

Public Speaking in Front of a Virtual Audience: The Influence of Listeners' Attitude on Voice, Speech, and Anxiety

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55th Annual Symposium of the Voice Foundation

28/05/2026

Listeners' Attitude

- ❖ Indirect feedback on public speaking
- ❖ Positive and negative attitude studied with Virtual Reality (VR)



- ❖ Facing a negative audience, anxiety levels rises
 - Cognitive → Self-reported (Pertaub et al., 2002)
 - Physiological → Heart rate (Girondini et al., 2024)
 - Voice and speech parameters ?

Participants

- ❖ 64 university students (38♀, 26♂)
- ❖ Age : M = 21.5 SD = 3.14
- ❖ No voice and speech disorders



Hypotheses

H1

Anxiety

Self-reported
negative > positive

Physiological
(Heart Rate)
negative > positive

H2

Voice

*f*₀ median
negative > positive

*f*₀ variation
negative > positive

H3

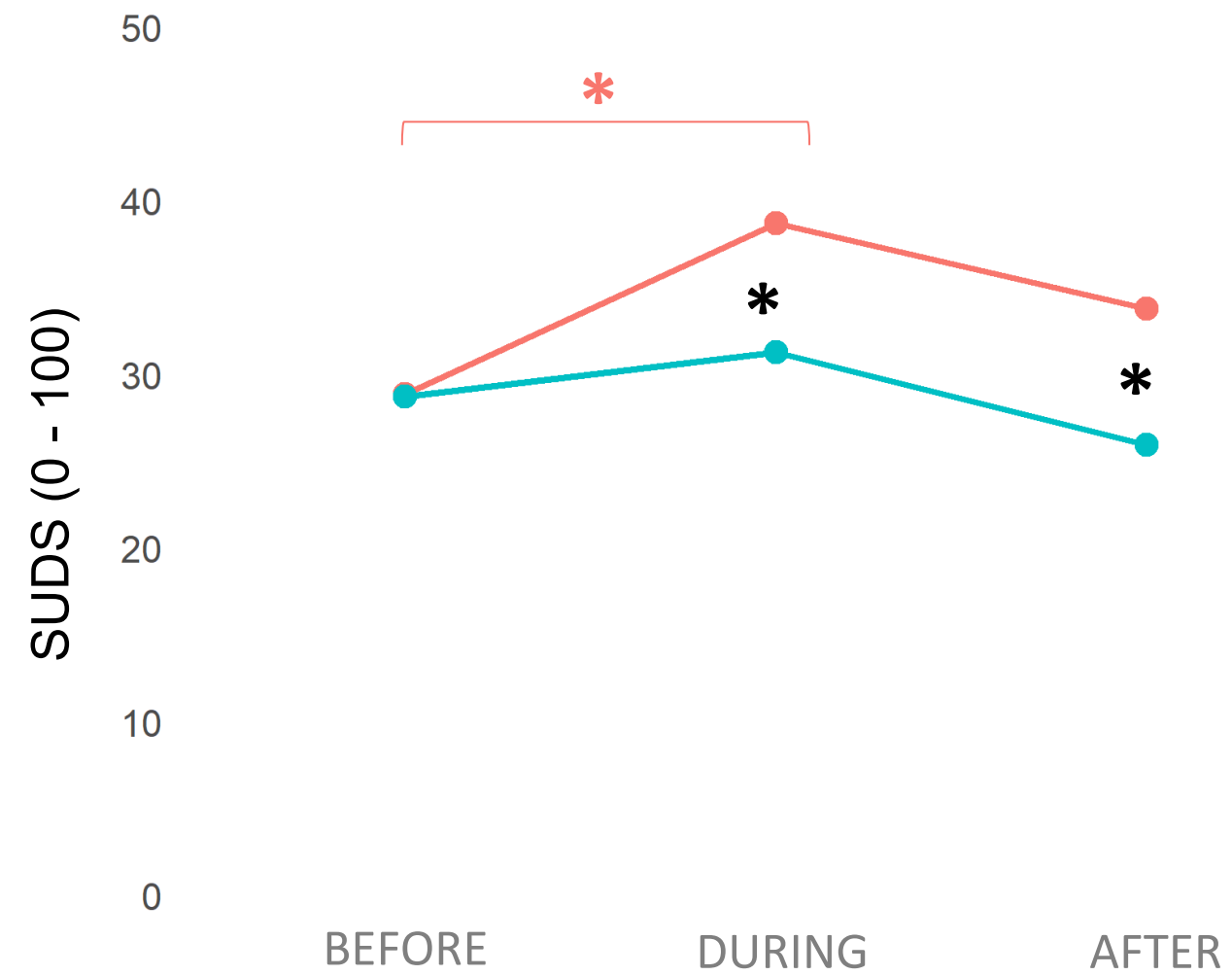
Fluency

Filled pauses
negative > positive

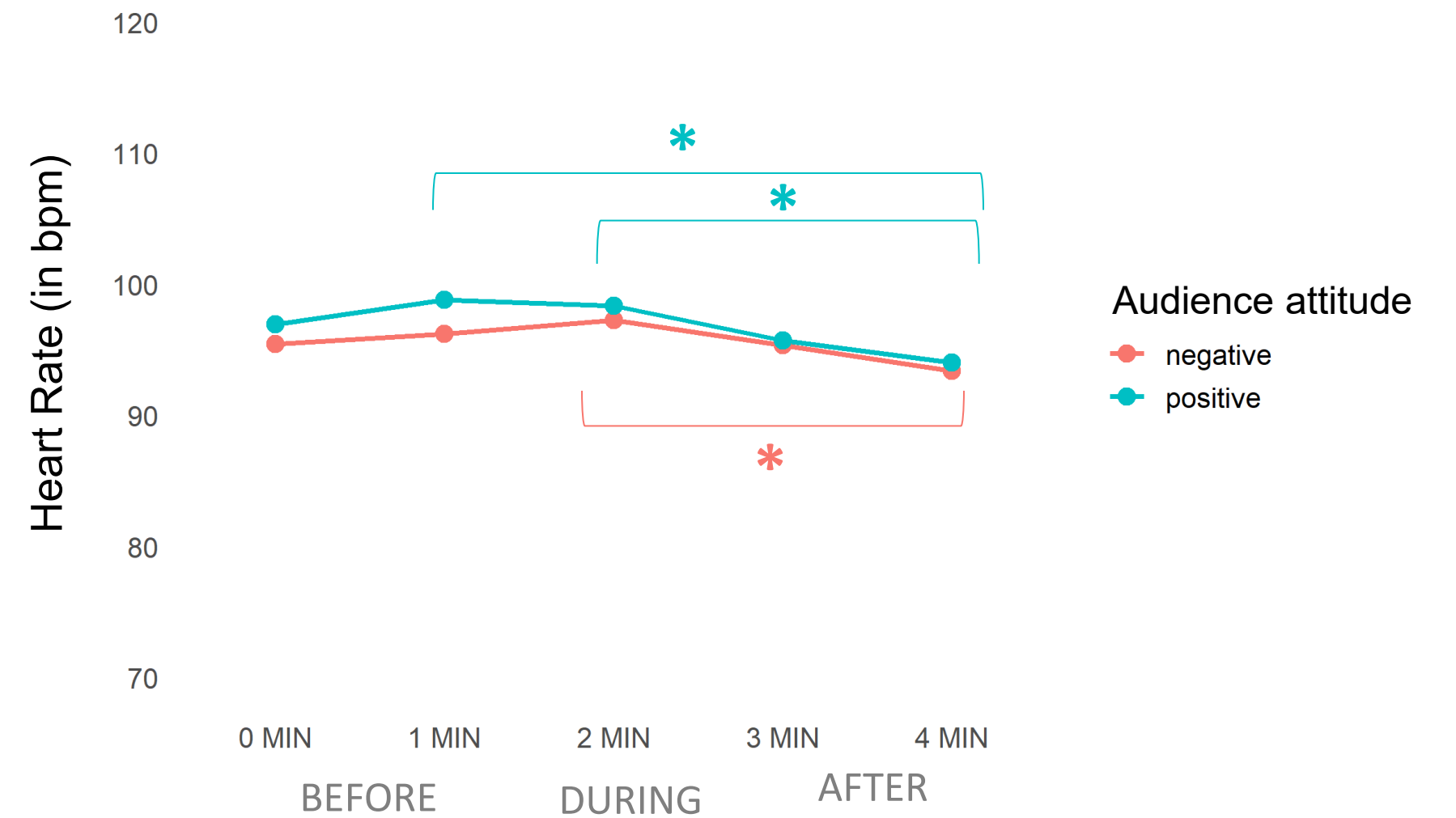
Silence duration
negative > positive

H1 – Anxiety

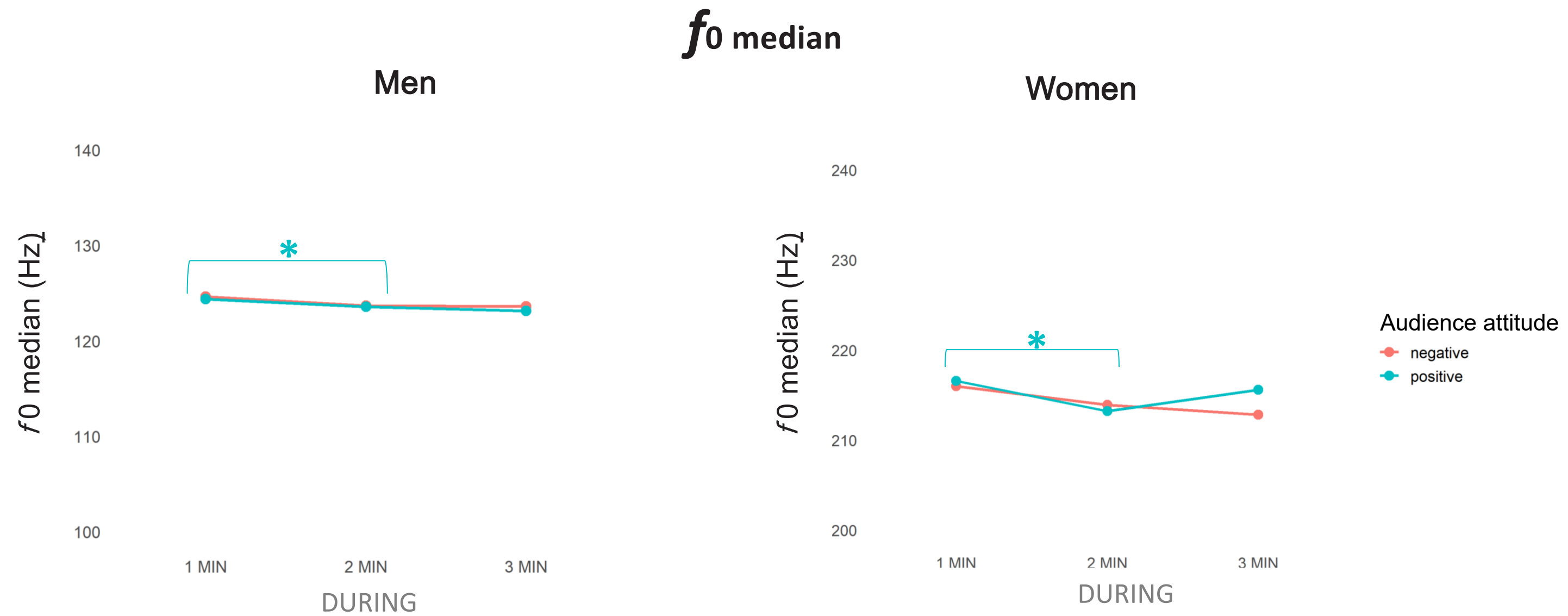
Cognitive indicator (SUDS)



