Public-speaking anxiety in students: The efficacy of an audience training intervention in a tutorial setting

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STUDY 1: Predictors of public speaking anxiety
Background

- Student presentations increasingly used in HE as assessments

- Public-speaking anxiety is prevalent in students (Furmark, 2002, Furukawa et al, 2014)

  - Negative psychological & physiological manifestations (Feldman et al, 2004)
  - Worry about being personally and academically evaluated (Richmond et al, 2013)
  - Many may have diagnosed Social Anxiety Disorder (lifetime prevalence: 13%) (Kessler et al, 2012)

- Difficult to assess; can be reflected in grades

- Hinders academic success

- Lowers student satisfaction (McCroskey & Sheahan, 1978)

- Increases the likelihood of withdrawal from university (Tarrine-Flarerty, 2014)

Study 1 Predictors

- **Cognitive-affective** model of psychological predictors of public-speaking anxiety (PSA):
  - **Attentional control**
    - ability to switch attention flexibly
  - **Self-focused attention**
    - inspection of own appearance/behaviours in place of focus on surroundings and others
  - **Fear of negative evaluation**
    - Fear of being looked down upon
  - **Fear of positive evaluation**
    - fear of inaccurately being held in too-high a regard
  - **Emotional regulation**
    - ability to influence the experience of own emotions
  - **Anxiety sensitivity**
    - fear of and low tolerance to experiencing anxiety symptoms

- Predictors can be actively modified in students under the guidance of academic staff for decreased anxiety and enhanced performance

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Study 1 Methods

- Cross-sectional online study advertised mostly on social media

- Eligibility criteria: UK university students who have given a presentation to an audience of 4+ people in past 12 months

- Total sample = 268 students
  - Aged 18-53 (mean age: 21.98, SD: 5.24)
  - 89.2% female
 - 22.4% had diagnosed anxiety, 16.8 diagnosed depression

Study 1 Methods ctn.

- Public Speaking Anxiety Scale (**PSAS**) [*Outcome Variable*]
  - 17 items rated 1-5; *E.g. "Giving a speech is terrifying"*
- Anxiety Sensitivity Index-Revised (**ASIR**)
  - 36 items rated 1-5; E.g. "It scares me when I blush in front of people"
- Cognitive Reappraisal facet from Emotion Regulation Questionnaire (**ERQ-CRF**)
  - 6 items rated 1-7, e.g. *"I keep my emotions to myself"*
- Brief Fear of Negative Evaluation Scale (**BFNE)**
  - *8 items rated 0-4; e.g. "I am afraid others will not approve of me"*
- Fear of Positive Evaluation Scale (**FPES**)
  - 10 items rates 0-9; *e.g. "I feel uneasy when I receive praise from authority figures"*
- Attentional Control Scale (**ACS**)
  - 20 items rated 1-4; *E.g. "I can quickly switch from one task to another"*
- Situational Self-Awareness Scale (**SSAS**)
  - 7 items rated 1-7; *e.g. "Right now, I am concerned about the way I present myself"*
- Control variables: age, gender, anxiety diagnosis, depression diagnosis

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Study 1 Results

- The path model was run in Mplus version 8

- According to Hu and Bentler's cut off criteria (1999) the path model fit (RMSEA < 0.0001, 90% CI 0.000 – 0.023, p RMSEA <= .05 = 0.991; CFI 1.00, TLI 1.052[a]; SRMR 0.008)

- **Direct paths**
  - ↑ Fear of negative evaluation (FNE) --> ↑ public speaking anxiety (PSA)
  - ↑ Fear of positive evaluation (FPE) --> ↑ public speaking anxiety (PSA)
  - ↑ Anxiety sensitivity (ASIR) --> ↑ public speaking anxiety (PSA)

- FNE had the strongest impact (0.46 vs 0.12 and 0.18).

