A Study of the Effects of Photographs on Memory for Museum Pieces on Exhibit at the Tang Museum

Laura Flynn & Mary Ann Foley, Department of Psychology.

Problem
Research on photographs and memory shows our memory is quite poor. Specifically, the presence of a photograph (either doctored or un-doctored) yields false memory reports. Conversely, research on complex visual scenes and memory shows our memory is exceptional. Why is there such a dichotomy in these research findings?

The current study is the first to empirically test photographs, complex visual scenes and memory in conjunction with one another.

Questions
1.) Does the source of the photograph have an effect on memory, specifically, if a photograph is self-generated is there an effect on memory?
2.) Are there social factors during the encoding experience that contribute to memory for photographs?
3.) Are there gender differences that contribute to memory for photographs?

Methods

Sixty four Skidmore College undergraduates participated (32 males and 32 females).

There were two phases to the experiment; the first occurred in the Oliver Herring Exhibit at the Tang Museum, the second (test phase) occurred in the Lucy Scriber Library.

All participants were organized into groups of 4. gender was held as a constant within groups.

Half of the participants visited the Tang in a group with acquaintances and the other half visited in a group with friends.

Phase 1: Tang Visit Task
Groups of 4 participants (Friends/Acquaintances) visited the Tang together and were instructed to look at all the pieces in the Herring Exhibit and select 6 favorites by either:

1. Reporting to the experimenter 6 favorite Herring pieces.
2. Taking a photograph of 6 favorite Herring pieces.

Phase 2: Memory Questionnaire
The purpose of the questionnaire was to measure memory for museum pieces from the Herring Exhibit. The Questionnaire included 24 photographs total: 12 target images and 12 new images.

Target Images - 6 favorites (reported or photographed), 6 present in exhibit but not favorites
New Images - 6 Herring but not present in exhibit, 6 by a new artist and not present in exhibit

Analyses

Dependent Variables: Correct Yes Responses, Incorrect Yes Responses
Two four-factor ANOVAs:
Photo (y/n) X Friends (y/n) X Gender X Proportion Correct Yes Target
Photo (y/n) X Friends (y/n) X Gender X Proportion Incorrect Yes New

Significant Results and Discussion

1.) The Effect of Selecting Favorites on Memory
Overall memory for favorite images was greater than for museum images that were present but not selected as favorites. The mean correct yes responses for favorite images (.89, SE=.02) was significantly greater than the mean of memory for those images that were present in the museum but not selected as favorites (.40, SE=.03). F (1,54) = 242.6, MSE=.03, p < .001.

2.) The Gender Effect of Photographs on Memory
The effect of taking photographs was dependent on gender; taking photographs only had an effect on the male condition. The mean correct yes responses for males in the photograph condition (.67, SE=.04) was greater than the mean for males in the report condition (.58, SE=.04). F (1,54) = 4.3, MSE=.002, p =.042.

3.) Memory for New Images (Herring and New Artist)
The effect of taking photographs is specific to the encoding experience. The new Herring images incorrect yes response mean (.16, SE=.02) was greater than that of the new artists' images (.04, SE=.01). F (1,54) = 269.2, MSE=.393, p < .001.