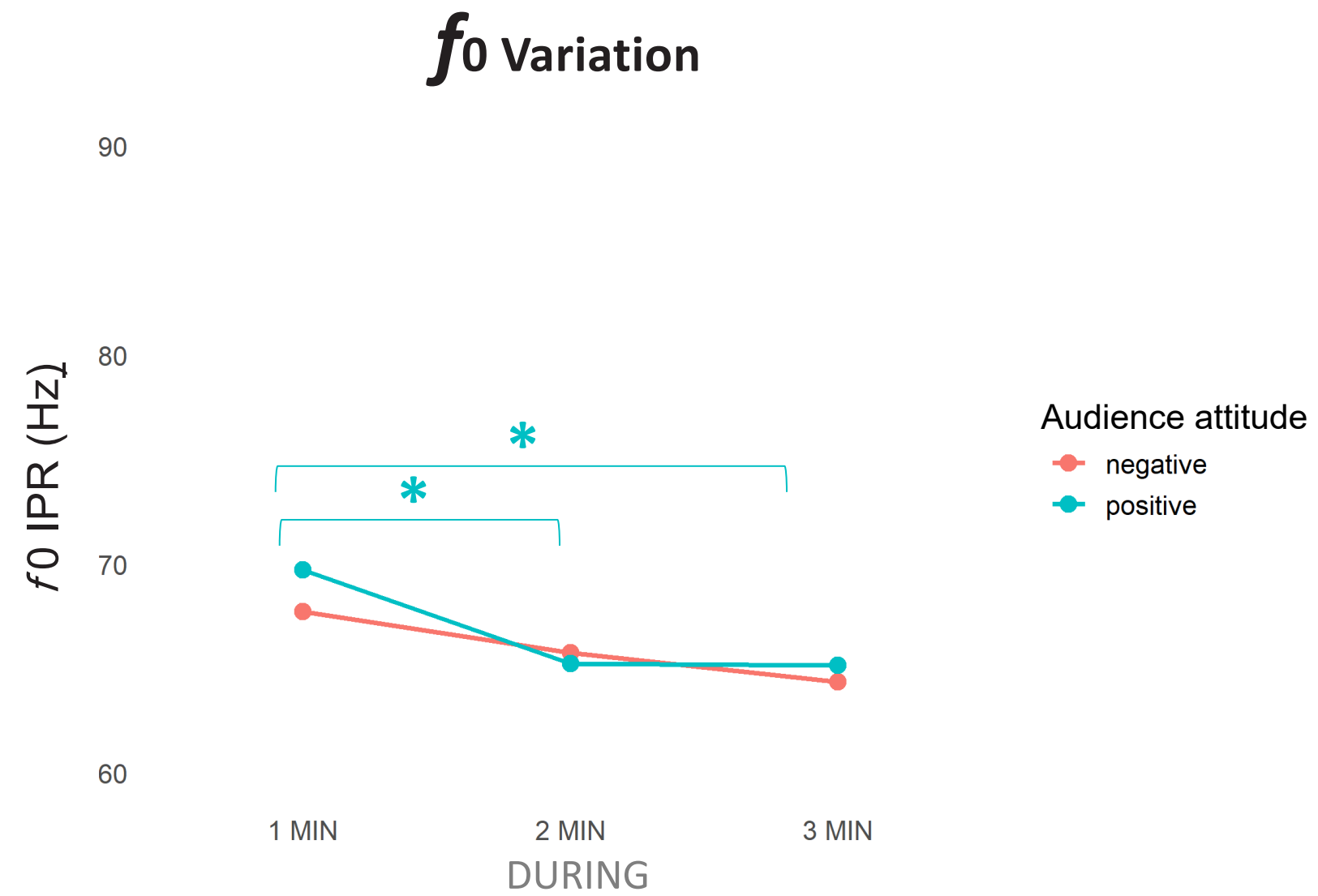
Physiological indicator (Heart Rate)



