How does the voice vary with the duration of vocal load?
How does the voice vary with two different intensity levels of vocal load?

Subjects: 50 normophonic (25.4 years)
VLS examination excluding pathologies

Loading task: 2-hour reading task
Test: reading at low intensity (LI) level, between 60 and 65 dB(A)
Retest: reading at high intensity level (HI), between 70 and 75 dB(A)

For each reading session, serial sets of measurements are carried out:

Data analyzed on sustained /a/:
F0
Jitt%
Shim%
NHR

Data obtained by use of the Voice Range Profile program:
The lowest frequency (F0-Low)
The highest frequency (F0-High)
The lowest intensity (I-Low)
The highest intensity (I-High)

F0: Effect of the duration
F = 12.5, p < 0.0001
Effect of the intensity level
F = 21.9, p < 0.0001

Shim: Effect of the duration
F = 6.62, p <0.0001
No effect of the intensity level

F0-Low: Effect of the duration
F= 4.81, p = 0.001
No effect of the intensity level

F0-High: No effect of the duration
Effect of the intensity level:
F = 7.21, p = 0.009

I-Low: Effect of the duration
F = 5.00, p = 0.007
No effect of the intensity level

Jitt, NHR, I-High: No effect of the duration
No effect of the intensity level

Conclusions
Effects of the duration:
↑ F0 and F0-Low
↑ laryngeal tension
↑ activity in the respiratory muscles
↓ Shim%
↓ instability after vocal load in link with a greater laryngeal activity.
These results reflect an adequate adaptation to loading.

Effects of the intensity level:
↑ F0 and F0-High in the HI task