



Cultural Differences in Associative Memory for Emotional Pictures

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INTRODUCTION

Much research has shown that emotional materials are better remembered than neutral materials. However, research suggests a difference in memory for individuals from different cultures, most strikingly between Easterners and Westerners. Individuals from Western cultures tend to focus on object-based or self-focused details, while individuals from Eastern cultures tend to focus on context-based or group-relevant details. Based on this, we hypothesized that individuals from Eastern cultures may have better performance on associative memory tasks, and considered the possibility that the extent of facilitation due to

METHOD

Participants:

- Malaysian Sample: young working adults in Malaysia
- Canadian Sample: undergraduate psychology students in UBC

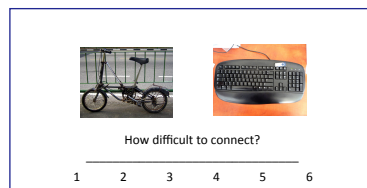
Stimuli:

- Stimuli from NAPS Database
- 3 Valence Levels: Negative, Neutral, Positive

Procedure:

Study Phase:

- 90 pictures pairs (30 pairs per valence level)
- Each pair consists of 2 pictures of the same valence level
- Participants were tasked to make connections between the two pictures in each pair, then in a 6-point scale they rated how difficult was to make the connection



Short Interval (~ 10 min):

- Participants completed filler tasks

Study Phase:

- 90 pictures pairs (30 Intact, 30 Re-paired, and 30 Old-New)
- Each of the 30 pair types consisted of 10 Negative Pairs, 10 Neutral Pairs, and 10 Positive Pairs
- Recognition associative memory task: Participants were tasked to identify Intact Pairs



RESULTS

Hits: Findings from both Canadian and Malaysian samples showed that hits were higher for neutral pairs, lower for positive pairs, and lower for negative pairs. No influence due to gender was found. There was a difference due to sex, but it showed up only in Canadian samples with neutral and negative pairs

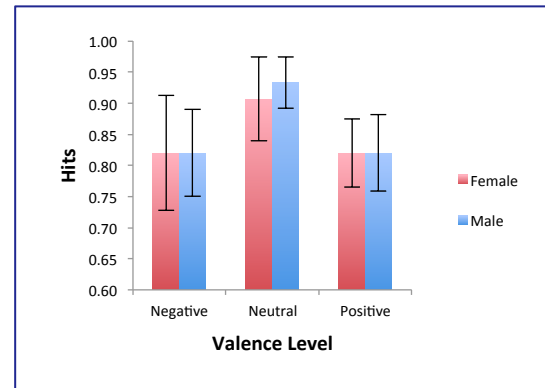


Figure 1: Correct Recognition of Intact Pairs in the Malaysian Sample

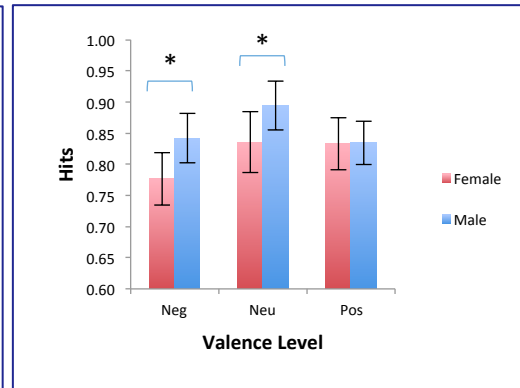


Figure 2: Correct Recognition of Intact Pairs in the Canadian Sample

*The bars represent the 95 % confidence intervals

Recognition Accuracy: Recognition accuracy for neutral pairs significantly better than valenced pairs across both Canadian and Malaysian cohorts. No significant sex differences in both samples.

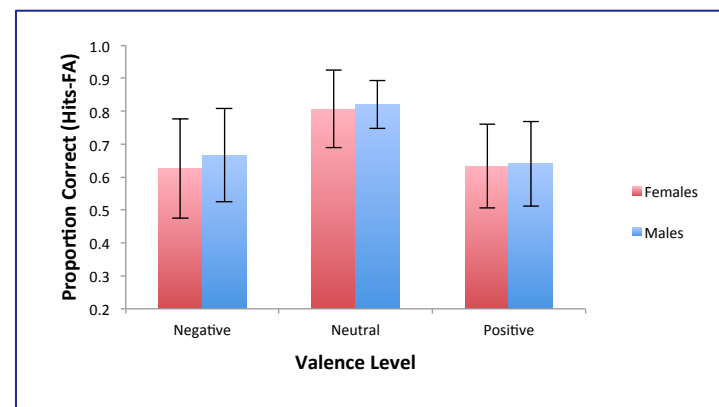


Figure 5: Recognition accuracy in the Malaysian Sample

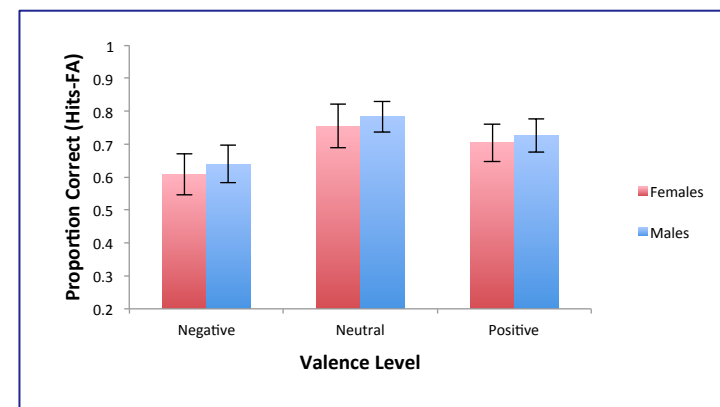


Figure 6: Recognition accuracy in the Canadian Sample

Accurate Recognition Decision Time: Participants from both samples showed that response time for neutral pairs is significantly lower than positive pairs. There were no significant sex differences in recognition decision time.