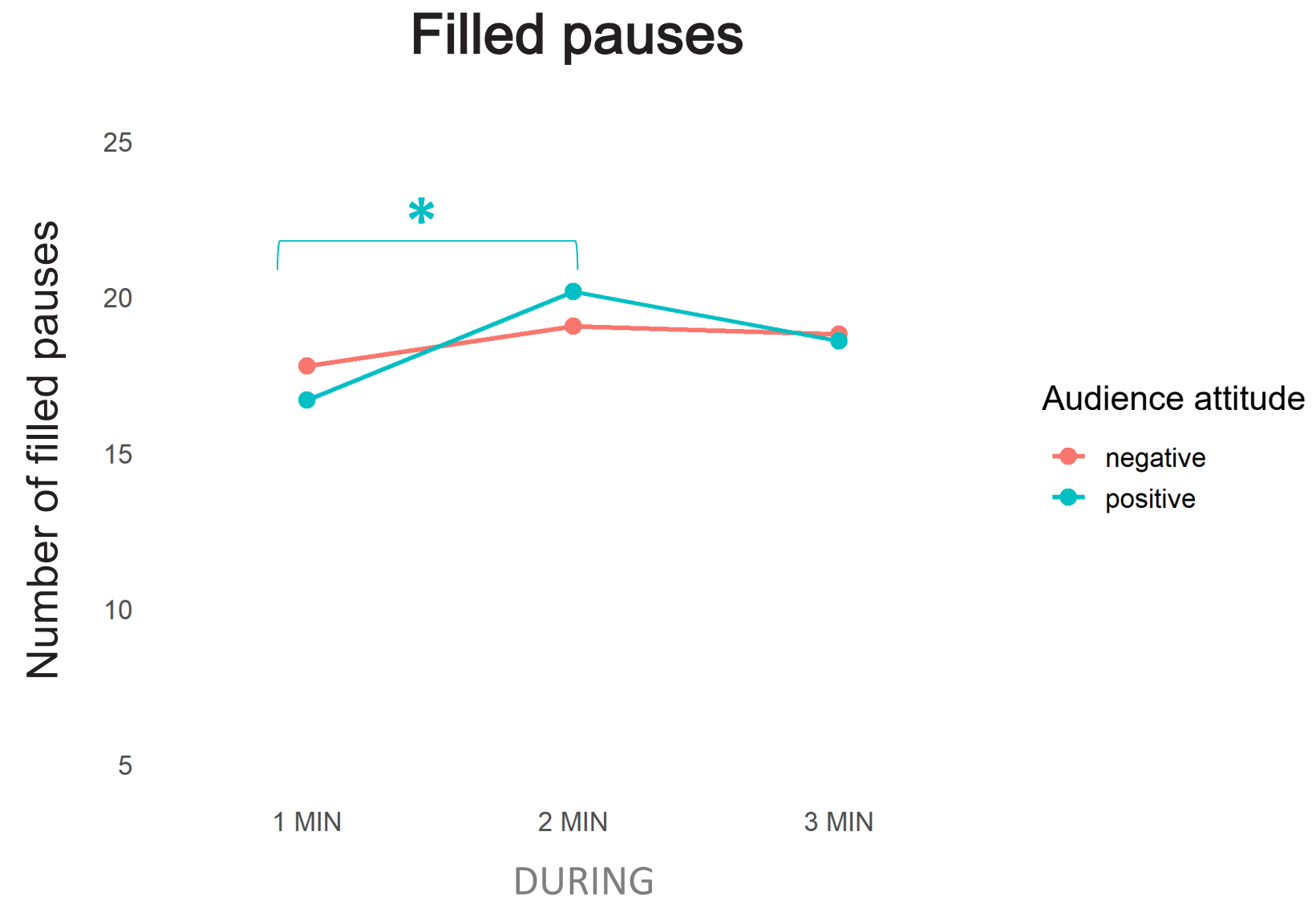
H2 – Voice



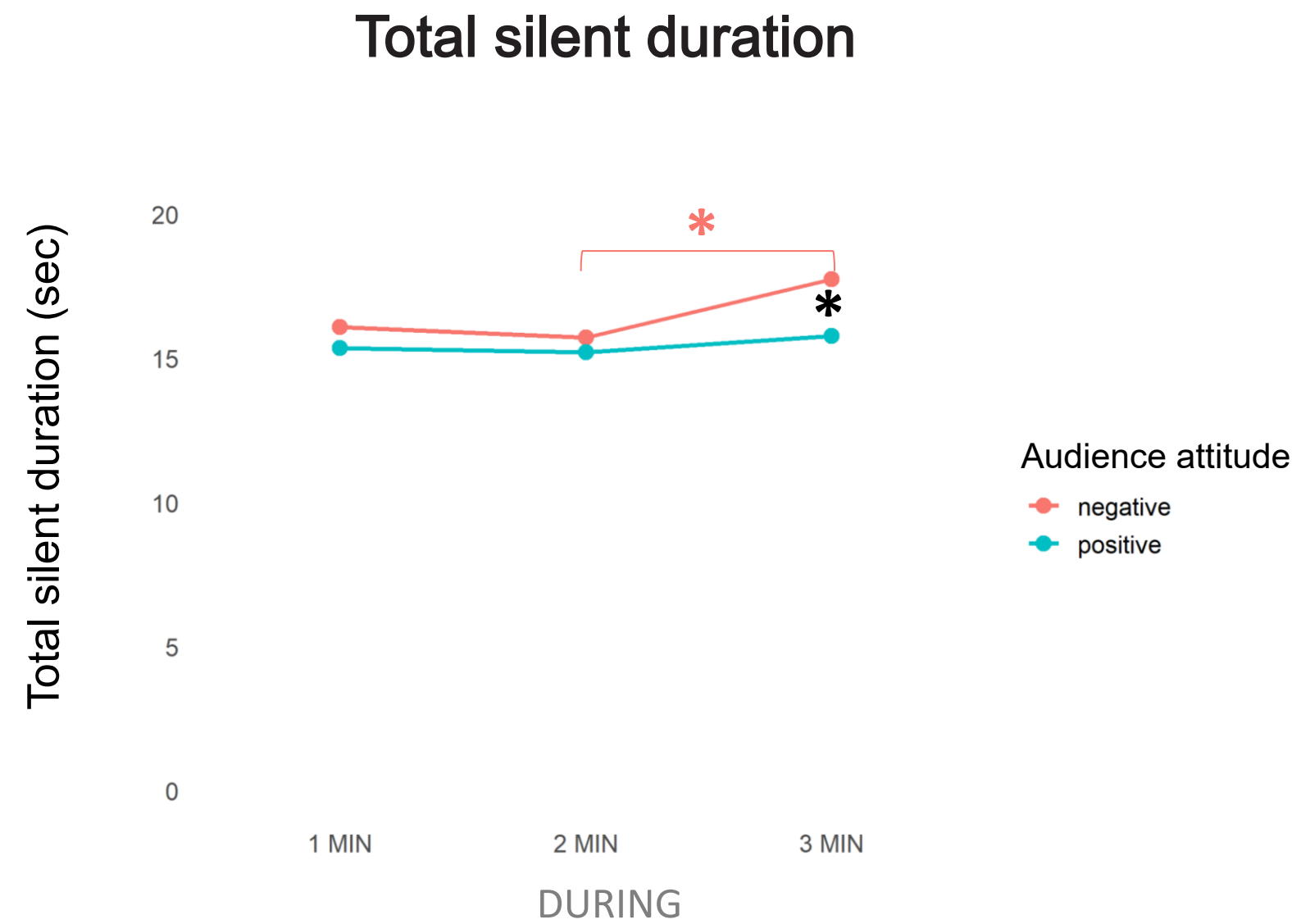
H2 – Voice



H3 – Fluency



H3 – Fluency



Discussion and conclusions

- ❖ H1 : Anxiety
 - ➔ Self reported higher during and after negative condition
 - ➔ Physiological higher throughout positive condition
- ❖ H2 : Decrease in f_0 median and variation at the beginning of the positive condition
- ❖ H3
 - ➔ Higher number of filled pauses at the beginning of the positive condition
 - ➔ More silence at the end of PS in the negative condition

➔ Physiological anxiety positive condition > negative condition

Behavioral anxiety (voice and speech) more related to physiological anxiety ?

QUESTIONS ?



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