

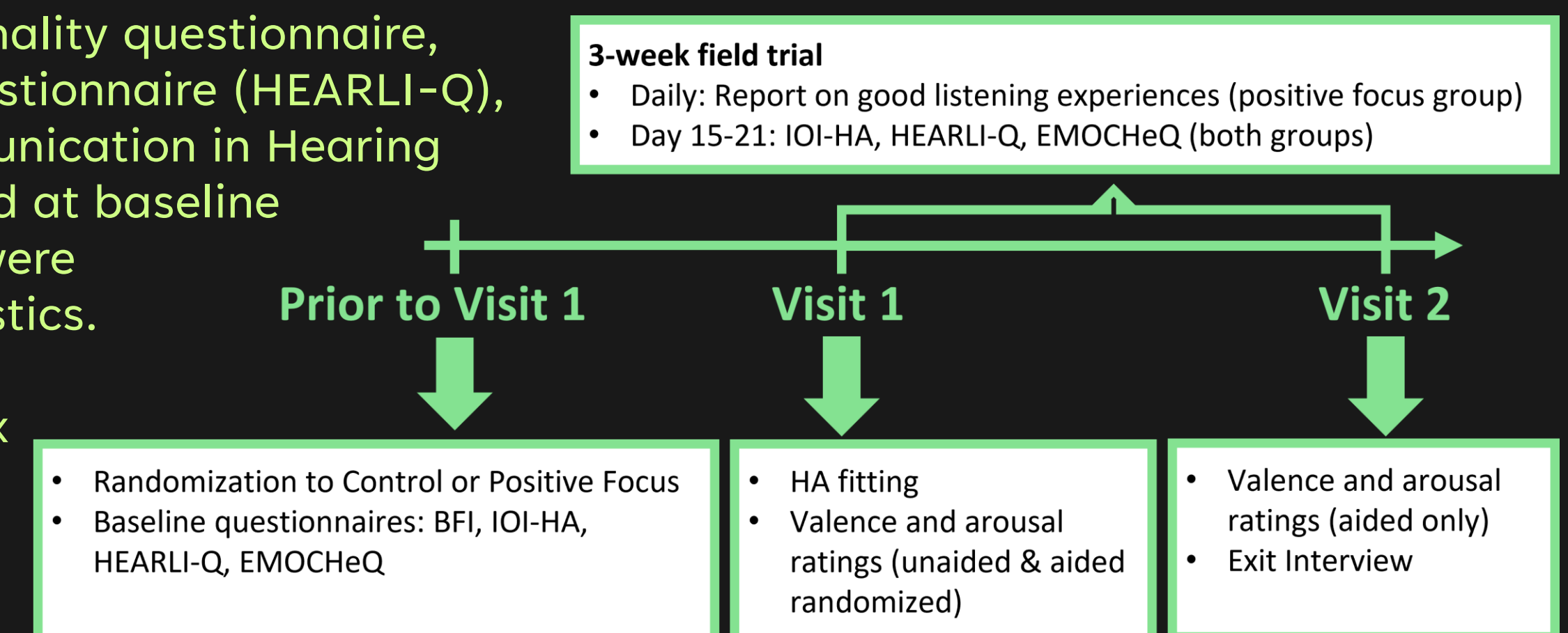
# Emotional Response to Pleasant Sounds Plays a Moderating Role in Effectiveness of the Positive Focus Intervention

