAL MEMORIES

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ABSTRACT

Autobiographical memory is a system of memory, derived from personal life, by events and semantics based combination of episodes. It is a type of explicit memory. This study aims to examine the effect of culture and gender on individual's recall of specific and general events. It analyzed how culture impacted autobiographical memories by analyzing data from 208 participants in a survey. It found that memory is affected by gender and ethnicity, but not by whether the memory is about specific or general events. The result shows that culture does not affect the number of recalled for general memories or specific memories.

Key Words: Memory, Culture, Gender, Autobiographical memory

How Culture Impacts Autobiographical Memories

Autobiographical memory is a system of memory, derived from personal life, by a combination of event-based episodes (personal experiences and specific subjects, people and events experienced at a particular time and place) and semantics (in general knowledge and facts about the world). Autobiographical memory is a conscious recollection of a particular event that happened at a particular time and place in the past. In the process of narration, it includes information about when, where and what. Through this type of memory, people can briefly return to the time and re-experience the past experience (Ross & Wang, 2010; Wang, 2009, 2013). One important dimension of autobiographical memory is episodic specificity. According to Wang (2009), episode specificity refers to the generation of episodic memory and reminiscence of the rich details of temporal and place-specific past events characterized by features in temporal memory representation. It indicates whether episodic memory and detailed plots can be generated.

In traditional psychological research, autobiographical memory, as well as episodic memory in general, is considered to be a major neurocognitive memory system, which is different from semantic memory, that is, the general knowledge of the world. Therefore, research focuses on the neurobiological basis of the function (and dysfunction) and characteristics of episodic memory (Tulving, 2002). However, memories are affected by a range of factors such as culture, environment, personal characteristics and so on. Among these, culture is a prominent factor that impacts memories. According to Katherine and Fivush (2004), significant individual and gender differences and cultural variations characterize autobiographical memory in both early development and adulthood. In the past, little attention was placed on the role of culture in human cognition in social research. Recently studied by Urry, sociologists and psychologists

have shown great interest in the enhancement of culture in memory. Some psychologists believe culture has a strong influence on episodic specificity (Wang, 2009).

Different cultures lead to different ways of thinking. According to Marc and Berry (2001), research by social psychologists shows that people who grow up in different cultures do not just think about different things, they actually think differently. With economic development and scientific and technological progress, exchanges between different countries and ethnic groups have become increasingly close, and human society has entered the era of globalization. Consequently, increasing attention is paid to the influence of cultural background in the interaction between different nationalities and various cultures, and the underlying issue is how culture affects human psychological activities. Generally, under the influence of culture, people may remember their personal experiences in different ways.

Culture influences on autobiographical memory

People from different cultures may have different memories of the same thing. Research has shown that in comparison with European and Euro-American adults and children, Asians and Asian Americans often exhibit less episodic specificity in the recollection of autobiographical events (for a review, see Wang, 2009). Asia and Europe have different geographical locations, different environments, different religious beliefs and so on. These factors contribute to the cultural differences between Asia and Europe (Ross & Wang, 2010; Wang, 2009, 2013). Although Europeans and Asians in the United States may be less culturally different due to the fact they share similar circumstances, they are, nevertheless, not the same. This paper suggests that Asians are more likely to recall general memories while European Americans are more likely to recall specific memories.

Wang (2009) discusses how culture affects the recall of specific versus general memory.

Two commonly used methods for assessing plot-specific methods provides consistent evidence for cultural differences. Compared with European and American adults, Asians and Asian Americans tend to show less plot specificity when recalling autobiographical events. For example, in Wang (2001a), European, American, and Chinese adults were asked to recall their earliest childhood memories. Each memory is then classified as sporadic or generic. Although 88% of the memories reported by European Americans are specific, one-time events, only 69% of the memories reported by Chinese are sporadic. In another study (Wang, 2006), European American and Taiwanese young adults were asked to recall their earliest authentic childhood memories based on five cues (self, mother, family, friends and circumstances). It was found that Euro-Americans recalled earlier memories in response to all cue words than Taiwanese did, Euro-Americans were significantly more likely than Taiwanese to provide specific memories.

Overtime, research has produced aggregated evidence of cross-cultural differences in memory specificity, in which Western children and adults are more likely to recall specific past events and event-specific details than their Asian counterparts. At present, most explanations of cultural differences in specific recall focus on cognitive and social factors. Wang (2009) suggested three contributing factors for the cultural differences in memory specificity. Self-interpretation is a combination of one's self-cultural view and different social practice. In Western culture, self-concept tends to be independent and individualized. They hold the thought that different people can hold different views, qualities and personalities and can express. In many other cultures, such as Southeast Asian cultures, self-explanations focus on interdependence and interrelatedness. They place more emphasis on the identity of individuals in different social environments, such as citizenship, employee status, and parenthood. Various specific events happened in life, such as getting the first ranking of grades in class, are specific

components that distinguish them from others. Individuals with independent self-explanations are preferable to recall, reflect on and talk about these unique events. This process, in turn, improves self-explanatory ability, making memories more organized, clearer and more comprehensive. Interdependent self-explanatory individuals do not emphasize individual memory but self-positioning. Therefore, westerners with self-explanatory abilities have stronger episodic specificity.

