Interactivity of newly acquired emotional words in the mental lexicon

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The mechanisms underlying novel word representation have been extensively addressed at surface levels [1,2]. However, little is known about the formation of word-forms and corresponding modality-specific representations attributed via sensory-motor or emotional systems. We examined this question by training 18 novel visual-word forms in association (x10 exposures) with emotional (positive and negative) and neutral-valence sounds. Immediate post-learning evaluation included a free recall and an emotional priming task, in which previously trained words were presented as primes of familiar targets with congruent or incongruent emotional valence, either using unmasked (Experiment 1: SOA=300 ms, n=31) and masked paradigms (Experiment 2, SOA=50 ms, n=48). Participants were asked to categorize targets as pleasant or unpleasant words by pressing a corresponding key. Results obtained in Experiment 1 revealed a congruency effect ($F1,30=6.037$, $p=.02$), with longer RTs for targets presented in incongruent than congruent condition. Such interference was likely led by primes with positive emotional valence, although the interaction did not reach significance. Importantly, this was confirmed in Experiment 2, in which the congruency x valence interaction emerged ($F1,47=9.415$, $p=.004$). Negative target words preceded by incongruent positive primes showed longer RTs than the other prime-target combinations. Accordingly, recall data revealed a significantly better performance for those novel words rated as more positive by participants ($F2,557=10.308$, $p=.000$, $\beta^2= 0.77$, $R^2Aj.=.032$). Overall, our data indicate the rapid representation and interactivity of novel emotional words in the mental lexicon, particularly for those with positive emotional connotations, thus in line with previous findings suggesting a positive bias in language [3].

References

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