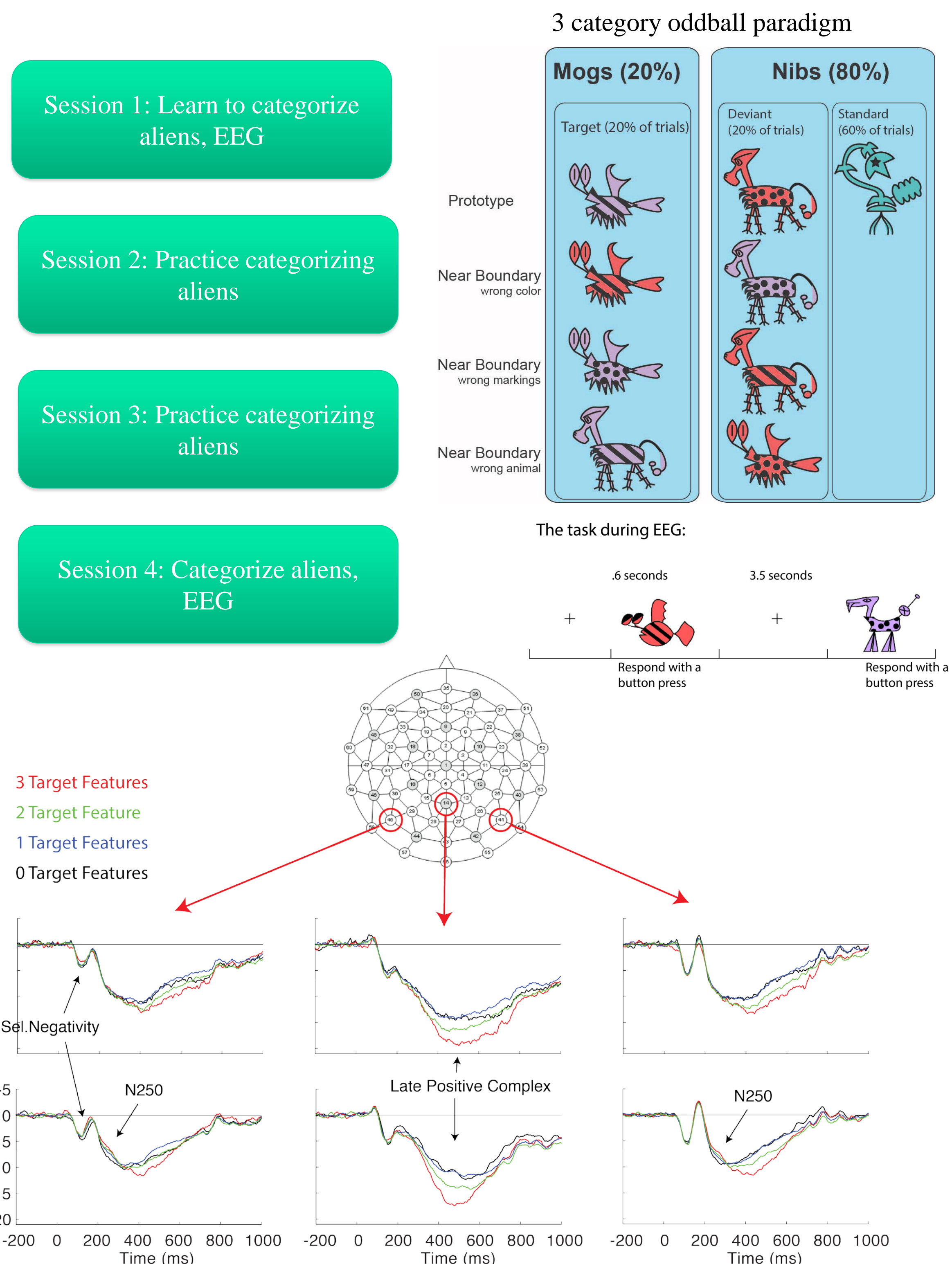


Electrophysiology of Object Categorization

- Object categorization requires multiple stages of visual processing
 - attention to visual features
 - recognition of visual features
 - recognition of object category
- To study how the time-course of feature and category recognition change with learning, we measured the sensitivity of ERPs to features of a rare target category.
- Learning related changes were seen at 100ms, 170ms, 250ms, and between 300ms and 900ms.
 - Selection Negativity: onset became more synchronized between features after learning.
 - N250: linearly related to number of target features only after category learning
 - The “Late Positive Complex” was non-linearly related to number of target features.
- The selection negativity and N250 effects reflect an increase in the effectiveness of top-down modulation of visual cortex. Future studies and grants will ask whether this learning related change is task-independent or task-dependent.



Future research:

The question now is whether category learning induces an *attentional habit*. Can attentional enhancement effects be observed even when participants are not doing a categorization task? Detecting a single object? Monitoring cued features for a probe?

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