

# Voice Impact of a Prolonged Reading Task at Two Intensity Levels: Subjective Self-Ratings

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# 1

## Questions

How does the subjective self-ratings of voice vary with the duration of vocal load?

How does the subjective self-ratings of voice vary with two different intensity levels of vocal load?

# 2

## Methods

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

**Loading task:** 2-hour reading task

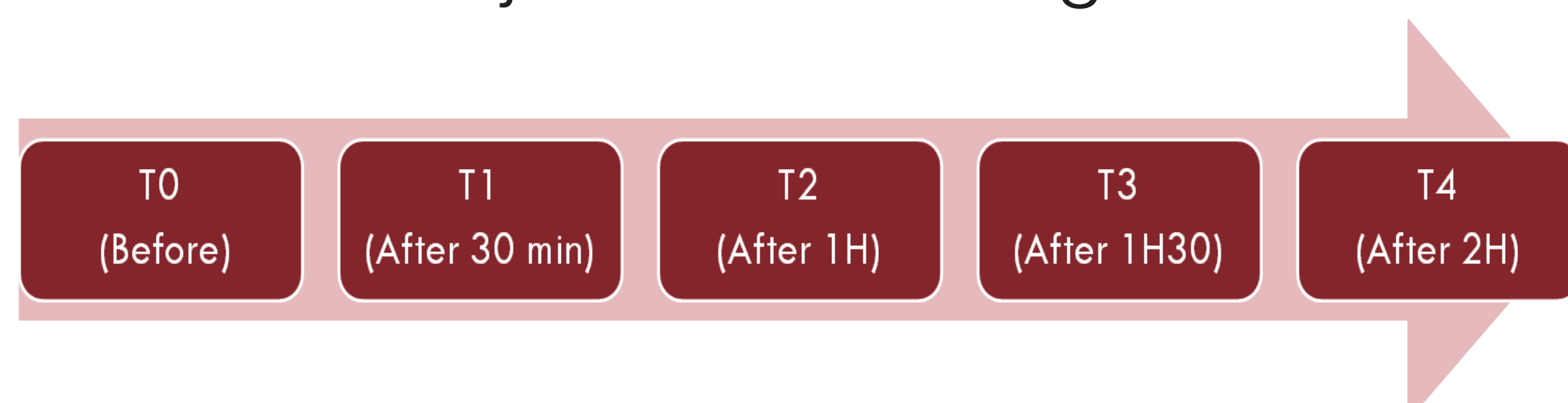
**Test:** reading at low intensity level  
(between 60 and 65 dB)

**Retest:** reading at high intensity level  
(between 70 and 75 dB)

# 3

## Protocol

For each reading session, serial sets of subjective self-ratings are carried out :



Data analyzed using a 100-mm horizontal visual analog scale:

Voice Quality

Phonation Effort

Vocal Fatigue

Laryngeal Discomfort

**Statistics:**

**Repeated ANOVA** (Duration x Intensity)

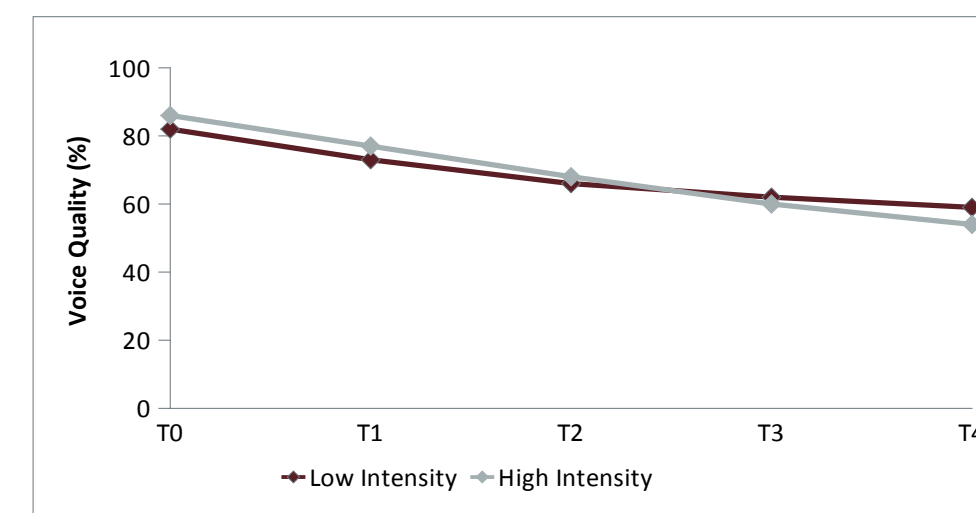
where the subjects are used as their own controls