Study 1: Path model of the predictors of public speaking anxiety
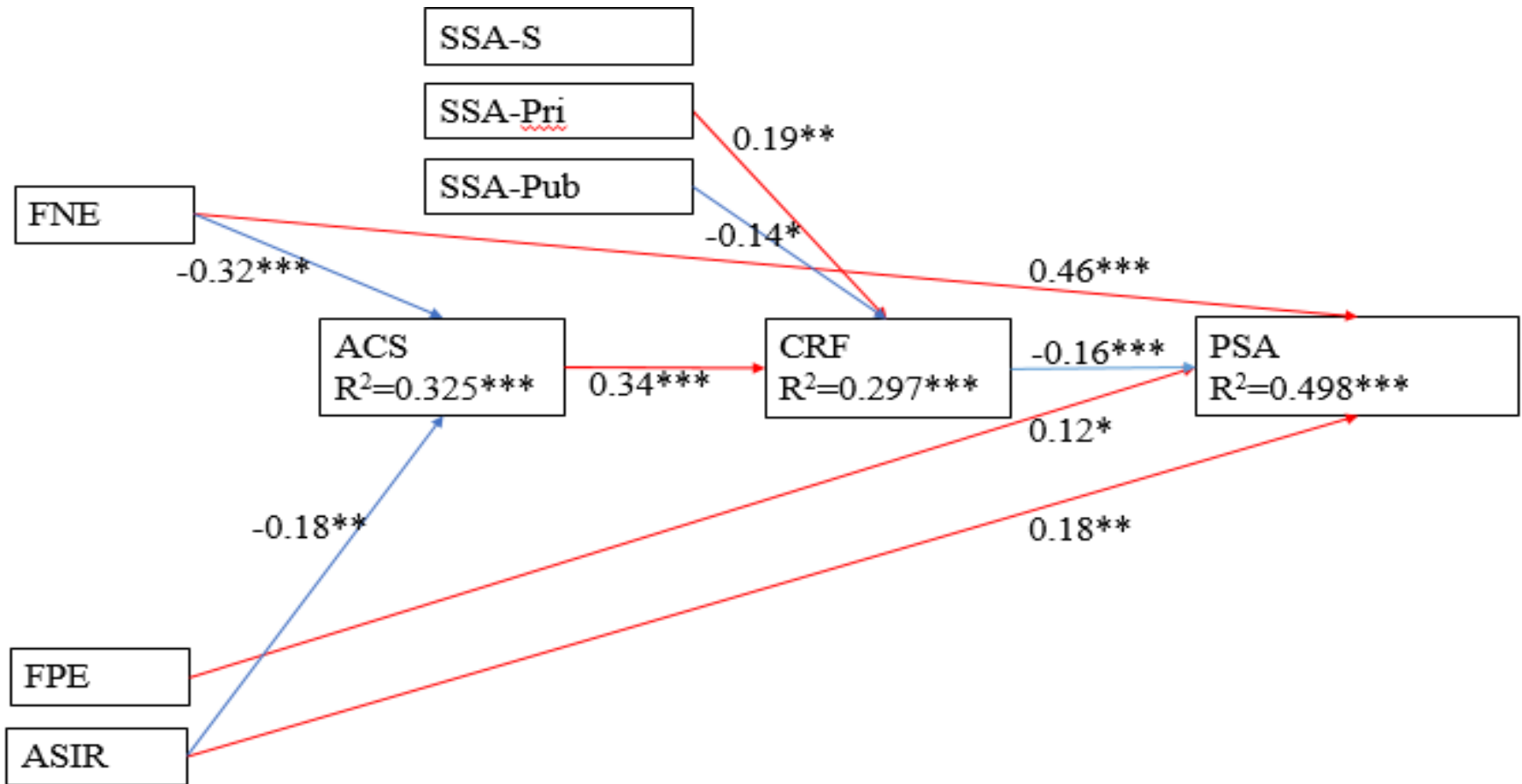
Study 1: Indirect paths

- ↑ Attentional control (ACS) -> ↑ cognitive reappraisal (CRF) -> ↓ public speaking anxiety (PSA)

- ↑ Fear of negative evaluation (FNE) -> ↓ attentional control (ACS) -> ↓ cognitive reappraisal (CRF) -> ↑ public speaking anxiety (PSA)

- ↓ Sensitivity to anxiety (ASIR) -> ↓ CRF -> ↑ PSAS

- ↓ Private SSAS predicted -> ↓ CRF -> ↑ PSAS

- ↑ Public SSAS predicted -> ↓ CRF -> ↑ PSAS

- whereas public SSAS predicted a decrease in SSAS with relatively equal strength (0.19 vs -0.14).

