

PERCEPTION OF NATURALLY PRODUCED VOWELS: ISOLATED, FROM WORDS,
AND FROM NORMAL CONVERSATION

Florina J. Koopmans-van Beinum, Institute of Phonetic Sciences,
University of Amsterdam, The Netherlands

This paper reports on one of a series of studies investigating the influence of various speech conditions or manners of speech on the production and perception of vowels. In a previous study we performed acoustical measurements (F_1 , F_2 , duration, and fundamental frequency) on the twelve vowels of four Dutch speakers, two male and two female, two trained and two untrained, in eight different speech conditions (non-sustained isolated vowels, vowels in isolated words, stressed and unstressed vowels in a text read aloud, stressed and unstressed vowels in a retold story, and stressed and unstressed vowels in normal, free conversation). Because of the striking 'vowel reduction' in the case of unstressed vowels in normal conversation with reference to isolated vowels and vowels in isolated words, we decided to present these three sets of vowels of each of the four speakers in a listening test to a group of 100 listeners.

Based on their judgments the percentages of correct identifications of the 100 x 216 vowel items for each speaker were:

isolated vowels, resp.	95%, 79%, 88%, 87%
vowels in isolated words, resp.	88%, 79%, 85%, 85%
unstressed vowels in normal conversation, resp.	31%, 29%, 33%, 39%

These results will be compared with results of other studies reported in the literature (Bond 1976, Strange et al. 1976, Kuwahara and Sakai 1972), and further analysis of the errors will be discussed. Besides, we will try to relate these data to the results of the measurements performed on these vowels as reported above.

References

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