



University of Rijeka, Faculty of Maritime studies

PROJECT ACRONYM AND TITLE: Investigation into the semantic level of language processing in Croatian using the event-related potentials technique (SEMANTICro)

FUNDING PROGRAMME: University of Rijeka (UNIRI Young researchers' projects 2022)

PERSON RESPONSIBLE: Eva Pavlinušić Vilus

FINANCIAL DATA

Project total cost	Overall funding assigned to PFRI
19.647,61 HRK	19.647,61 HRK

SUMMARY

Language processing research conducted with event-related potentials (ERPs) has revealed the speed and extreme efficiency with which the human brain tends to process linguistic stimuli. It has also shown how brain activity changes depending on the linguistic level being processed, which, in turn, results in specific waveforms of the EEG signal, the so-called ERP components. The N400 component is considered to be the indicator of linguistic processing on both semantic and pragmatic levels. Its amplitude is proportional to the degree to which a word deviates from its previous sentential or discourse context and the speaker's knowledge of the world, that is, how much it deviates from the speaker's expectations on the meaning of the word to follow. The experiment suggested in this project proposal is focused on neural processing of words in Croatian sentential context. The study participants will be shown sentences on a computer screen which will contain either semantically congruent or incongruent words, whereas at the same time their brain activity will be recorded by means of an EEG device. The amplitude, latency, and distribution of the N400 component will be statistically analyzed in both the controlled condition (in which the critical word fits the semantic frame of the sentential context) and the experimental condition (in which the critical word fails to fit the semantic frame of the sentential context). Based on previous research in the field, it is expected that the N400 amplitude will be higher under the experimental condition, whereas no differences are expected in its latency and distribution. The results of the experiment will be interpreted in terms of the latest contributions to theory on prediction in linguistic. Taking into consideration that the majority of studies into neural linguistic processing has been done for major world languages, this study will contribute to the knowledge on linguistic processing in Croatian as the underexplored language. In addition, the delineation of the semantic processing in adult speakers of proper language development can be used as the steppingstone for research into the linguistic processing in speakers with diminished language capacities.

Start date	End date
1.12.2022.	30.11.2023.