

The background of the slide features three large, overlapping circles in a medium blue color, set against a dark gray background. The circles are arranged horizontally, with the middle circle slightly offset from the other two, creating a Venn diagram-like pattern. A white horizontal band runs across the center of the image, containing the title and author information.

Overview of Common ERP Components Part 3

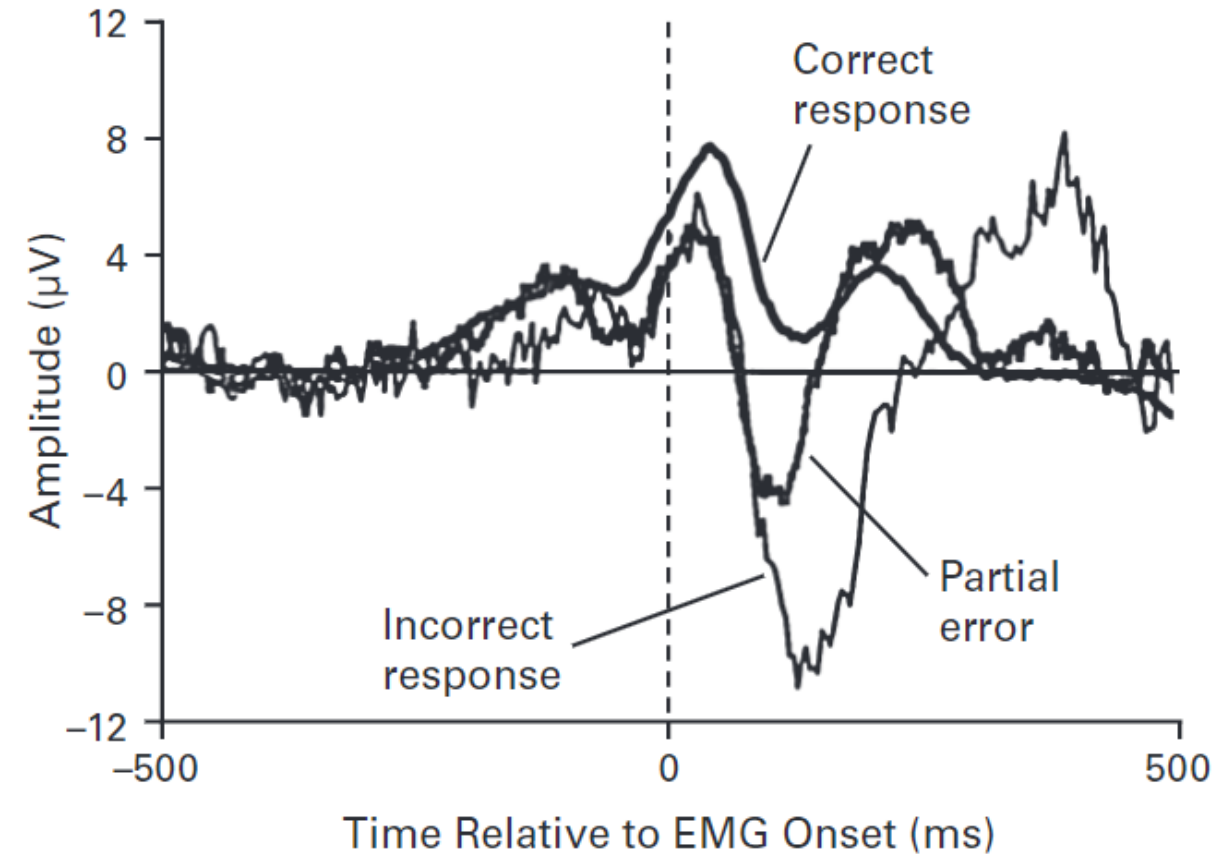
Clara Rhee

ERP Components

Error-Related Components

- Comparing ERP waveform on error trials and correct trials
 - learn about the cause of error & brain's response
- Error-related Negativity (ERN) or N_e

Error-Related Components Continued



- 1) Fully incorrect → ERN
- 2) Partial error → Smaller ERN
- 3) Correct trial → CRN
- 4) Error positivity (P_e)