Study 1 Discussion

- Fear of negative evaluation, fear of positive evaluation, anxiety sensitivity, and situational self-awareness predict public speaking anxiety

- The link between these emotional responses and PSA is mediated by cognitive processes, namely: less attentional control and less cognitive reappraisal

- **Fear of negative evaluation is a key predictor**

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Study 1 Discussion ctn.

- Intervention for public speaking anxiety could address these fears by helping speakers to divert their attention from threat and how they label threatening situations, and not avoid the threat.

- Focusing attention on others, rather than oneself (for e.g. by maintaining eye contact) can lower PSA

- The audience could be trained to appear less threatening and non-judgmental
  - Anxious speakers may feel less scrutinised if they believe the audience is attending to the content of their speech, rather than focusing on the speaker and his/her performance

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STUDY 2: Tutorial for Public Speaking Anxiety

- **Aim:** to test the effectiveness of an audience training intervention for public-speaking anxiety in the context of university tutorials

- 2 groups of 10 UG students plus tutor, mimicking a tutorial group
  - 1 intervention group (audience training)
  - 1 control group (grammar training)
- 2x 1-hr tutorial sessions 1 week apart
  - Session 1: Info on public speaking anxiety
  - Session 2: Individual Oral presentations
  - Follow up: Online questionnaire 2 weeks later

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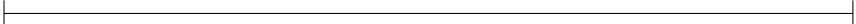
Study 2: Tutorial

Participants:

- Eligibility: 1.5 SD or above on the Public Speaking Anxiety Scale AND on the Fear of Negative Evaluation Scale

- 20 ppts randomly assigned to audience-training intervention or control condition

- 9 ppts completed both sessions in the audience-training condition (mean age: 20 years, 8 females); 7 participants completed both sessions of the control intervention (mean age 18 years, all female)

