The relationship between musical hearing and foreign language pronunciation in advanced learners of English

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Exploration of the intersection between language and music is a vast and diverse area of study, encompassing interdisciplinary investigations into language and music evolution (Brown 2000), as well as research in neurolinguistics (Patel 2008). Over time, examinations of the interconnection between these two domains have revealed commonalities such as shared acoustic features and processing mechanisms (Slevc 2012). The fine boundary between music and speech has prompted researchers to investigate the impact of musical aptitude on language acquisition, including the learning of foreign language speech (Chobert and Besson 2013). While the relationship between musical hearing and speech perception has been extensively explored (Nardo and Reiterer 2009), the association between musical skills and the production of non-native speech is a relatively nascent field with significant potential (Cason et al. 2020). Furthermore, the varied methodologies employed in previous studies, often relying on self-reported foreign language proficiency or subjective assessments of speech and musical training, create opportunities for further investigation. Finally, the absence of longitudinal studies assessing the influence of specific musical skills on distinct elements of foreign language pronunciation within a formal learning setting highlights an area ripe for future exploration.

To fill the existing gap in research, a series of experiments was conducted to explore how musical hearing and musical experience impact the development of foreign language pronunciation in advanced Polish learners of English. To achieve this goal, a comprehensive longitudinal phonetic study was carried out with 50 Polish undergraduate students of English who participated in a two-semester accent training programme. The study involved the use of acoustic speech analysis and assessments of musical hearing. The findings have been disseminated through three research articles examining the impact of pre-existing musical hearing skills and past musical experience on the quality of L2 vowels (Jekiel and Malarski 2021), the duration and reduction of L2 vowels affecting language rhythm (Jekiel 2022), and the intonation patterns of L2 speech (Jekiel and Malarski 2023).

The research findings present fresh evidence and introduce a unique perspective to the study of musical hearing and musical experience in foreign language pronunciation. They propose that the perception of pitch and the memory of rhythm may impact the learning of non-native sounds and speech patterns within a formal educational setting.

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