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Research Result Summaries

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### Pattern Separation & Completion, Memory for Affective Stimuli, and Mood

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## Research Summary: Pattern Separation & Completion, Memory for Affective Stimuli, and Mood

The purpose of this study was to investigate the interaction between mood and its effects on the encoding and retrieval of memories. In clinical samples, such as those with major depression and PTSD, a common symptom is overgeneralization, whereby an event evokes recall of a similar event, leading to a bias in memory. It is posited that an underlying mechanism of this effect is a process in the brain called pattern separation and completion, which is the ability to encode or learn distinct events (pattern separation), and subsequently correctly recall a particular event from a set of similar memories (pattern completion). However, we do not know if these associations occur in university students: that is, do they have a tendency to recall related but incorrect memories if they are similar in affective valence (i.e. positive or negative), and if so, is this related to their performance on a test of pattern separation/completion? We tested 15 undergraduate students at UWindsor, asking each participant to imagine several personal events that are either positive, neutral, or negative, using some words as cues. After a delay, each participant was asked to recall that event, to see if they would tend to misremember information from events with a similar mood. In addition, participants also completed a test of pattern separation/completion, and filled out a questionnaire on their general mood. We found that student participants did not show a bias in memory for positive, neutral or negative memories, nor was there a tendency to misremember information from a certain type of memory. In addition, there were no associations between memory performance and pattern separation/completion performance, and no associations with self-reports of mood. These results, although non-significant, highlight the need for future research in this area, perhaps using patient samples and probing more specific symptoms (i.e. trauma).