Emotional knowledge plays an important role in episodic memory. The cognitive process facilitated by emotional knowledge is derived from actual emotional experience. For example, people think travel is a pleasant and relaxing experience. When people are in a certain situation, the existing emotional cognition will promote the construction of a special mechanism of memory storage. In addition, when recalling, special retrieval and presentation mechanisms will also be built to help people recall more details. This memory will also be easier to preserve for a long time. In European and American culture, parents pay more attention to children's emotional expression. In many Southeast Asian countries, people think that emotions are destructive and need restraint. They pay more attention to the standardization of behavior and speech. Whereas, Europeans and Americans usually have more emotional knowledge and expression. It is not unexpected that there are differences in episodic memory.

Parent-child recall makes influence on the difference of specific memory unconsciously. Parents play an exemplary role in recalling when they narrate things to children. American parents often tell stories when they tell their children memories or introductions. They tend to provide extra information, integrate emotions, thus constructing a coherent story to aid children's understand of the event. In contrast, parents in Asia tend to emphasize on facts, reality and simply describe the event in sequence. It is, thus, harder for Asian children to learn to express

and narrate in detail. Memory frequency also affects memory. Mullen and Yi (1995) made a one-day observation and found that Americans talked almost three times as often about what had happened in the past as Korean mothers and sons. Another test shows, Chinese parents tend to recall ordinary events rather than specific events of their children. In summary, frequency and content of parents' recalling indirectly influence this difference.

In a more recent study, Wang (2009b) suggests that perception may play a role in cultural differences in memory specificity. In this study, participants from different countries were required to keep writing a diary of what happened during the day. They took memory tests to recall as much detail as possible on one thing that happened. The result shows that Asians recalled fewer specific events in their initial diary recollections than Europeans and Americans. In a follow up experiment, participants were asked to read a narrative novel before describing it in detail. During the experiment, participants recalled a novel without influence of personal experience, which helped to eliminate the cognitive differences and social processes that might exist between groups. The timeliness of the experiment also helped to eliminate the potential impact of a particular cultural retention process. The result shows that Euro-Americans recalled a greater number of specific episodes than did the Asian counterparts. This suggests that cultural differences in specific memory may indeed occur in the early stages of memory, during perception and coding. Then, in a third experiment, participants were asked to divide events according to their judgment when reading a narrative passage. The result shows that Europeans and Americans divided more events than did Asians. Thus, Asians tend to perceive objects and events as interconnected and consequently parsed a continuous stream of information into large but a modest number of chunks; whereas Euro-Americans tended to focus on distinct aspects of objects and events and thus segmented activity into a greater number of discrete episodes.

The three experiments respectively showed: Asians recall fewer personal events than Europeans and Americans. Regardless of the memory interval, the two groups exhibit similar forgetting functions over a period of time (Study 1). People's encoding in memory affects memory effect (Study 2). When dealing with a series of continuous activities, Asians found that there were fewer discrete events than Europeans and Americans (Study 3). In light of the above analysis, Asian people emphasize the connection of events while Europeans and Americans emphasize individuality, so Europeans and Americans tend to discrete event memory. This cultural difference leads to differences in the amount of information perceived and coded by Asian and Euro-Americans.

In summary, through people's communication and activities, people internalize the prevailing self-culture concept into their own self-explanation, and carry out specific situational memories on the basis of emotional knowledge that has been culturally recognized. Furthermore, according to Ross & Wang (2010), culture has significant impact on schemas since prior information, which takes the form of shared knowledge, contributes to the constructive process of memory. The research views culture as both a system and process of symbolic meditation. The research suggests that culture impacts both intrapersonal and interpersonal psychological functions. Individuals get knowledge and competencies through the acquisition of knowledge (Ross & Wang, 2010).

The Present Study

The main purpose of this study is to examine cultural difference between European American and Asian American. Participants of other ethnicities were excluded. Participants were randomly assigned to recall as many as they could specific one-time events or general-repeated events. Based on the questions on the survey, memory variables to be examined include “number

of memories recalled”, and ratings of “Frequency”, “Importance”, “Vividness”, “Emotional Intensity”, “Negative/Positive”, “Source” and so on. The participants were asked to rate each of their memories on these dimensions.

The effect of culture and gender were tested via these variables as a function of condition (i.e., specific vs general memory). The main hypothesis of current research was that Asians would be more likely to recall general memories while European Americans would be more likely to recall event-specific memories. The other hypothesis also of interest in the study was that females would be more likely to recall event-specific memories while males were more likely to recall general memories. Just like Wang's study “Interesting gender differences emerged such that compared with males, females recalled more personal event episodes at different retention intervals.”(Wang, 2009)

Method

Participants

There were 208 participants completed the experiment questionnaire on Amazon Mechanical Turk. Based on their answers, we collect data. There are 97 European Americans and 72 Asia Americans, and because this article mainly focuses on the difference between European Americans and Asia Americans, so the data used with the sample size is 169.

