Title

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Abstract

Our senses receive a continuous stream of complex information. According to Event Segmentation Theory (EST), we parse this information into meaningful events, allowing us to extract relevant information, remember it, and act upon it. Previous research has related these events to so-called 'neural states': temporally and regionally specific stable patterns of brain activity, which tend to coincide with events in the stimulus. Here we show that these neural states additionally align with stable features in a movie stimulus that are relevant to a specific brain region. This supports the idea that many brain areas across the cortex apply event segmentation in a hierarchical manner. Using intracranial measurements, we further investigate whether neural states are present at a much smaller timescale and how their characteristics correspond to EST. Our findings provide support for the idea that neural states could underlie the cognitive skill of event segmentation.