



# UTILIZING SMART PHONES TO DELIVER EXPOSURE STIMULI IN THE TREATMENT OF SPECIFIC DENTAL PHOBIA

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## BACKGROUND

- Self-directed exposure therapy are effective for treatment of specific phobias
- Videos can be used to present stimuli
  - First-person perspective
  - Third-person perspective
- First-person perspective produce greater presence
  - Experiencing the virtual environment as real
  - Not recognizing that it is augmented

### Aims of the study:

To examine how technology (e.g., smart phones) may be harnessed to conduct self-directed exposure

### Hypotheses:

- Greater fear reduction will be seen with the treatment group, relative to the control group
- Participants will rate higher levels of presence with the first-person perspective video compared to third-person perspective

## METHODS

**Participants:** 36 participants will be recruited

- Community dwelling and student

### Measures:

- Demographic Questionnaire:** 20-item measure asking about demographic and general dental information
- Dental Fear Survey (DFS):** 20-item measure that assesses anxiety in regard to dental situations
- IGroup Presence Questionnaire (IPQ):** 13-item measure that assesses the subjective report of presence
- Abbreviated acceptability rating profile (AARP):** 8-item measure that assesses treatment acceptability
- Anxiety and Related Disorders Interview Schedule for DSM-5-Adult Version (ADIS-5):** The Specific phobia subscale will be used to assess diagnosis criteria

### Dental Behavior Avoidance Test (DBAT)

- Simulate a dental examination with 8 steps lasting up to 60 seconds. Escape/avoidance will be measured at each step. Ratings of anxiety will be taken at each step of the DBAT

### Apparatus

- Physiological Data Acquisition:** Heart rate variability will be measured during the DBAT

## DESIGN

### Procedure:

- Randomly assigned to group
  - Treatment (1<sup>st</sup> or 3<sup>rd</sup> person perspective)
  - Control
- Participants complete demographics and DFS
- Complete ADIS-5, specific phobia section
- Conduct DBAT
- Video training session
  - Treatment: exposure video
  - Control: video of smart phone capabilities
- Treatment: 2 weeks of daily exposure sessions
  - 1 week of each video type (1<sup>st</sup> & 3<sup>rd</sup>)
- Control: 2-week waitlist
  - No videos
- Return for post-assessment:
  - Complete DFS, IPQ, and AARP
  - Conduct DBAT



## ANTICIPATED RESULTS

- Treatment group will show greater fear reduction with the use of self-directed smart phone exposure
  - Scores on DBAT
  - Behavioral assessment measures
    - Avoidance/escape
    - Cardiac response
    - Anxiety verbal reports
- Participants are expected to rate higher levels of presence with the 1<sup>st</sup>-person perspective video
- Participants will find the treatment acceptable

## DISCUSSION

Results will provide information about:

- Whether self-directed exposure using a smart phone can reduce dental care-related fear
  - Increase treatment adherence
  - Increase overall use of dental care
  - Decrease long-term health risks
  - Decrease negative reactions during dental care
- Whether greater presence is experienced in response to 1<sup>st</sup> or 3<sup>rd</sup> person perspectives
  - Important to consider for treatment outcomes
  - Increase effectiveness of self-directed exposure sessions

## CONTACT INFORMATION

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