Procedure

There were several general questions about the ethnicity, gender, education level to gain the information of participants. The participants were randomly assigned to the specific or general condition. Both general and specific memories are measured by the number of memories (the amount of memory that participants recalled), vividness (how detailed and clear their memory is), frequency (how often they have thought and/or talked about the memory before), importance

(how personally important the recalled experience is to them), emotional intensity (the level of emotional intensity of the experience) and source (the source of their memory). Every participant was randomly asked to recall up to 20 memories of specific one-time events or general repeated events within 4 minutes. After that they were asked to date the memories and rate them on the 5-point scale for the measures mentioned above. Point 1 represent the lowest rating of the question and point 5 represent the highest rating of the question.

Data is validated through double checking for errors, outliers, wrong or missing values. SPSS is employed in this process to perform 2(culture) x 2(gender) x 2(condition) mixed-model ANOVAs. Each ANOVA table has a corresponding null hypothesis and alternative hypothesis. The description of the data and the ANOVA table from the outputs shows which factors are significant and whether or not null hypothesis is rejected.

Results

In order to better understand whether cultural differences are significantly influenced by gender, conditions, ethnicity, mixed ANOVA method was used to conduct a comparative analysis on the influence of these factors on memory.

Culture differences

In order to test whether Asians recalled more general memories than Europeans, and Europeans recalled more specific memories than Asians, the first independent variable researcher used is the number of memories. The model researcher used is Culture (2) *Conditions (2) mixed ANOVA model, and the following are the results.

Descriptive Statistics

Dependent Variable: Amount_of_Memories

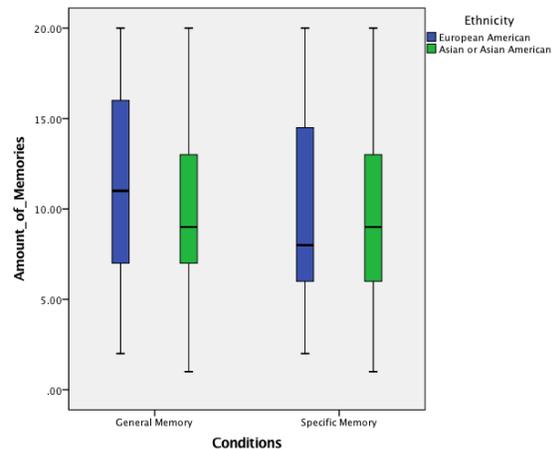
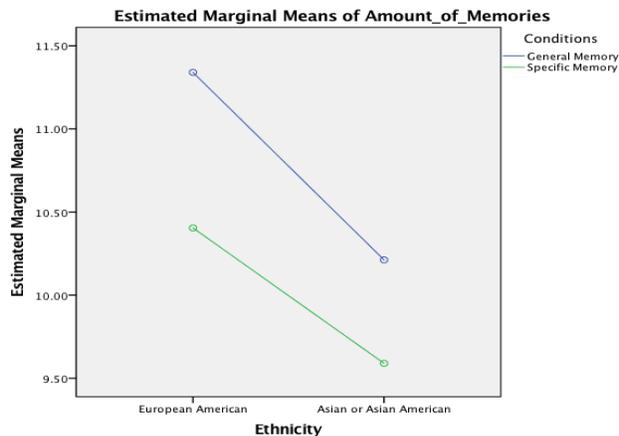
Ethnicity	Conditions	Mean	Std. Deviation	N
European American	General Memory	11.3400	5.72003	50
	Specific Memory	10.4043	5.36761	47
	Total	10.8866	5.54316	97
Asian or Asian American	General Memory	10.2121	5.01721	33
	Specific Memory	9.5897	5.30500	39
	Total	9.8750	5.14833	72
Total	General Memory	10.8916	5.44823	83
	Specific Memory	10.0349	5.32353	86
	Total	10.4556	5.38622	169

Tests of Between-Subjects Effects

Dependent Variable: Amount_of_Memories

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	70.427 ^a	3	23.476	.806	.492
Intercept	17754.254	1	17754.254	609.859	.000
Ethnicity	38.807	1	38.807	1.333	.250
Conditions	24.971	1	24.971	.858	.356
Ethnicity * Conditions	1.010	1	1.010	.035	.852
Error	4803.490	165	29.112		
Total	23349.000	169			
Corrected Total	4873.917	168			

a. R Squared = .014 (Adjusted R Squared = -.003)



Based on the results of the culture (2)*conditions (2) mixed ANOVA analysis, we found that the mean of the general memory and specific memory recalled by European are both higher than the mean of general memory and specific memory recalled by Asian. There were no main effects of ethnicity $F(1, 165) = 1.333, p = 0.250$, condition, $F(1, 165) = 0.858, p = 0.356$, or ethnicity x condition interaction, $F(1, 165) = 0.035, P = 0.852$. Therefore, there was no evidence to support

the hypothesis that Asians recall more general memories than Europeans; and Europeans recall more specific memories than Asians. Furthermore, from the figure, it appears that people recalled more general memories than specific memories.