**Simple ANOVA** is used to analyze

if there are significant differences between the 4 rating scores, at each time

# 4

## Results

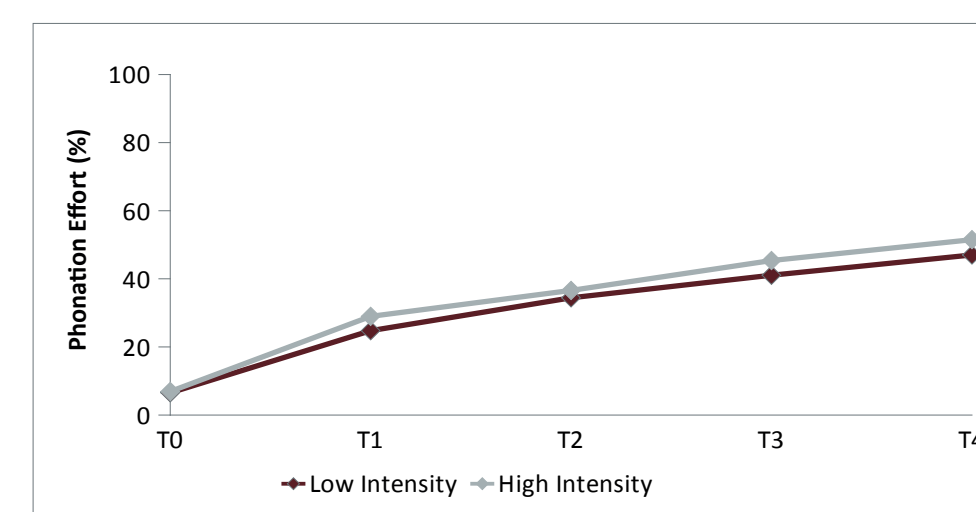


**Voice Quality:**

Duration effect ( $F=55.66, p<.0001$ )

No Intensity level effect

Interaction effect ( $F=4.88, p<.001$ )

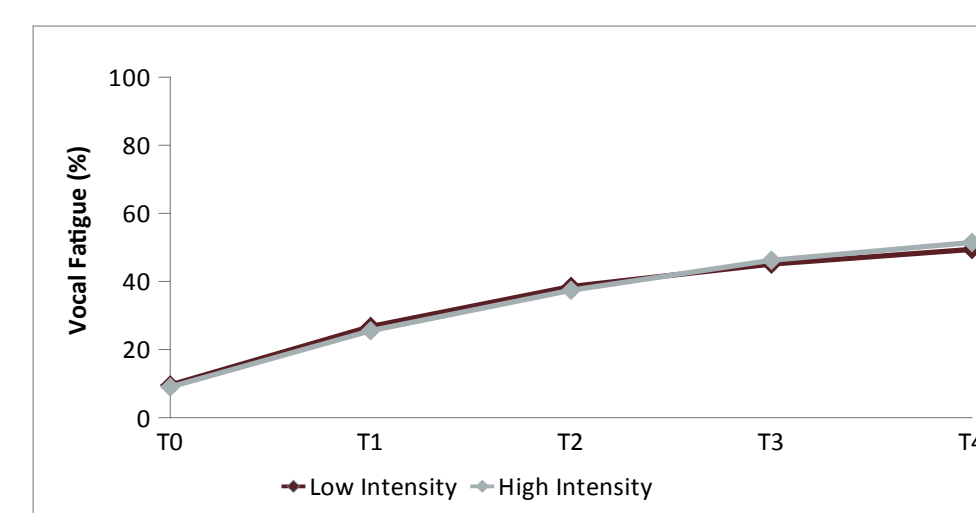


**Phonation Effort:**

Duration effect ( $F=98.56, p<.0001$ )

No Intensity level effect

No interaction effect

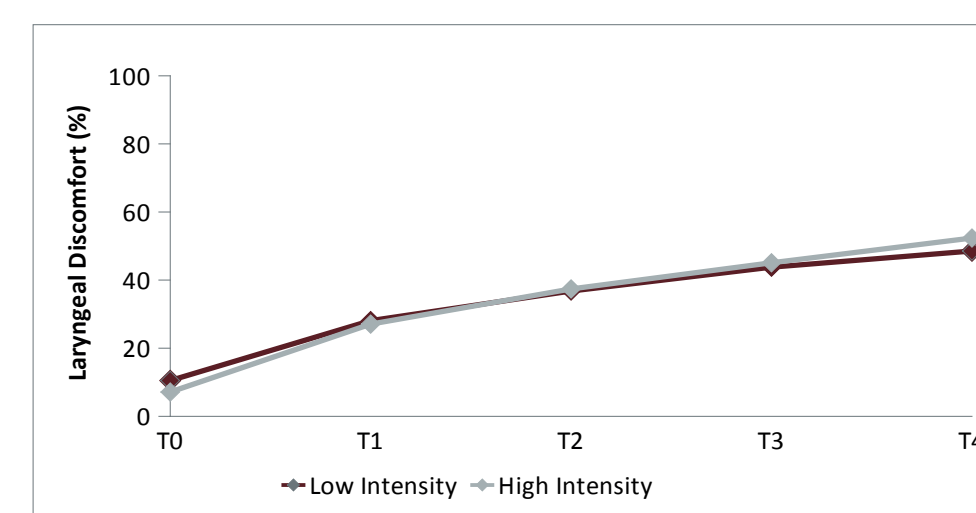


**Vocal fatigue:**

Duration effect ( $F=130.55, p<.0001$ )

No Intensity level effect

No interaction effect



**Laryngeal Discomfort:**

Duration effect ( $F=93.19, p<.0001$ )

No Intensity level effect

No interaction effect

**Simple ANOVA**

No significant difference between the 4 ratings,

except at T0 for the low intensity level ( $F=4.95, p=0.002$ ):

Voice Quality  $\neq$  Phonation Effort ( $p=.0012$ )

Voice Quality  $\neq$  Vocal Fatigue ( $p=.032$ )

# 5

## Conclusions

**Effects of the duration:**

Subjects' self-ratings significantly worsen throughout the reading tasks.

**No effect of the intensity level:**

Subjects do not report more complaints in the high intensity session than in the low intensity one.

**No differences between the 4 self-ratings,**

except at T0 for the low intensity session.

That may suggest that one rating would suffice in the future for studying the impact of vocal loading.