

Event-related brain potentials during political speech processing: Effects of differences between *I* and *we* as grammatical subject

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This study investigates *I* and *we* as sentence grammatical subject in political speeches of auditory comprehension by means of Event-Related Potentials (ERPs). In political speech, grammatical subjects are significant in shortening the distance between politicians and the public (Beard, 2000). Previous studies of first personal pronouns as grammatical subject were based on statistic methodology (e.g., Huang & Yang, 2008; Wang, 2012) and have apparent limitations: (1) not from the prospective of listeners, and (2) not considering the time or background of any speech specificity. The present research considers a similar issue, but in two alternative perspectives: the listeners' angle and in real context of time.

ERPs can provide a temporal resolution in milliseconds for the problems. They reflect the electrical response of the brain being time-locked to the presentation of a given event averaged over time (Hinojosa, 2001). There are two approaches per se: The first focuses attention on a given component (from ERP to cognition) and the second identifies components related to a given cognitive process (from cognition to ERP). This research relied on both of them and carried out two tasks.

The first is concerned with ERP experiment. Subjects were asked to listen to 6 political speeches of recorded male voice, each lasting 3 minutes and containing 15 sentences with *I* or *we* as subject, which appear randomly: probably *I* in one sentence but *we* in another. In this process, ERP data were recorded, and the amplitude in each sentence evoked by *I* or *we* is analyzed.

Furthermore, this study aims at a better explanation for the ERP component elicited by the grammatical subject *I* and *we*. It is then essential to do an attitude test. In the second task, therefore, subjects were asked to answer questions about their attitude towards 6 political speeches about diplomacy, environmental protection, trade, youth development, education and globalization. The scores were divided into two groups: positive and negative.

Then correlation analysis was carried out with the results of task 1 (ERP component) and 2 (attitude), and three findings are found: (i) the ERP component evoked by *I* and *we* are different; (ii) N400 component were elicited by *I* and *we*; and (iii) attitude of political speech were related to EPR component.

Key words: event-related potentials; interpersonal function; N400; personal pronoun subject; political speech