Title: "Individual differences in second-language vowel learning"
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This thesis examined (a) the degree to which computer-based auditory training can improve the perception and production of Southern British English vowels by second-language learners and (b) whether individual differences in second-language vowel learning are related to individual differences in native language vowel processing and/or to non-speech processing ability. Greek speakers from a homogenous population (in terms of language background, age of second-language learning and amount and quality of second-language input) were tested on a large test battery before and after receiving five sessions of high-variability perceptual training. The test battery examined their perception of natural and synthetic vowels in Greek and English in quiet and noise (multi-talker babble) and their frequency discrimination ability (using an F2 non-speech synthetic continuum) as well as their production of English vowels. Group results showed significant improvement in the trainees' perception of English vowels both in quiet and noise conditions and transfer of perceptual learning to English vowel production. Vowel processing in English was found to relate to individual variability in vowel processing in Greek and, importantly, to frequency discrimination acuity, a finding that favours an *auditory processing* hypothesis for individual differences in native and second-language perception of vowels.