Gender

In order to better understand whether female have better general memory than male, or vice versa, the independent variable used is the amount of memory for amount of memory represents the amount of general and special memory. The model used is Gender (2) *Conditions (2) mixed ANOVA model, and the following are the results. Mixed ANOVA model is employed to test whether there is difference between gender; and whether there is interaction effect between gender and conditions.

Descriptive Statistics

Dependent Variable: Amount_of_Memories

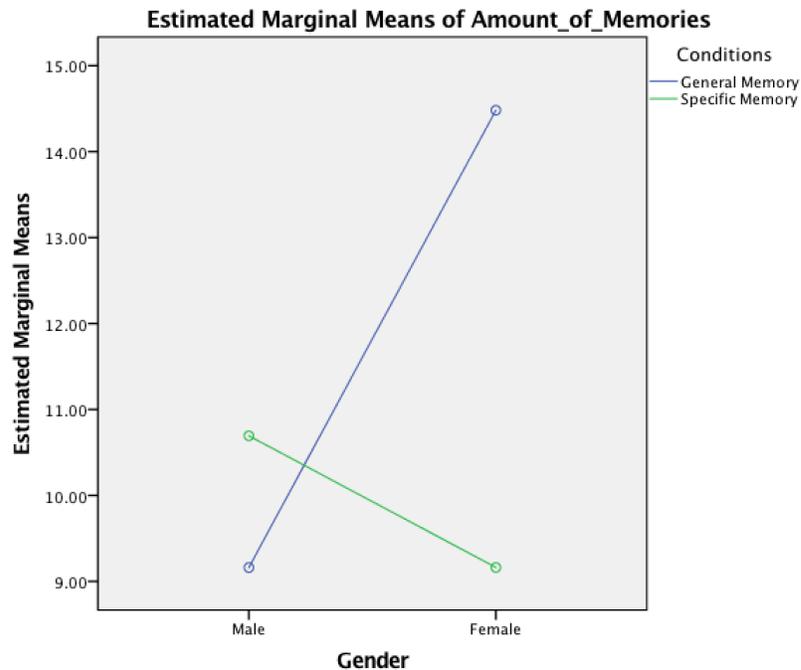
Gender	Conditions	Mean	Std. Deviation	N
Male	General Memory	9.1607	4.67012	56
	Specific Memory	10.6939	5.74893	49
	Total	9.8762	5.23247	105
Female	General Memory	14.4815	5.25774	27
	Specific Memory	9.1622	4.63389	37
	Total	11.4063	5.53981	64
Total	General Memory	10.8916	5.44823	83
	Specific Memory	10.0349	5.32353	86
	Total	10.4556	5.38622	169

Tests of Between-Subjects Effects

Dependent Variable: Amount_of_Memories

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	596.188 ^a	3	198.729	7.665	.000
Intercept	18490.258	1	18490.258	713.204	.000
Gender	140.301	1	140.301	5.412	.021
Conditions	140.087	1	140.087	5.403	.021
Gender * Conditions	458.876	1	458.876	17.700	.000
Error	4277.730	165	25.926		
Total	23349.000	169			
Corrected Total	4873.917	168			

a. R Squared = .122 (Adjusted R Squared = .106)



Based on the results of the gender(2)*conditions(2) mixed ANOVA analysis, we found that the mean of the general memory recalled by female is higher than the mean of general memory recalled by male, the mean of the specific memory recalled by male is higher than the mean of specific memory recalled by female. There were a main effect of gender $F(1, 165) = 5.412, p = 0.021$, a main effect of condition, $F(1, 165) = 5.403, p = 0.012$, and qualified by a gender x condition interaction, $F(1, 165) = 17.7, P = 0.00$. That is to say, males recalled more specific

memories than females and females recalled more general memories than males.

Culture differences in memory ratings

There were many questions in the questionnaire about the ratings of some factors of memory. These ratings could reflect whether people from different cultural backgrounds respond differently to memory. The culture *conditions ANOVAS for the ratings between European American and Asian American shows whether the culture difference can affect the ratings or not.

