The Effect of Modality and Warning on False Recognition [Results]

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To assess whether presentation modality (auditory or visual) and warning (present or absent) impact the creation of false memories, we operationalized false memories in two ways: (1) correct recognition of studied list items and (2) false recognition of critical lure terms. For each participant, we calculated the proportion of correctly recognized studied list words and the proportion of falsely recognized lures. The individual participant proportions were then separately aggregated into group averages based on their modality and warning conditions.

Those who had word lists presented visually (M = 0.748, SD = 0.031) correctly recognized list items in only slightly higher proportions than those who had words presented auditorily (M = 0.713, SD = 0.031) on average. The average proportion of correctly recognized list items was slightly lower in the warning group (M = 0.729, SD = 0.031) than in the no-warning group (M = 0.732, SD = 0.031). The mean proportion of correctly recognized items is further broken down by the condition sub-categories in Table 1.

The average proportion of falsely recognized critical lures was lower in the visual condition (M = 0.594, SD = 0.057) than in the auditory condition (M = 0.713, SD = 0.057). Those who received a warning falsely recognized lower proportions of critical lures (M = 0.563, SD = 0.057) compared to those who were not warned (M = 0.744, SD = 0.057), on average. The mean proportions of falsely recognized critical lure terms are further broken down into the four possible condition combinations in Table 2.

A 2x2 ANOVA was performed to determine the effect of modality, warning, and their interaction on correct recognition. As hypothesized, there was no evidence to support the existence of a main effect of modality on the correct recognition of studied list items, F(1, 76) = 0.658, MSE = 0.025, p = 0.420, ηp2 = 0.009. However, warnings had a slightly different effect than hypothesized; There was no evidence of a main effect of warning on the correct recognition of studied list items, F(1, 76) = 0.005, MSE = 0.000, p = 0.946, ηp2 = 0.000. Contrary to my original prediction, there was also no evidence of an interaction between modality and warning on the correct recognition of studied list items, F(1, 76) = 0.502, MSE = 0.019, p = 0.481, ηp2 = 0.007. The lack of any main effects or interaction on correct recognition is visualized in Figure 1.

Next, a 2x2 ANOVA was run to investigate the effect of modality, warning, and their interaction on false recognition of critical lures. Counter to my prediction, there was no evidence of a main effect of modality on the false recognition of critical lures, F(1, 76) = 2.185, MSE = 0.282, p = 0.143, ηp2 = 0.028. As postulated, there was strong evidence to support the existence of a main effect of warning on the false recognition of critical lures, F(1, 76) = 5.090, MSE = 0.657, p = 0.027, ηp2 = 0.063. Additionally, there was no evidence of an interaction between modality and warning on the false recognition of critical lures, F(1, 76) = 0.490, MSE = 0.063, p = 0.486, ηp2 = 0.006 – which is incongruous with my initial hypothesis. The existence of a main effect for warning on the false recognition of critical lures is further supported by the plots in Figure 2.

**Table 1**

*Descriptive Statistics for Each Modality-Warning Condition Combination on Correct Recognition of List Items.*

Table

Description automatically generated

**Table 2**

*Descriptive Statistics for Each Modality-Warning Condition Combination on False Recognition of Critical Lure Terms.*

Table

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**Figure 1**

*Line Graph and Bar Graph for Effects of Modality and Warning on Correct Recognition.*

Chart, bar chart

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**Figure 2**

*Line Graph and Bar Graph for Effects of Modality and Warning on False Recognition.*

Chart

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