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### **F0 studies on semi-spontaneous and read speech**

The study analyzed acoustic voice parameters such as jitter, shimmer, and fundamental frequency (F0) depending on the gender and age of the participants. The research material included both read texts and answers to questions (semi-spontaneous speech). The participants were divided into two age groups: younger (20–22 years) and older (48–54 years). The results indicate that the differences in jitter and shimmer parameters did not reach statistical significance between the age groups. However, it was observed that greater differences in shimmer values occur between the genders (higher values in men) than between the age groups, although these differences were also not statistically significant.

In terms of fundamental frequency (F0), it was noted that it was lower in younger men compared to older ones and higher in younger women compared to older ones. These results suggest that aging processes may affect vocal mechanics differently depending on gender. The duration of the utterance also shows a clear difference between age groups, being significantly longer in older speakers compared to younger ones.

Further studies with larger groups of participants are needed to examine these relationships in more detail, which will allow for greater statistical power and more precise conclusions. It seems particularly important to include people over the age of 70, which will allow for a better understanding of phonatory changes occurring in later stages of life.

*Keywords: fundamental frequency, gender differences in voice, age-related vocal changes, phonatory aging*