- Paid £20 in vouchers as thank you plus SONA credits (psych)
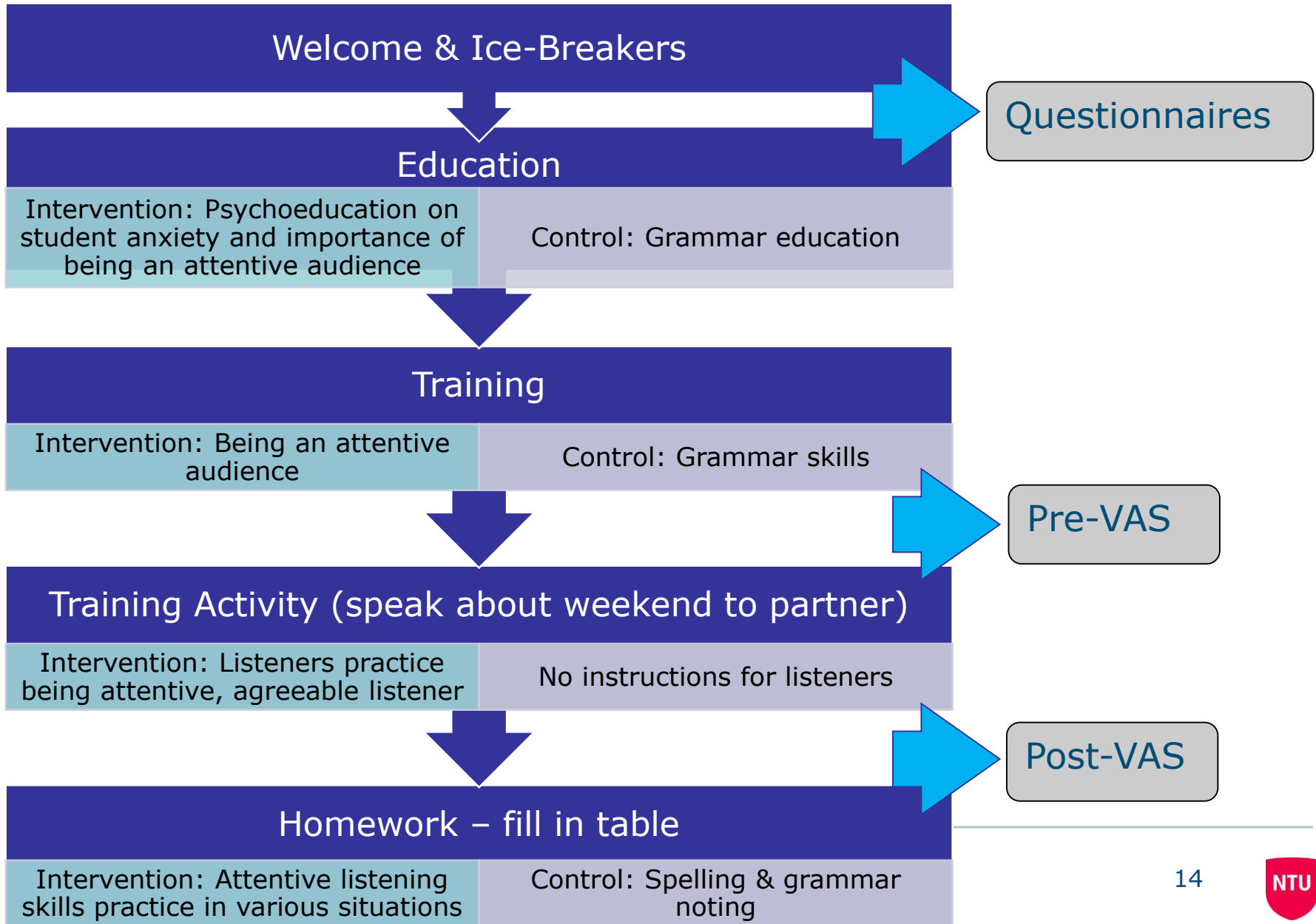
Study 2: Tutorial

Measures:

- Social Phobia Inventory (SPIN)

- Public Speaking Anxiety Scale (PSAS)

- Brief Fear of Negative Evaluation Scale (BFNE-S)

- Fear of Positive Evaluation Scale (FPES)

- Focus of Attention Scale (FAQ) *– self vs. external focus*

- Activity Flow State Scale

  e.g. "I did things spontaneously without having to think"

- Visual analogue scales (pre & post assessing ability to focus, audience attendance to content of speech, feeling judged, feeling anxious)

  e.g.   **(2)** How well did you feel the audience attended to what you were saying?

  Not at all attentive   Extremely attentive

Session 1 Protocol

Welcome & Ice-Breakers

→ Questionnaires

Education

Intervention: Psychoeducation on student anxiety and importance of being an attentive audience	Control: Grammar education

Training

Intervention: Being an attentive audience	Control: Grammar skills

→ Pre-VAS

Training Activity (speak about weekend to partner)

Intervention: Listeners practice being attentive, agreeable listener	No instructions for listeners

→ Post-VAS

Homework – fill in table

Intervention: Attentive listening skills practice in various situations	Control: Spelling & grammar noting

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Session 2 Protocol

Recap on Training & Homework

⬇

Presentation Prep

Topic: What it's like to be an NTU student. Slides provided as prompts. Students told they would be graded by tutor.

⬇ ➡ Pre-VAS

Individual Presentations (5-6 min each)

3-4 min presentations plus 1-2 mins Q&A

⬇ ➡ Post-VAS & questionnaires

Training Activity (in pairs)

