

STANDING UP IN THE VIRTUAL WORLD: OBSERVING SOCIAL-COGNITIVE FACTORS INFLUENCING PEER DEFENDING BEHAVIOURS USING VIRTUAL REALITY

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Background

- Bullying is a common occurrence (71% of youth)¹.
- Bystander intervention is effective in stopping bullying, but rarely occurs (11% of the time)².
- Previous literature utilizes passive methodologies (e.g. vignettes)³.
 - Measuring what participants **would have** done.
- A more generalizable approach would be using active methodology to measure what participants **do in real time**.
- Little research on how attention plays a role in deciding to intervene.
- Gaze is shown to be linked with our intentions to interact with others and changes in active and passive environments^{4, 5, 6}.

Social Information Processing (SIP) Theory

- SIP theory provides a five step framework for understanding how people process and interpret social cues^{7, 8}.
- Can help us understand how bystanders process social information during a bullying situation⁹.
- Step 1: attend and encode to social cues.
 - This step is hypothesized to be related to gaze allocation.

Research Question

How does attention (gaze allocation) change after viewing a bullying situation?

Prediction

Gaze allocation will change post-viewing peer victimization.

See the QR code for supplemental materials



Results

Figure 1: Average fixation duration towards each player.

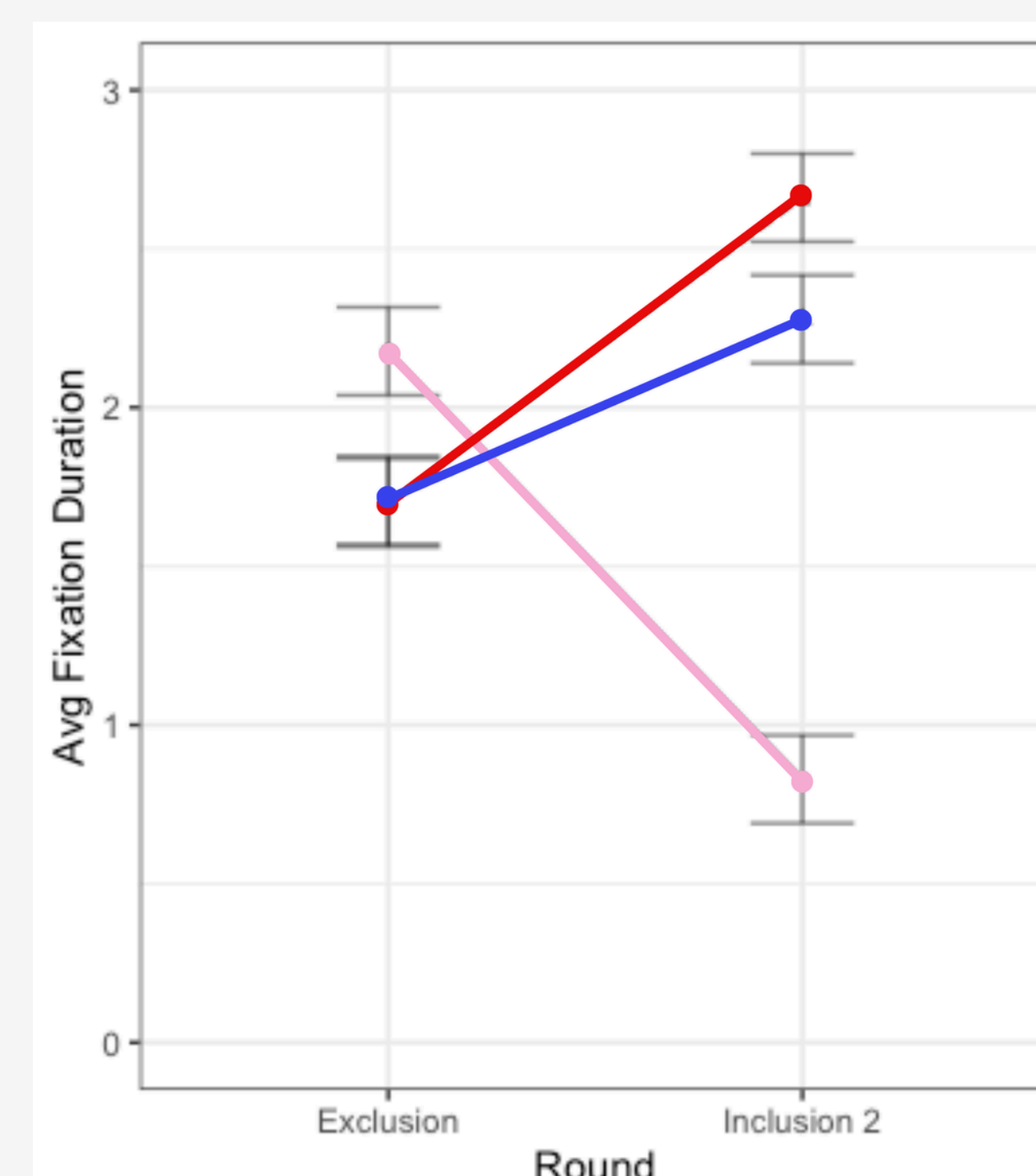
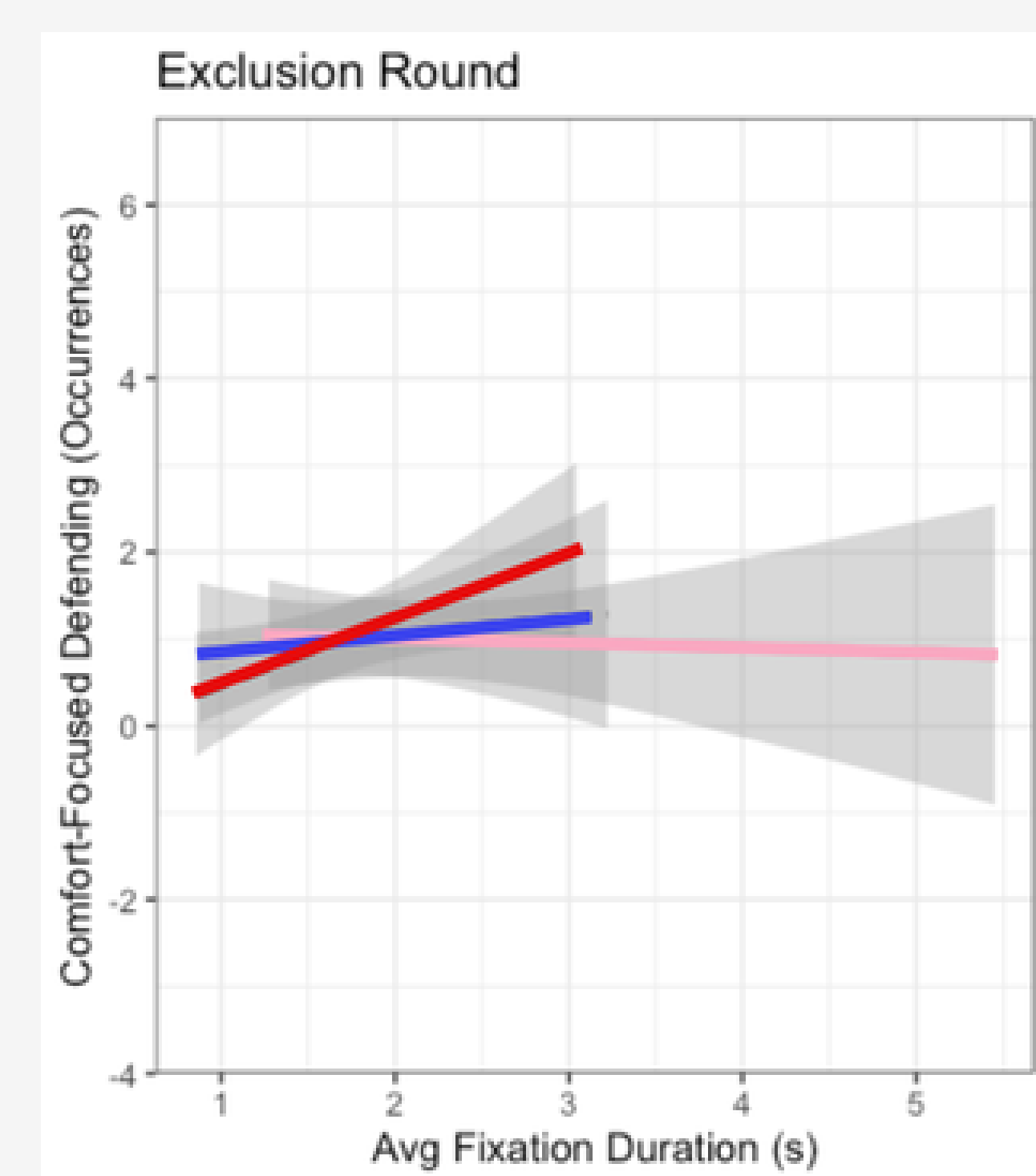