Frequency

Descriptive Statistics

Dependent Variable: Frequency

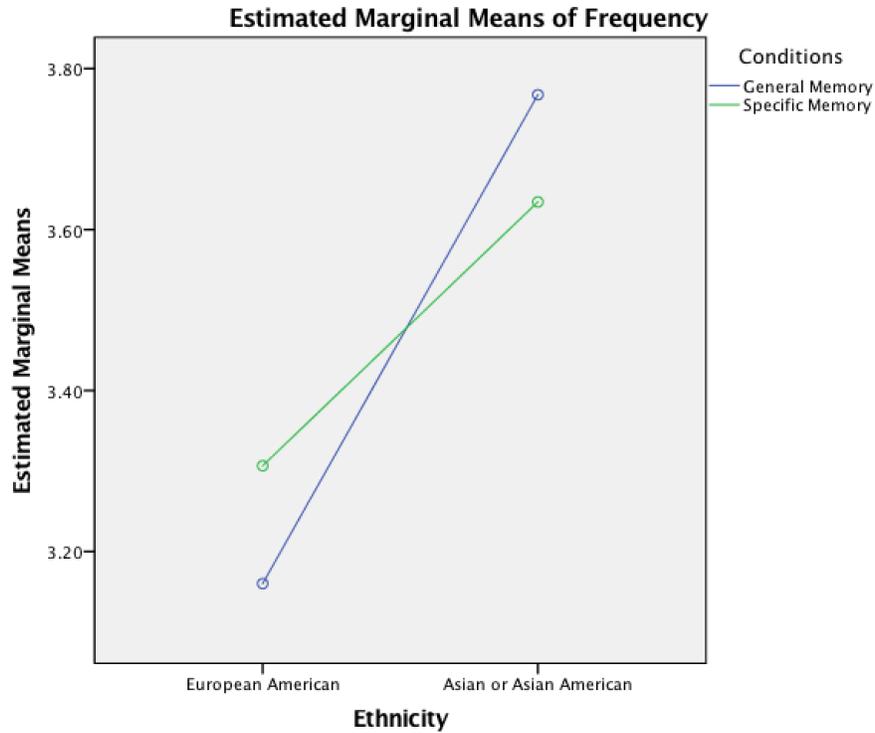
Ethnicity	Conditions	Mean	Std. Deviation	N
European American	General Memory	3.1602	.86577	50
	Specific Memory	3.3066	.77253	47
	Total	3.2311	.82095	97
Asian or Asian American	General Memory	3.7676	.60340	33
	Specific Memory	3.6344	.87491	39
	Total	3.6954	.76043	72
Total	General Memory	3.4017	.82427	83
	Specific Memory	3.4552	.83194	86
	Total	3.4289	.82615	169

Tests of Between-Subjects Effects

Dependent Variable: Frequency

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	9.744 ^a	3	3.248	5.108	.002
Intercept	1978.404	1	1978.404	3111.281	.000
Ethnicity	8.995	1	8.995	14.145	.000
Conditions	.002	1	.002	.003	.958
Ethnicity * Conditions	.804	1	.804	1.265	.262
Error	104.920	165	.636		
Total	2101.698	169			
Corrected Total	114.665	168			

a. R Squared = .085 (Adjusted R Squared = .068)



Based on the Culture (2) *Conditions (2) * Frequency mixed ANOVA analysis, under the frequency rating, Asian reported that they had thought and/or talked about the memory more frequently before than European, $F(1, 165)=14.14$, $p\text{-value} < 0.0001$.

Importance

Descriptive Statistics

Dependent Variable: Importance

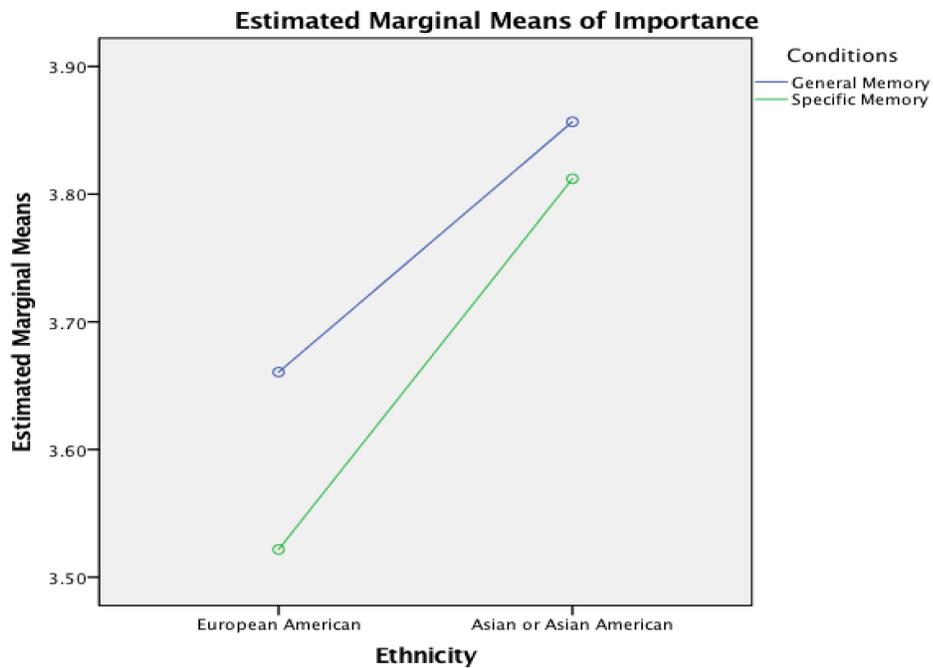
Ethnicity	Conditions	Mean	Std. Deviation	N
European American	General Memory	3.6606	.77231	50
	Specific Memory	3.5217	.78049	47
	Total	3.5933	.77537	97
Asian or Asian American	General Memory	3.8567	.60629	33
	Specific Memory	3.8121	.68260	39
	Total	3.8325	.64464	72
Total	General Memory	3.7386	.71358	83
	Specific Memory	3.6534	.74774	86
	Total	3.6952	.73023	169

