

**Commentary:**

**THE COMPLICATED INTERSECTION BETWEEN AGE-RELATED EMOTIONAL MEMORY AND CULTURE: A REPLY TO “WHEN YOUNGER ADULTS LOOK LIKE OLDER ADULTS.”**

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**Abstract**

In Sharifi and Chung (2014; see this present issue of JISS), we presented a study on emotional memory and culture conducted in US and Afghanistan. Our results showed the well-documented age-related positivity effect in the US, but not in Afghanistan. We explained our data using the Socioemotional Selectivity Theory (SST), and provided a few other plausible explanations. In Sell's (2014; see this present issue of JISS) commentary of our article, two more hypotheses were suggested, one consistent with SST and another drawn from an evolutionary perspective. In this reply, we tested these hypotheses with our data and offered a constructive critique on such approaches in cross-cultural cognition research.

**Keywords:** Emotional memory, aging, culture, evolutionary perspective

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## REPLY TO SELL'S COMMENTARY

In Sharifi and Chung (2014; see this present issue of JISS), we observed an age-related positivity effect in the US but not in Afghanistan. We explained our results using the Socioemotional Selectivity Theory, namely, what is deemed meaningful may differ among cultures (Reed & Carstensen, 2012; Fung, 2013). In a commentary to this article, Sell (2014; see this present issue of JISS) suggested two more possible explanations to our findings. The first suggestion is consistent with the Socioemotional Selectivity Theory (SST), while the second attempts to explain our data through an evolutionary perspective.

### War and Time-lines

Sell (2014) suggests that the war in Afghanistan might have changed more than people's perception of what is emotionally meaningful. Their perceived time-line in life could be shortened and this effect would in fact be more salient for young than older adults. With this shorter life perspective, Afghan young adults should focus more on emotionally meaningful processing, just as we would expect for older adults as they approach the end of life. Many studies in the psychological literature have indeed provided support for such a hypothesis (Carstensen & Fredrickson, 1998; Pruzan & Isaacowitz, 2006; Fung, Carstensen, & Lutz, 1999), therefore, we decided to examine our data with this framework. If this hypothesis were supported, young and older Afghan adults should have similar positive and negative picture recall rates. Afghan young adults should also show similar pattern of results to US older adults, but more positive recall compared to US young adults.

### Our Analysis

First, we carried out independent t-test analyses between Afghan young and older adults' picture memory recall performance. As hypothesized, there were no significant differences between the two groups in recall of positive, neutral, or negative pictures, all  $t$ 's  $< 18.6$ ,  $p$ 's  $> .08$ . Then, we compared Afghan young adults' memory to US older adults, and once again, found no significance difference, all  $t$ 's  $< .53$ ,  $p$ 's  $> .60$ . However, as predicted by the above hypothesis, Afghan young adults did recall significantly more positive pictures than US young adults,  $t(56) = 2.34$ ,  $p < .03$ . US and Afghan young adults did not differ in their recall of neutral and negative pictures,  $t$ 's  $< 1.68$ ,  $p$ 's  $> .10$ .

These results lend strong support for the hypothesis that the war-torn situation in Afghanistan is negatively impacting young adults' perception of time left to live. This change in young adults' perceived time-line allowed them to place greater emphasis on processing emotionally meaningful information, which subsequently led to memory patterns more like older adults in cognitive tasks. These results are similar to those found in Fung et al. (1999), in which young adults performed much like older adults in a social partner choice paradigm by choosing to spend quality time with close friends or family

members instead of a famous author the year before the handover of Hong Kong to the People's Republic of China (social ending).

Although this explanation is certainly plausible, it is important to point out that the pattern of recall between Afghan young and older adults were not truly identical. Although our results only achieved marginal significance,  $t(26) = 1.86, p = .07$ , Afghan older adults did recall fewer positive pictures than young adults ( $M_s = 2.62$  vs.  $3.60$ ). Also, Afghan older adults were the only participants who did not show an emotional enhancement effect, i.e., there was no significant difference between neutral and emotional picture recall. Yet, they did recall more negative than positive pictures. These results are important to note in light of this discussion because it may not be completely accurate to claim that Afghan young and older adults were performing similarly. This framework also does not explain the result of no emotional enhancement in Afghan older adults, especially without considering the difference in cultural emotional salience.

### **Evolutionary Perspective**

Sell (2014) also suggested an evolutionary perspective in explaining our data. This perspective basically suggests that environments that threat-related information would become the focus of memory when people are put in dangerous situations (Öhman & Mineka, 2001; Fox, Russo, Bowles & Dutton, 2001; Pratto & John, 1991). One way to test this hypothesis would be to do an item analysis specifically comparing participants' memory performance of safety positive and threat negative vs. non-safety positive and non-threat negative pictures. Unfortunately, our current database would not allow us to systematically test this hypothesis because the number of potential safety and threat pictures we used was extremely small. The only picture that might qualify as safety positive was "hotel room"; while "gun" could be considered a threat negative picture. In future studies, we could systematically test this hypothesis by using equal number of safety and non-safety positive, as well as threat and non-threat negative pictures in our encoding condition. Another important point to keep in mind is that apart from valence, arousal ratings also significantly affect memory of emotional information, especially for older adults (Kensinger, 2008). In order to eliminate potential confound between arousal and this proposed evolutionary manipulation, all pictures will need to be equated on valence and arousal levels.

### **Our Analysis**

As we explore the plausibility of the evolutionary perspective, we conducted an analysis to compare the Afghan adults who were tested at home vs. participants who were tested in the Afghan Women's Center office as the reviewers suggested. The suggested question of interest was that if the war situation were dangerous, whether the participants traveled to the testing location (threat) or stayed at home (safety) to be tested could have

made a difference in their emotional processing. We conducted a 3 (Valence: Pos, Neu, Neg) x 2 (Age: young vs. old) x 2 (Location: home vs. office) ANOVA and the main effect of location was non-significant,  $F(1, 24) = 1.7, p = .69, \eta^2 = .007$ . This result suggests that testing location did not significantly impact our participants' way of processing emotional information. However, one possibility is that the location of testing is in fact "safe" compared to the rest of the city. Women and their families come to the Afghan Women Center for social and psychological support. Thus, this testing location should not be considered less safe than home. In fact, it could have been safer than home for many of our participants. Taking this perspective into account, we were not surprised to find no significant difference in our analysis. Participants could have simply self-selected to be tested in the safest place based on individual circumstances.

It has been a valuable experience to examine our results with various differing perspectives. The SST model provides a decent parsimonious model to our data, yet, future research could shed light on the impact of war and stressful situations on age-related emotional memory, as well as examine the benefits of an evolutionary perspective in the framing of such studies.

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