

Abstract

The purpose of this diploma thesis is to analyse the ability of the human ear to hear slight rhythm deviations in speech and non-speech phrases. The first part contains theoretical background for the study of speech rhythm and summarizes the research that has been already conducted in this area. It focuses especially on the perceptual nature of rhythm, the concept of P-centers, and provides a comparative study of speech rhythm and musical rhythm and their common properties and functions. The theoretical part is concluded with the analysis of potential influences of linguistic and musical training on the production and perception of rhythm, and hypotheses and research questions are formulated.

The practical part contains a perceptual experiment designed to examine the ability to identify rhythm manipulations in short speech and non-speech, i.e. percussive, phrases. Short English phrases are selected and their rhythmically altered counterparts are prepared. Participants are then presented with pairs of speech or non-speech phrases and a task to identify rhythmical discrepancies between them.

The results highlighted several differences between the nature of speech and non-speech rhythm. While the presence of stressed syllables enhances perception of rhythm deviations in speech, this is not the case for the non-speech signal. Performance in the experiment deteriorates with the increasing length of phrases, and rhythm manipulations become identifiable when their duration reaches approximately 60-70 milliseconds. However, no correlations between past or present musical training and the performance in the experiment was found. The only personal variable which influenced the results and improved performance in the experiment was the participants' level of L2 English. Weak performance in the cross-modal test, which followed assumed positions of P-centers, gives rise to questions about the influence of other factors on its precise location within the phrase.

Keywords: perception, rhythm sensitivity, P-center, musical training