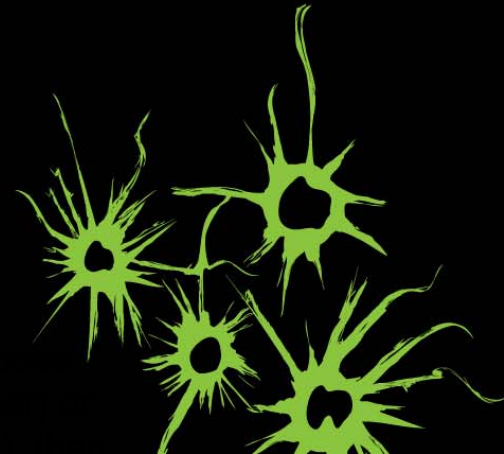


Robots as Companions and Therapists in Elderly Care

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Robots to make us happier



Robots to make us happier. How?

- Positive Psychology
- Two scenarios:
 - Robots as coaches/therapists
 - Robots as game partners





Study Design

- Compare effects of different roles on effectiveness of positive psychology exercise
- Coach vs. companion
- H1: when robots engage with people in positive psychology exercise mood improves
- H2: mood improves more when a robot takes on the role of coach than the role of companion
- H3: a few days after the robot intervention, mood levels of participants return to baseline



Study Design and Sample

- Lab based between-subjects, independent variable (role)
- Repeated measures: pre-test, post-test, follow-up
- Positive psychology exercise: three-good-things exercise
- 2 experimental manipulations:
 - Robot coach: participant is aware of intervention
 - Robot companion: participant is not aware

Sample, 37 participants:

Subgroup	Male	Female	Age mean
Non-elderly	11	18	30,48
Elderly	5	3	70,38



Measures

- Mood: Positive Affect and Negative Affect Scale (PANAS)
- Perception of robot: Godspeed questionnaire
- Trust: Source Credibility Scale
- Likeability of task: Perceived Enjoyment (Almere model)
- Interview
- Follow-up survey

Procedure

- Briefing, consent form
- Pre-test
 - PANAS
- Interaction
 - Conversation with robot
 - Coach condition
 - Companion condition
- Post-test
 - PANAS
 - Remaining questionnaires
- Follow up
 - PANAS
 - Questions on long-term effects



Results

- Elderly and non-elderly equivalent: TOST method
- H1: when robots engage with people in positive psychology exercise mood improves - **rejected**
- H2: mood improves more with robot coach - **supported**

Interaction effect:

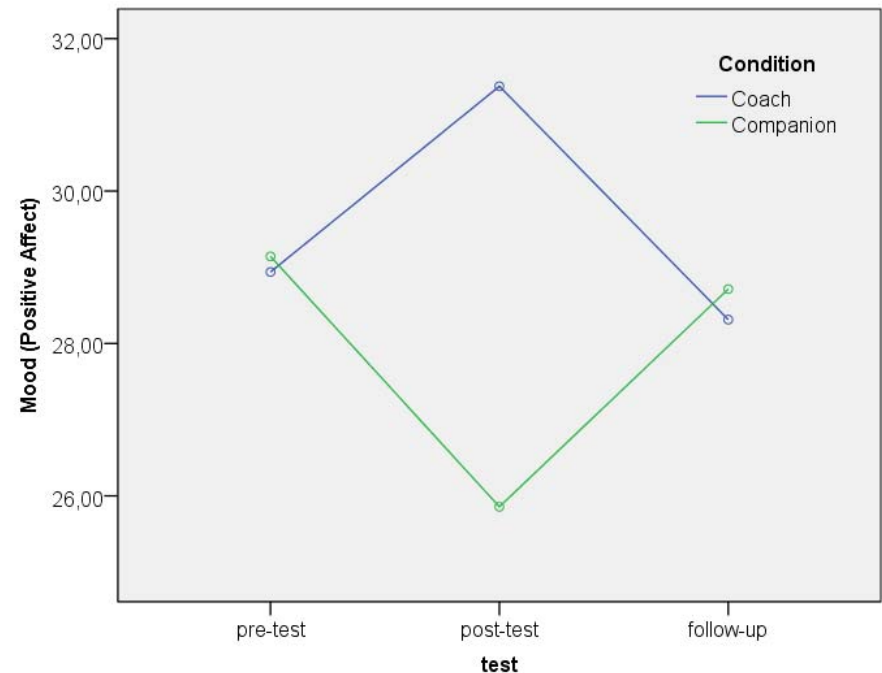
ANOVA: ($F(1, 35) = 8.145, p = .007$)

- Mood improved in coach condition
- Mood worsened in companion condition

- H3: mood returns to baseline **supported**

Interaction effect:

ANOVA: ($F(2, 56) = 5.591, p = .006$)



Thank you for your attention!