Error-Related Components Continued

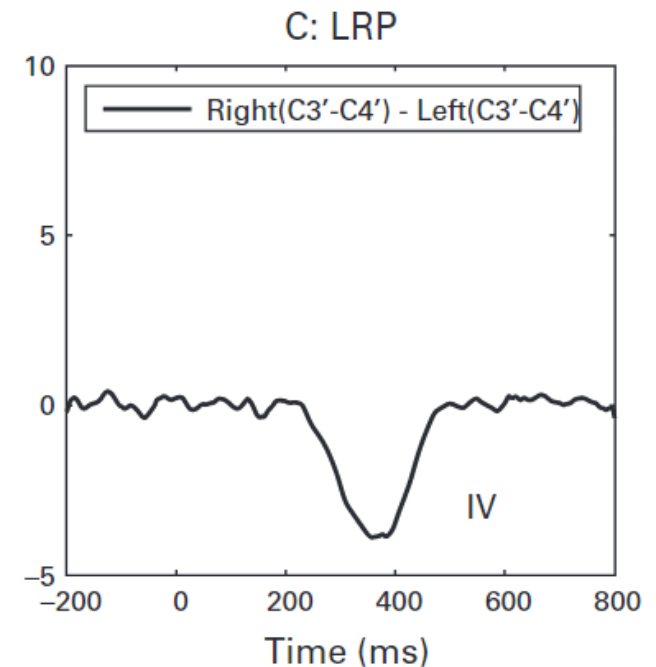
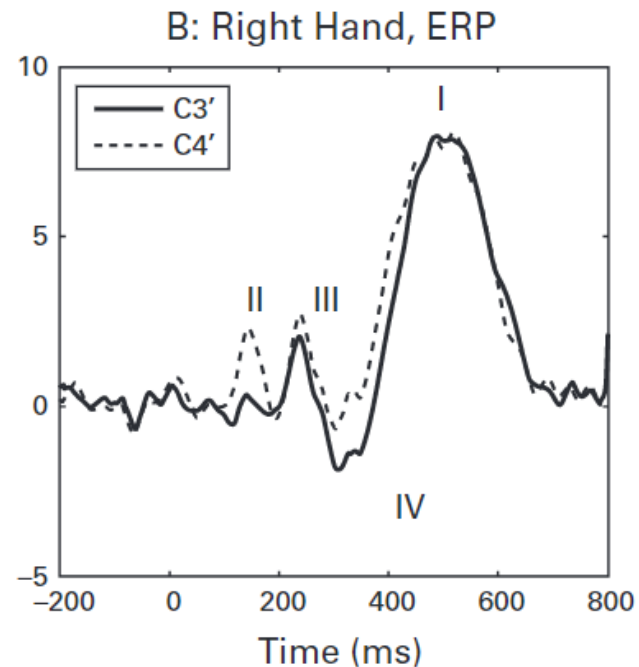
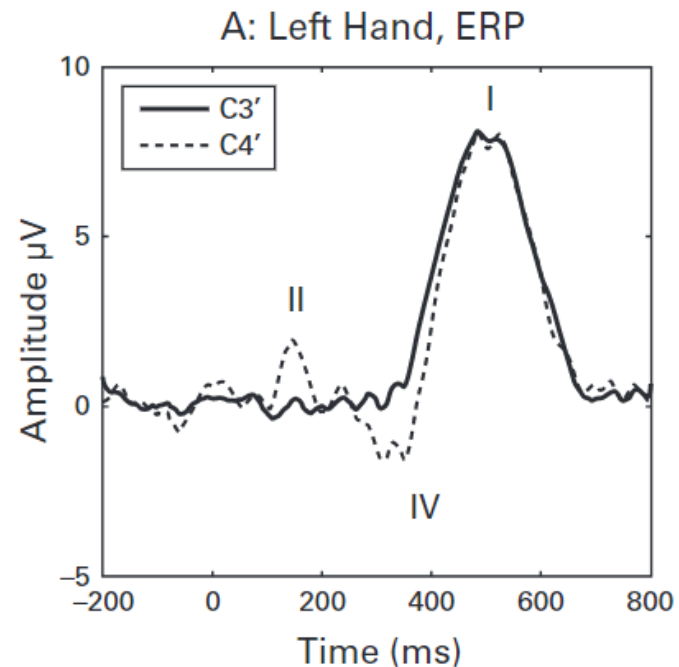
- Difference wave approach can isolate error-related processes
 - Problem
 - 1) The difference may partly reflect a later onset of P3 wave on error trials
 - 2) Activity prior to the response may differ
 - 3) The strength of the process that generates the ERN may be equally present on other trials

Response-Related Components

- Elicited when..
 - Instructed to make a series of occasional manual responses, with no eliciting stimulus
 - Tasks that require subjects to make responses to stimuli
- Bereitschaftspotential(BP) or readiness potential(RP)
- Depends on..
 - Which effectors will be used to make the response
 - Which side of the body (left or right) will be used
 - Which effector is used within a given side

Response-Related Components

- Lateralized readiness potential (LRP)
- Easily isolated from other ERP components



Response-Related Components

- Generated (at least in part) in motor cortex
- Appears to reflect some aspect of response preparation

Steady-State ERPs

- Transient response & Steady state