Tests of Between-Subjects Effects

Dependent Variable: Importance

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	2.868 ^a	3	.956	1.819	.146
Intercept	2268.580	1	2268.580	4316.504	.000
Ethnicity	2.434	1	2.434	4.631	.033
Conditions	.346	1	.346	.659	.418
Ethnicity * Conditions	.091	1	.091	.174	.677
Error	86.717	165	.526		
Total	2397.205	169			
Corrected Total	89.585	168			

a. R Squared = .032 (Adjusted R Squared = .014)



The Culture (2) * Conditions (2) * Importance mixed ANOVA analysis revealed a main effect of culture, $F(1, 165) = 4.631, p = 0.033$. The results indicated that Asians considered the recalled experience more personally important to them than did Europeans.

Vividness

Descriptive Statistics

Dependent Variable: Vividness

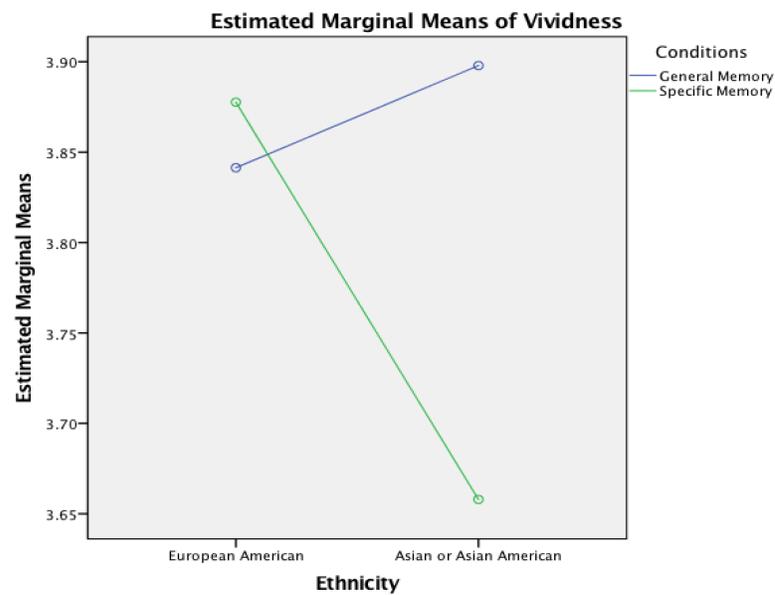
Ethnicity	Conditions	Mean	Std. Deviation	N
European American	General Memory	3.8414	.83611	50
	Specific Memory	3.8777	.75731	47
	Total	3.8590	.79496	97
Asian or Asian American	General Memory	3.8979	.59424	33
	Specific Memory	3.6579	.86901	39
	Total	3.7679	.76015	72
Total	General Memory	3.8639	.74587	83
	Specific Memory	3.7780	.81246	86
	Total	3.8202	.77933	169

Tests of Between-Subjects Effects

Dependent Variable: Vividness

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	1.403 ^a	3	.468	.767	.514
Intercept	2399.924	1	2399.924	3934.957	.000
Ethnicity	.274	1	.274	.449	.504
Conditions	.427	1	.427	.700	.404
Ethnicity * Conditions	.785	1	.785	1.286	.258
Error	100.633	165	.610		
Total	2568.382	169			
Corrected Total	102.037	168			

a. R Squared = .014 (Adjusted R Squared = -.004)



Based on the Culture (2) *Conditions (2)* Vividness mixed ANOVA analysis, there was no

significant difference in the vividness ratings by Europeans and Asians.

Source

Descriptive Statistics

Dependent Variable: Source

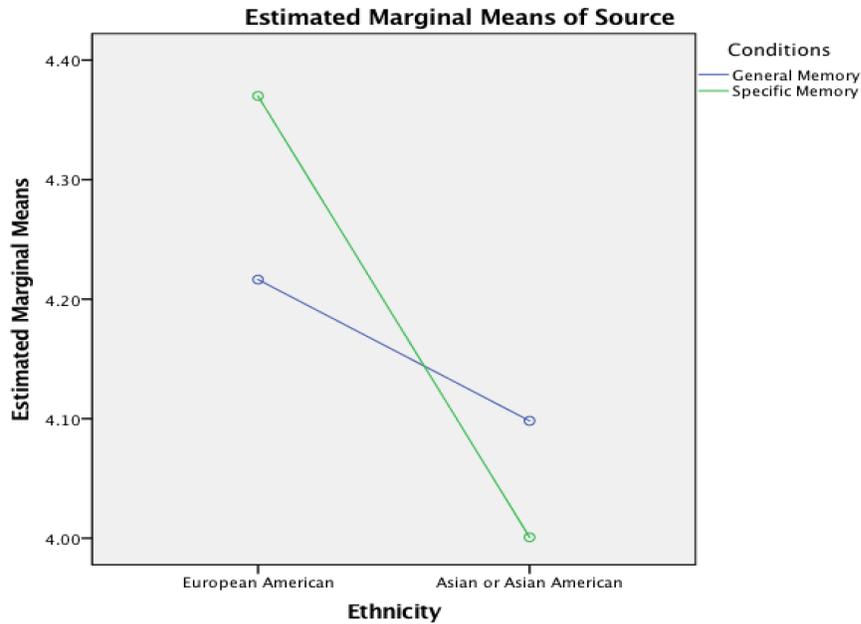
Ethnicity	Conditions	Mean	Std. Deviation	N
European American	General Memory	4.2164	.80057	50
	Specific Memory	4.3700	.58785	47
	Total	4.2908	.70617	97
Asian or Asian American	General Memory	4.0982	.52014	33
	Specific Memory	4.0008	.67805	39
	Total	4.0454	.60860	72
Total	General Memory	4.1694	.70139	83
	Specific Memory	4.2026	.65325	86
	Total	4.1863	.67550	169