## → INTRODUCTION AND AIMS

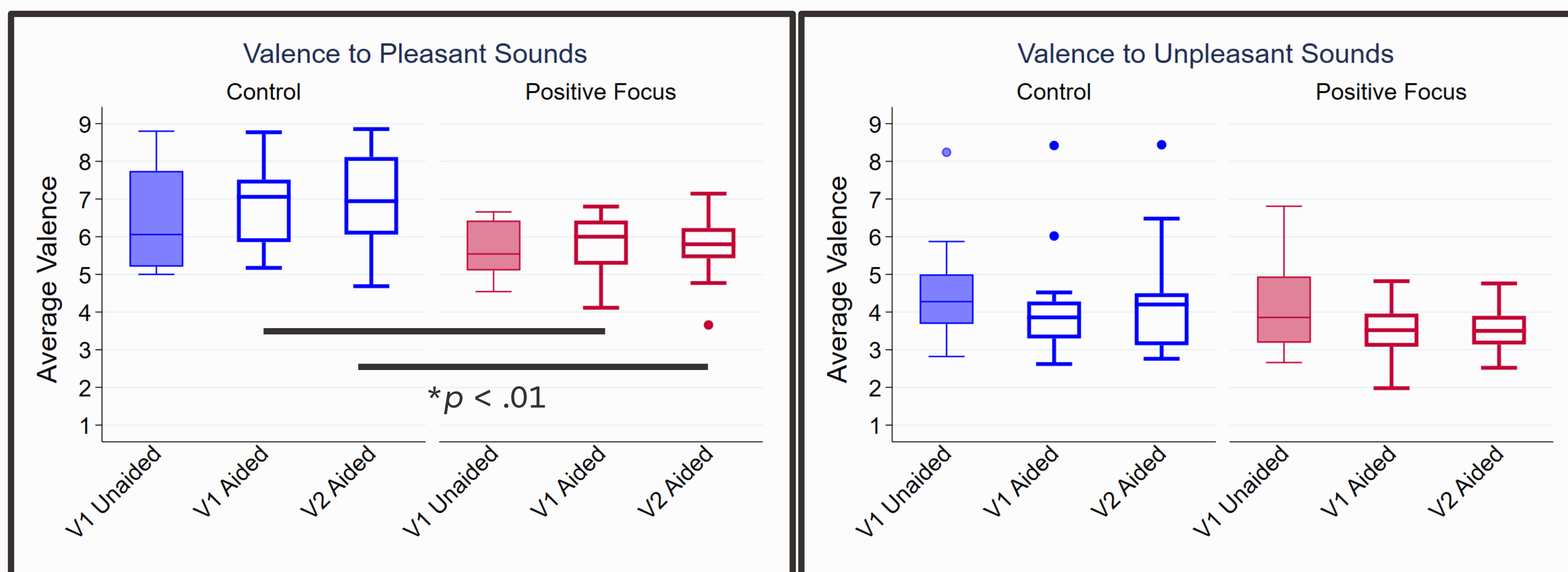
- Individuals with hearing loss – even those using hearing aids – often perceive pleasant environmental sounds as less pleasant compared to those with normal hearing<sup>1</sup>.
- This diminished emotional response may negatively impact overall well-being, contributing to reduced social participation and increased feelings of loneliness<sup>2</sup>.
- Emerging research suggests that the Positive Focus intervention can enhance hearing aid outcomes, including improved satisfaction, self-reported benefit, and speech in noise abilities<sup>3–5</sup>.
- The *primary aim* of this study was to investigate whether the Positive Focus intervention can enhance the perceived pleasantness of environmental sounds in hearing aid users.
- A *secondary aim* was to investigate whether the Positive Focus intervention improves hearing aid satisfaction and self-reported benefit also in this group of participants.