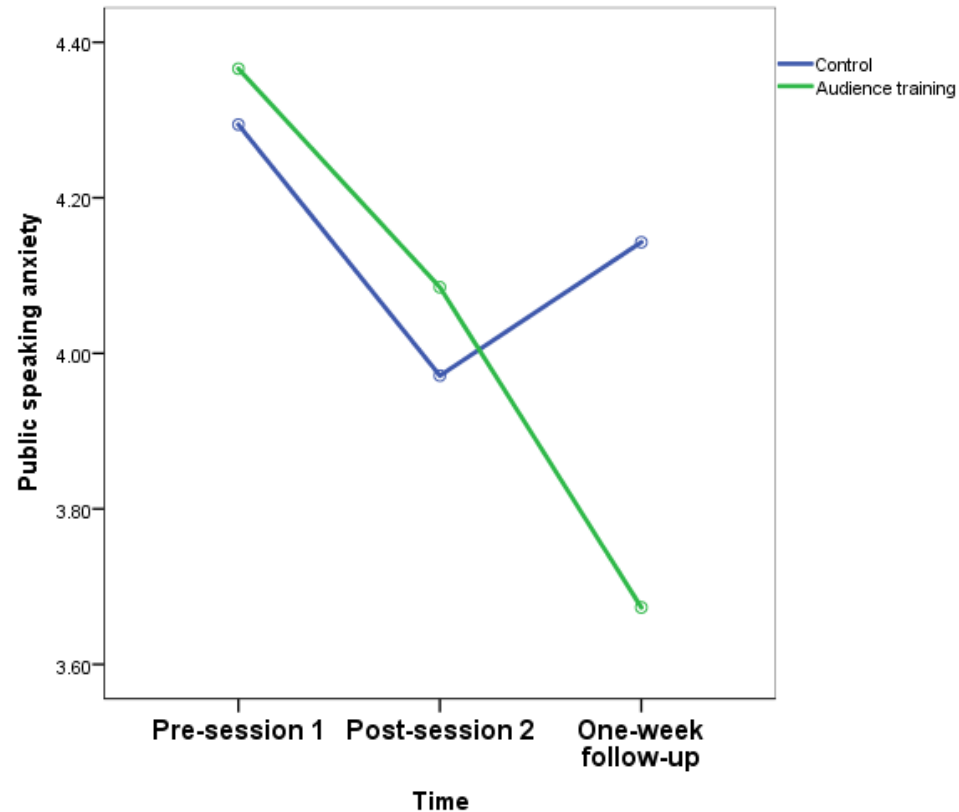Intervention: Listeners practice being attentive, agreeable listener | No instructions for listeners

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Follow Up Protocol (2 weeks later)

Questionnaire Batch

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Full debrief

Study 2: Results
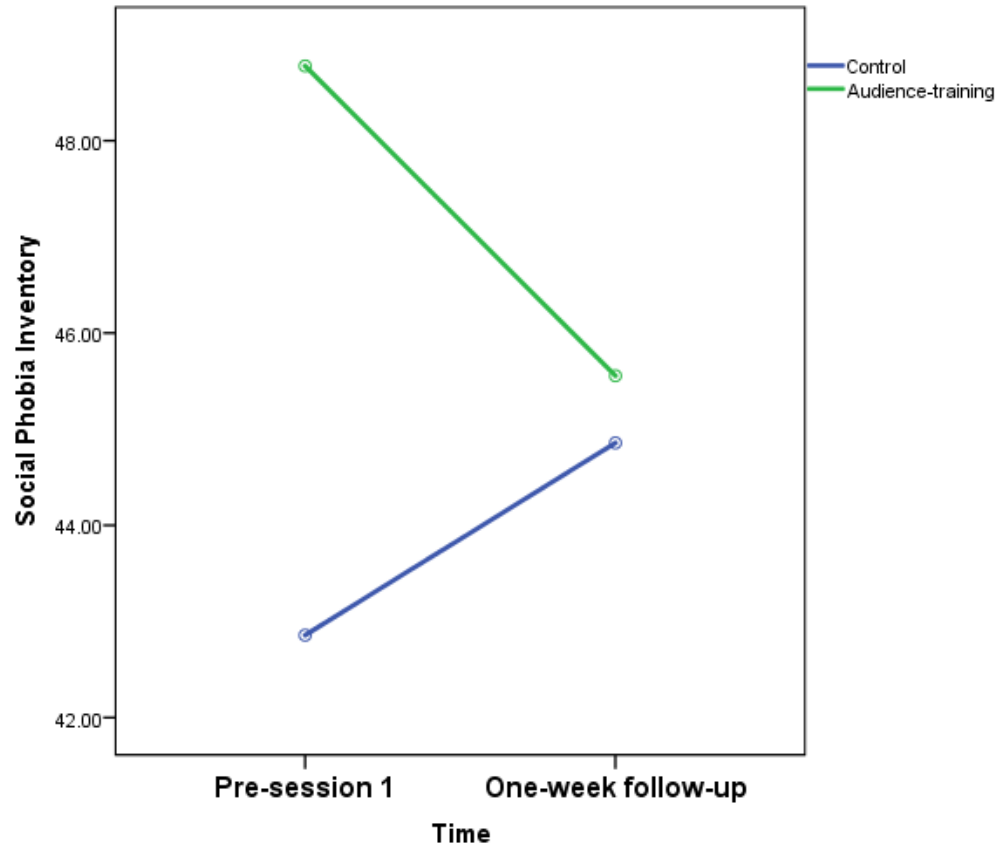# Public Speaking Anxiety