Tests of Between-Subjects Effects

Dependent Variable: Source

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	3.230 ^a	3	1.077	2.419	.068
Intercept	2863.599	1	2863.599	6434.710	.000
Ethnicity	2.444	1	2.444	5.492	.020
Conditions	.032	1	.032	.073	.787
Ethnicity * Conditions	.648	1	.648	1.456	.229
Error	73.429	165	.445		
Total	3038.363	169			
Corrected Total	76.659	168			

a. R Squared = .042 (Adjusted R Squared = .025)



Based on the Culture (2) *Conditions (2)* Source mixed ANOVA analysis on memory source, we can check the extent to which Asians than Europeans could remember their experience or heard about it from others. A significant interaction, $F(1, 165) = 5.429, p = 0.002$, suggests that Europeans remembered the past more on their own than did Asians, particularly for specific events.

Emotion

Descriptive Statistics

Dependent Variable: Emotional_intensity

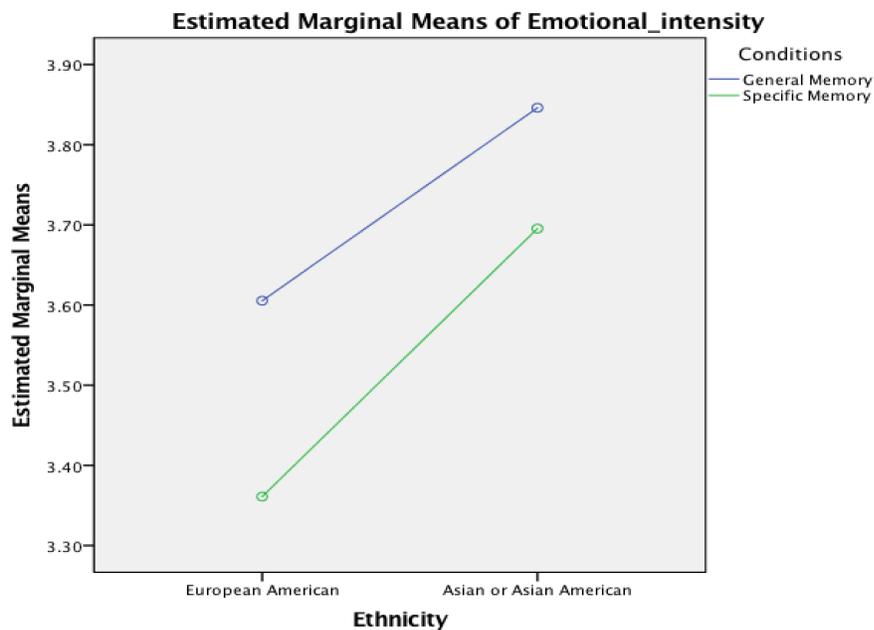
Ethnicity	Conditions	Mean	Std. Deviation	N
European American	General Memory	3.6054	.76100	50
	Specific Memory	3.3611	.83592	47
	Total	3.4870	.80342	97
Asian or Asian American	General Memory	3.8461	.56823	33
	Specific Memory	3.6954	.66933	39
	Total	3.7644	.62531	72
Total	General Memory	3.7011	.69721	83
	Specific Memory	3.5127	.77876	86
	Total	3.6052	.74366	169

Tests of Between-Subjects Effects

Dependent Variable: Emotional_intensity

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	5.033 ^a	3	1.678	3.150	.027
Intercept	2164.966	1	2164.966	4065.010	.000
Ethnicity	3.401	1	3.401	6.385	.012
Conditions	1.605	1	1.605	3.014	.084
Ethnicity * Conditions	.090	1	.090	.169	.681
Error	87.877	165	.533		
Total	2289.490	169			
Corrected Total	92.910	168			

a. R Squared = .054 (Adjusted R Squared = .037)



The Culture (2) * Conditions (2) * Emotional mixed ANOVA analysis the emotional rating revealed a culture effect, $F(1, 165) = 6.385$, $p = 0.012$. Europeans rated their memories as more emotionally intense than did Asians.

