## ACOUSTICS2008/814 The production of Mandarin and American English vowels by Mandarin-speakers

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This study examines whether there is any correspondence between how Mandarin-speakers pronounce Mandarin vowels and how they pronounce those vowels' English equivalents and non-equivalents. Twenty Mandarin graduate students, who spoke English as a second language and had stayed continuously in America for at least two years, produced a series of American English vowels in /hVd/ contexts from a randomly ordered list. To approximate English syllable structure, they also read a list of /hVdV/ syllables containing Mandarin vowels in the first syllable. The vowel in the second syllable is always a schwa. First- (F1) and second-formant (F2) values of each Mandarin and English vowel were analyzed. The statistical results suggest that the distances between the Mandarin corner vowels in the vowel space are similar to those between the English ones. The acoustic characteristics of the English vowels, the formant values most often differ from those of their closest Mandarin equivalents in only one formant or in neither. For instance, Mandarin subjects do not distinguish English /u/ from the near-close near-back vowel in either formant - attributable to the absence of the near-close near-back vowel in Mandarin.