The purpose of this study was to:
- Determine if the previously found detrimental effect of emotion on semantic-relatedness to increase recall is diminished, participants should have greater recall for semantically-related neutral words compared to semantically-related emotional words. Furthermore, participants should also have a higher amount of semantically-related intrusions for semantically-related neutral words compared to semantically-related emotional words, as this measurement indirectly indicates how well a semantic pattern is recognized.

Main Hypothesis

Our hypothesis was that a combination of semantic relatedness and emotion will lead to impaired recall. Semantic relatedness has been hypothesized to enhance recall because semantically-related words share a common pattern, or gist trace. However, emotional stimuli have also been hypothesized to gain priority in memory – a process that may in fact impair relational or gist trace processing. Furthermore, this effect is predicted at a 1000 ms/word presentation, which has been found to fall within the time that gist trace connections are being processed. Thus, if emotion does impair relational processing, such that the full benefit of semantic-relatedness during recall is diminished, participants should have greater recall for semantically-related neutral words compared to semantically-related emotional words. Furthermore, participants should also have a higher amount of semantically-related intrusions for semantically-related neutral words compared to semantically-related emotional words, as this measurement indirectly indicates how well a semantic pattern is recognized.

Results

Correct Recall
- Significant interaction found between semantic relatedness and emotion, F(1, 71) = 6.75, p < 0.02, such that emotion impaired recall for semantically-related words but not for unrelated words.
- Main effect found for semantic relatedness F(1, 71) = 263.56, p < 0.01: Semantically-related lists (M = 10.84) > unrelated lists (M = 7.21)
- Main effect found for emotion F(1, 71) = 7.49, p < 0.01: neutral lists (M = 9.33) > emotional lists (M = 8.73)

Semantically-Related Intrusions
- Semantically-related neutral word list (M = 0.29) > semantically-related emotional word list (M = 0.11), p < 0.05

Correct Recall
- Mean words recalled

Conclusions

We proposed that emotion would adversely affect recall for semantically related words. Consistent with this hypothesis, the semantically related emotional lists was recalled worse than the semantically related neutral list. Furthermore, the significant interaction between semantic-relatedness and emotion showed that the ability of semantic-relatedness to increase recall is decreased when paired with emotion. Additionally, the greater semantically related intrusions of the semantically related neutral list indicates that its semantic pattern was more salient compared to that of the semantically related emotional list, lending support to the theory that emotion impairs relational processing.

References