

A Comparison of Frequency Discrimination Among Normals and Dysphonics*

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The present study was aimed at comparing the frequency discrimination ability between normals and dysphonics, in an Indian population. It was also intended to see if people trained in music would have better discrimination.

Five frequencies ranging from 100-500 Hz were selected as test frequencies. Pairs of tones (one followed by another) differing only in frequency were tape recorded, and this was used as the test material. Duration of each tone, remained a constant of 2.8 secs, having equal intensity. A total of 20 pairs of tones were recorded for each frequency. The test material was fed through the head set of an audiometer, worn by the subject.

The subjects were instructed to indicate, when they could make a difference between the two tones or the pair. The material was presented at a sensation level of 40 dB. Total time taken for the complete test was about 8 minutes.

The results were statistically analyzed and the following conclusions were drawn.

Conclusions

1. There is no significant difference between the right and left ears in discriminating frequencies in the range of 100-500 Hz.

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2. There is a statistically significant difference between sexes in this discrimination task.
3. (a) There is a significant difference between normal males and females with males evidencing better performance. (b) In the dysphonic group, the females show better discrimination.
3. Between frequencies, both sexes show no difference in discrimination in the frequency range (100-500 Hz).
4. Some individuals consider two tones as being different inspite of the frequency, intensity and duration being constant.
5. No significant difference is seen between normals and dysphonics as a group on frequency discrimination task. However, a significant difference in this ability is found between normal and dysphonic males, with normal males evidencing better performance.
6. Normals (males and females) were able to differentiate frequencies within a difference of 12 Hz.
7. 28.57% of dysphonics were able to discriminate, frequencies only beyond a difference of 12 Hz.
8. A significant difference is seen between people trained in music and the untrained.

Recommendations for further studies

1. The test may be tried on a larger population.
2. A study of frequency discrimination in different speech problems like misarticulation, may be done.
3. The relationship between age and frequency discrimination may be studied.

4. A study of the effect of frequency discrimination training in voice therapy, may be tried.
5. Effect of frequency discrimination training on deaf and hard of hearing cases in teaching speech and language, may be done.
6. It may be interesting to study the effect of training on discrimination ability.