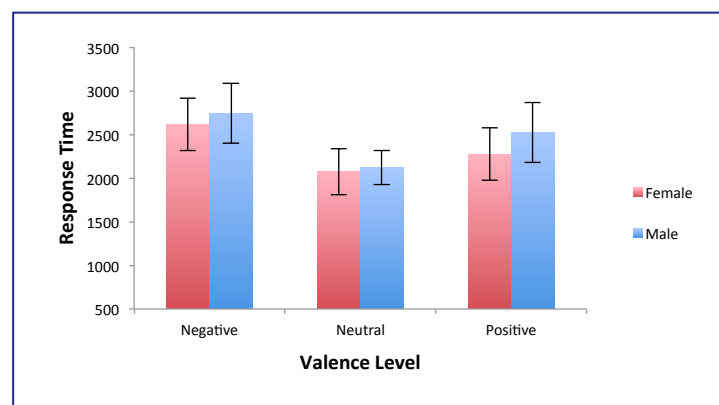


Figure 7: Response Time for Accurate Recognition of Intact and Repaired Pairs in the Malaysian Sample

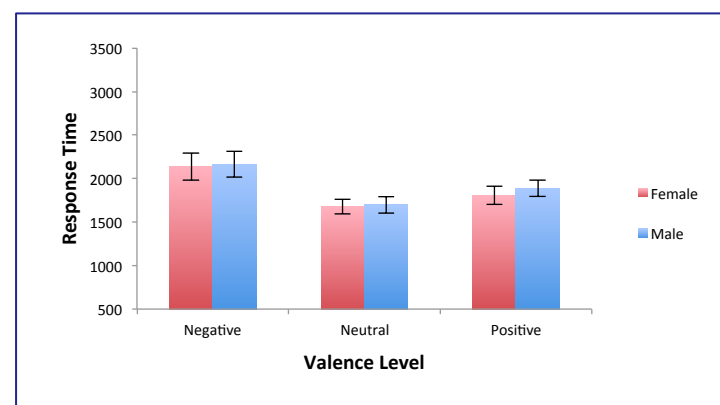


Figure 8: Response Time for Accurate Recognition of Intact and Repaired Pairs in the Canadian Sample

False Alarms: Participants from both cohorts had less false alarms for neutral pairs than for valenced pairs. There was a difference due to sex, but it showed up only in Canadian samples with positive and neutral pairs.

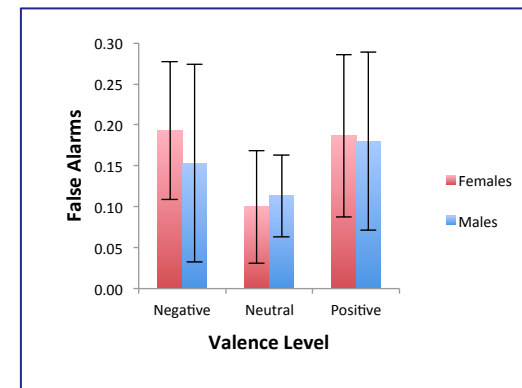


Figure 3: False Alarms for Repaired Pairs in the Malaysian Sample

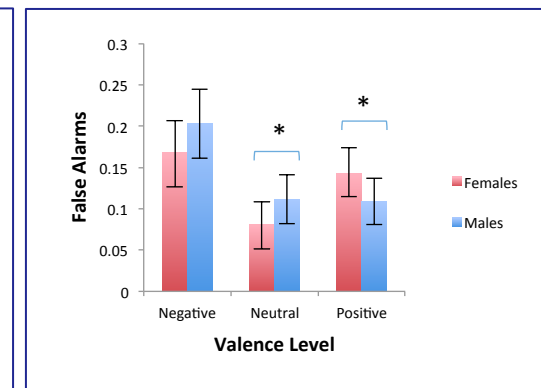


Figure 4: False Alarms for Repaired Pairs in the Canadian Sample

DISCUSSION & CONCLUSION

Neutral pairs, instead of emotional pairs, are better remembered in both samples. This might be the effect of the higher level of arousal produced by the valenced stimuli.

Accurate recognition response time is significantly faster for neutral pairs compared to emotional pairs, indicating that the participants were more sure of their answers. This could be because the valenced stimuli shared similar themes, confusing the participants, while the non-valenced stimuli were more distinct images.

The absence of sex differences in associative recognition accuracy in both samples suggests that such effects do not occur on all episodic memory tests; such effects might show up on recall tests.

These findings are inconsistent with previous evidence that emotional materials facilitate memory processes. Furthermore, these findings are consistent across participants from different cultural backgrounds.

Larger studies with more diverse cultural backgrounds are now warranted to confirm the findings of this study. Studies which control for the arousal or generality of the stimuli should also be conducted.

REFERENCES

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