## → METHOD

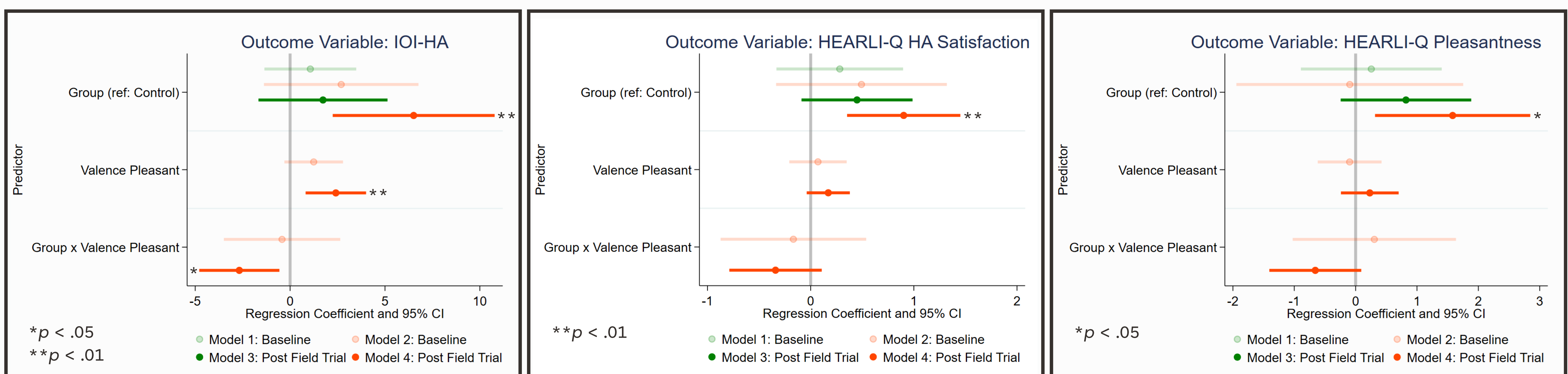
- 30 participants were randomized into a Positive Focus or a Control group (N = 2 x 15).
- The study consisted of two laboratory visits and a three-week field trial.
- Big-Five Inventory (BFI) personality questionnaire, Hearing-Related Lifestyle Questionnaire (HEARLI-Q), IOI-HA, and Emotional Communication in Hearing (EMOChEQ) were administered at baseline to check whether the groups were balanced on these characteristics.
- Study hearing aids were Widex MOMENT MRB2D 440 receiver-in-canal (RIC).
- Participants rated 120 environmental sounds from the Marcell database on valence and arousal using a 1–9 scale (unpleasant/calm to pleasant/arousing) before and after the field trial.
- During the field trial, participants wore the study hearing aids for three weeks. In addition, only the Positive Focus group was instructed to focus on good listening experiences and to report them in daily text messages. The control group did not do any daily reporting.
- At the end of the field trial, participants completed the IOI-HA, HEARLI-Q and EMOChEQ again, but this time based on their experiences with the study hearing aids.



## RESULTS



- Groups were comparable at baseline: age, gender, hearing loss, BFI, HEARLI-Q, IOI-HA, EMO-CHeq.
- Valence to pleasant sounds was higher in the control group, even at baseline (V1).
- Positive Focus intervention (V2 vs V1) had no effect on valence ratings to positive or negative sounds.
- Arousal ratings (not shown) were similar between groups; no effect of Positive Focus intervention.
- No effect of Positive Focus intervention on emotional communication in hearing as assessed by the EMOChEQ (not shown).
- Valence to pleasant sounds **moderates effect of Positive Focus on hearing aid benefit** as assessed by the IOI-HA: **more effective for those with lower valence ratings**.
- Valence to pleasant sounds **suppresses effect of Positive Focus on pleasantness of listening and hearing aid satisfaction** as assessed by the HEARLI-Q.



## → CONCLUSIONS

- The Positive Focus intervention does not influence emotional response to sound (contrary to our hypothesis) → The artificial sounds used may lack the ecological validity needed to evoke strong emotional connections. If participants had instead rated more realistic, audio-visual representations of real-life experiences, the emotional relevance might have been greater.
- The Positive Focus intervention is more effective for hearing aid outcomes for those who are less naturally inclined to respond positively to sounds → For individuals already high in positive affect toward sound, adding a Positive Focus intervention might be redundant.
- Screening for valence could help identify who is most likely to benefit from a Positive Focus intervention, allowing for targeted and personalized treatment. But for this, we need a clear evidence of differential responsiveness based on valence.