- **Group-by-time interaction: F (2,28) = 3.87, p=0.033**

Study 2: Results
Social Anxiety

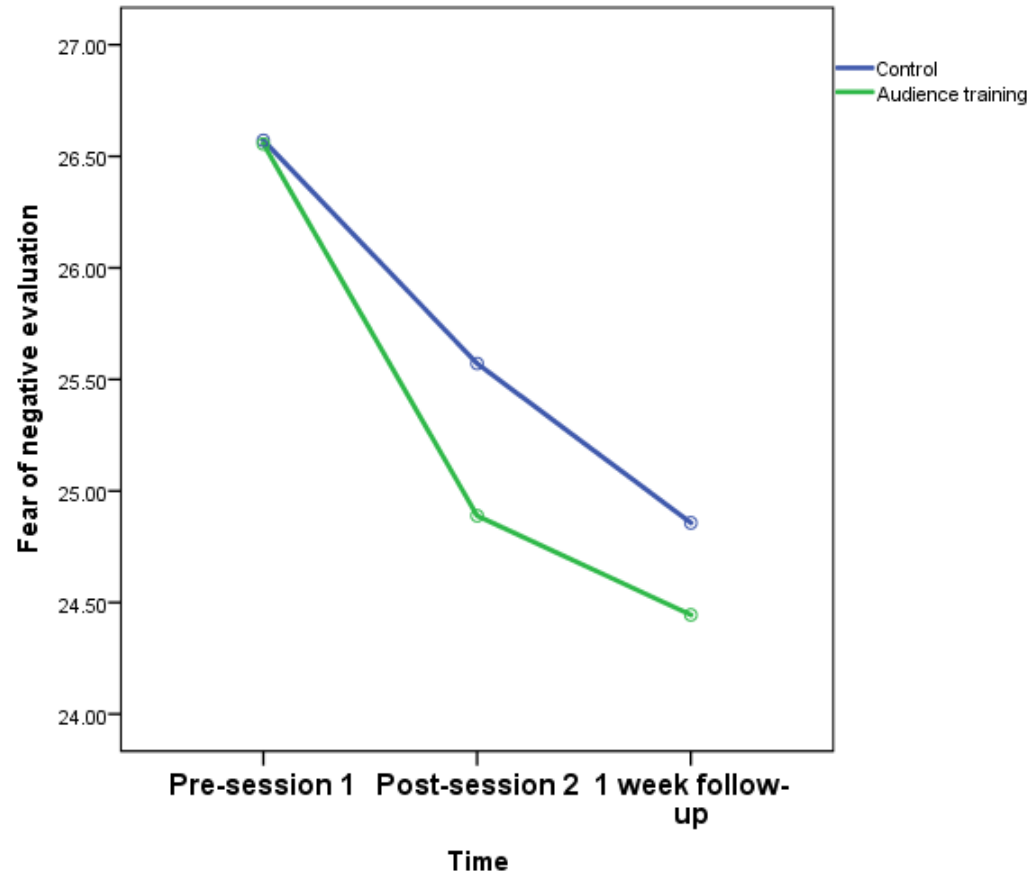- Group-by-time interaction: $F_{(1,14)} = 3.98$, p=0.066