Discussion

The current study showed insufficient evidence to support the hypothesis that Asians were more likely to recall general memories, while European Americans were more likely to recall event-specific memories. The ANOVA analyses suggest that there was no interaction effect on memories between culture and conditions. The results from gender*conditions mixed ANOVA

suggest that gender had significant effect on memory, and male recalled more specific memories than female and females recalled more general memories than males. The ratings of emotion and frequency had significant effect on culture and conditions; while the other ratings, such as, vividness, importance, source did not have significant effect on culture and conditions. Although Asians do not recall more than Europeans, cultural differences have different effects on different aspects of memory. There are many differences among ratings except vividness between European and Asian. The result shows that Europeans and Asians recall little difference in detail. Influenced by cultural differences, Europeans are more likely than Asians to recall emotions, and can recall more sources than Asians. On the other hand, Asians are more likely than Europeans to feel that personal experience is more important to recall. At the same time, compare to European, Asians talked about the memory more frequently before.

There are similarities and differences between the current study and previous studies. The similarities are that both genders are found to have an effect on memory. The similarities include Europe's greater emphasis on emotional expression when recalling. This corresponds to Wang's statement that "In Euro-American culture that emphasizes individuality and autonomy, emotion is regarded as a direct expression of the self and an affirmation of the uniqueness of the individual." (Wang, 2009) The main difference between the current study and previous studies is the effect of culture on memory. Previous studies show that the culture affected the memories of people who had different culture background and Asians recall fewer personal events than Europeans and Americans, while the results of the present study indicates that culture did not affect Asian and Europeans' memories significantly. There was no interaction effects between culture and conditions. Findings from Wang is that "demonstrated that Asians, both children and adults, exhibit less episodic specificity than Westerners when recalling recent and remote

autobiographical events.” (Wang, 2009) There are several reasons why the current study differs from previous studies. For example, hypothesis is different from previous studies, data collection method is different from previous studies, samples are different from previous studies and so on. Furthermore, findings are different from those of previous studies, perhaps because the questions asked about the memories were different, or the survey designed by present study and previous study were totally different.

For example, the sample of our study contained Asians and European, and the sample for Wang’s study contained European and Chinese. We know that Asian include Chinese, so there will be some difference between the results. Meanwhile, the sample of our study is different from the sample size of Wang’s study. Our study used several ratings while Wang’s study did not contain ratings.

The result of our study about gender is also different from the previous study. Wang's research found that women can recall more than men in any culture. Our study found that male now recalled more specific memories than female and females recalled more general memories than males. Wang’s study did not classify memories in a more detailed way in memory, and merely said that memories are general. Our study makes memory more detailed. That is to say, women did recall more general memories, but men did not recall more specific memories. The difference of male and female memory is also related to the difference of male and female thinking patterns. That is to say, females and males have different perspectives on things, so they have different emphasis on things. Although in daily life, women pay more attention to details, while men pay more attention to the big picture. But women do have more general memories, while men do have more specific memories. Wang's study also found that compared with men, women recalled more fragments of personal events at different memory intervals, and more

fragments of fictional stories during instant recall tests (Wang, 2009). The different division of labor between men and women in society leads to the differences between men and women in many aspects such as the way of thinking, which leads to the differences in their memories.

One of the drawbacks of this analysis was that the relationship between memory and culture was not fully reflected in the problem of survey. Wang's research actually takes a lot of assumptions into account, and studies all of which. Our study of the corresponding hypothesis is more specific. Although our research is based on empirical data, we have not provided specific examples. Wang believes that to fully prove the conclusions of our study, we need to have real life cases. (Wang) At the same time, although the memory of the people participating in the questionnaire can be clearly known, the difference between the specific memory and the culture is not reflected in the survey. Another drawback was that the sample size was not very large, so the precision of the results need to be verified. What's more, one of drawbacks of the study is that we have a relatively small number of culturally relevant variables. In our research, only ethnicity is the representative of culture, which is not enough. Wang also believes that enough variables should be selected for a comprehensive study. Lastly, the content of the research is relatively narrow, we focus on the cultural, gender, memory with some aspects, such as, the relationship between the content of the culture of the range is very wide, so we study the variable scope is narrow. Because we have few variables, we are likely to miss other important ones.

Culture is a complex connotation. Different countries have different cultures, different regions have different cultures, different companies have different cultures, and different families have different cultures. Culture is very important and affects all aspects of people's lives. To study the impact of culture on our lives is a major topic for future research. We need to collect data from many more aspects to test our hypothesis. Apparently the results of these mixed

ANOVAs are not significant, future analysis should do a questionnaire about memory and culture to obtain more data; and the questions need to be more relevant to culture difference. Future research is definitely going to be deeper and more meaningful, and it's going to expand the variables that we study. When the number of variables increases, it is more favorable for us to find the variables with more significance. At the same time, the sample size of the research should be larger, than the results of such research will be more convincing. Culture is related to many aspects of our life, so it is very meaningful to study the influence of culture on us. In our future research, we will select more variables, including different dependent variables and independent variables, to study the influence of culture on our life from multiple aspects, so that we can better understand the relationship between culture and us.

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