There is conflicting evidence on the role of theta oscillations in episodic memories. While most studies employing surfice EEG report increases in theta power, most iEEG studies report a memory induced theta power decrease.

Herweg and colleagues (Tics, 2020) review this evidence and suggest that studies contrasting later remembered with later forgotten memories conflate domain-general cognitive processes such as attention and perception with memory specific processes. Because the former is assumed to lead to a spectral tolt (less low frequency power and more high frequency power) narrow band theta power increase induced by memory might be overshadowed. Talk about sync/desync here.

To ameliorate this conundrum researchers should not contrast successful memory with unsuccessful memory, but instead compare strength of memory (such as retrieval confidence, detail of contextual retrieval, distance to encodingxx).