Marginal change in social anxiety post-intervention

Study 2: Results
Fear of Negative Evaluation

- Group-by-time interaction: $F_{(2,28)} = 0.06$, $p=0.938$

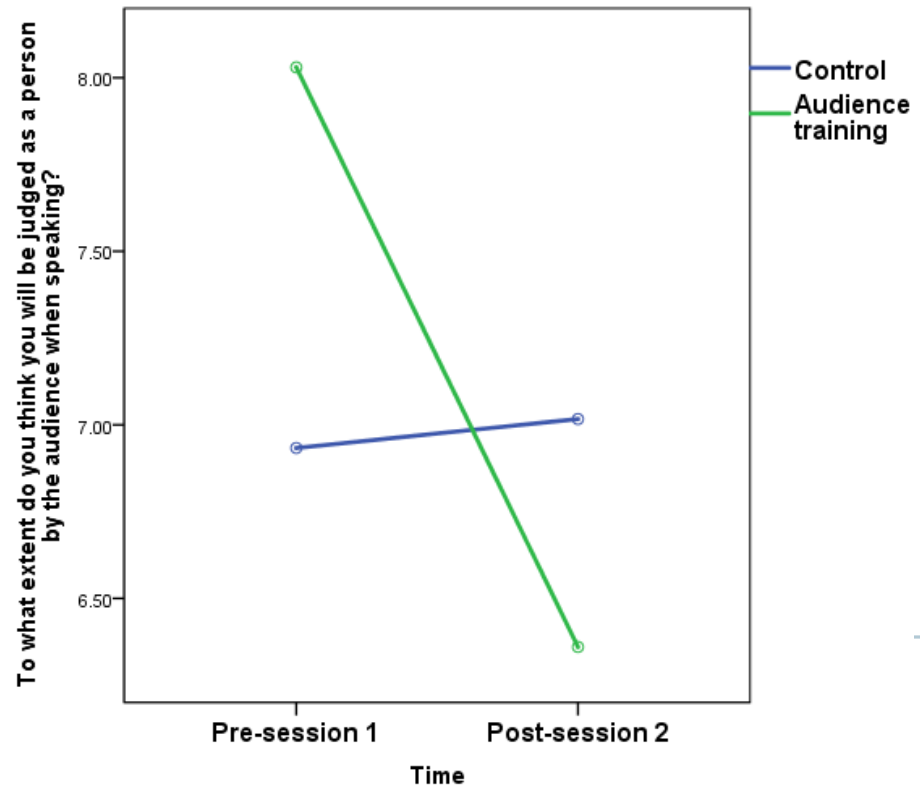

No change in fear of negative evaluation

Study 2: Results
Ratings on visual analogue scale

To what extent do you think you will be judged as a person by the audience when speaking?

Not at all judged | Extremely judged

- Group-by-time interaction:

F(1,14) = 3.57, p=0.08

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Study 2: Discussion

- Audience training intervention:
  - improves public-speaking anxiety
  - marginally improves social anxiety
  - might change the way participants perceive the audience; i.e., may feel audience is more attuned to the content of the speech rather than being focused on and scrutinising the speaker's performance
  - does not change fear of negative evaluation

- Small sample sizes make it difficult to draw firm conclusion

- Differences on some scales between groups at baseline due to chance might exaggerate group effects

- **Still, findings indicate that changing the academic social environment can reduce student public speaking anxiety**

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Implications

- Reduced student anxiety about presentation

- Possible better focus on and thus increased performance in oral assessments

- Sensitivity of staff and students about PSA and being mindful of self as audience member

Future Direction

- Embed audience training activities into Psychology Year 1 tutorial sessions (one 1-hour session plus homework task) prior to any assessed presentations

- Disseminate findings at NTU for other departments on predictors of PSA

- Disseminate Intervention protocol for possible adoption of other departments

- Publish findings in 1-2 psychology/pedagogic academic journals