Figure 2: Occurrences of comforting messages as predicted by Average Fixation Duration



- Average fixation duration is **significantly different** as a consequence of round and who they are looking at, $p < .05$.
- Average fixation duration **significantly predicted** occurrence of comfort defending statements, $p = .041$.

Gaze behaviours change to include a victimized peer. We can change our gaze behaviours to increase bystander intervention.



Figure 3: Cyberball-VR game.

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Methods



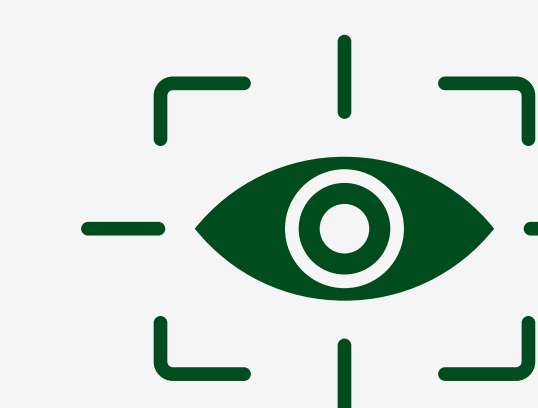
Cyberball-VR¹⁰ (Figure 3)

- A virtual reality social exclusion paradigm where one player is left out of a ball tossing game.
- Player 3 is always left out of the game.



Participants

- 46 university students ($M = 19.17$) from StFX.
- 30 women, 16 men.
- 12 excluded due to technical errors ($n = 34$).



Gaze allocation

- Average fixation duration.
- Total dwell time.

Discussion

- Participants look longer at previously victimized peer post-exclusion (Figure 1).
- The more time the participant spent looking at Player 3 during the exclusion round significantly predicted overall number of comforting messages (Figure 2).
- Participants overcompensate their fixation behaviour post-exclusion round to allocate their attention more toward the previously victimized player.

Next Steps

Extend the protocol to include a youth sample.