Can virtual reality generate closeness among unacquainted people? Examining moderation by agreeableness

Jonathan J. Carter, Christopher R. Agnew, and Ximena B. Arriaga
Purdue University

Introduction

- People who lack the ability or resources to meet previously unacquainted others face-to-face may benefit from using virtual reality (VR) technology to form meaningful connections.
- Past research has examined how interpersonal communication promotes closeness, and how technology can be used to induce closeness among previously unacquainted people (Sprecher et al., 2013; Sprecher, 2014).
- However, no research has studied how initial social interactions that occur in VR compare to other interaction modalities, nor has it examined key personality variables that may influence the generation of closeness among strangers.
- The present study fills this gap by examining how the induction of closeness through a validated social interaction task affects affiliative outcomes among unacquainted participants interacting via text, audio, audio/video, or VR.
- We focused on agreeableness as a possible moderator of affiliative outcomes given the social nature of this personality factor.

Hypotheses

- We hypothesized that participants’ reported closeness to the randomly assigned other following interaction would increase overall as sensory richness increased (e.g., from text to VR; Hypothesis 1).
- We further hypothesized that participants’ level of agreeableness would moderate their closeness in the low sensory richness condition (i.e., the text condition, where social cues to “get along” are lacking), such that closeness would be particularly low in dyads featuring lower agreeable participants (Hypothesis 2).

Method

- Undergraduate Elementary Psychology students were recruited to participate through Purdue’s online SONA recruitment system.
- 206 previously unacquainted students were randomly assigned to interact with a partner (forming 103 dyads) via one of four modalities: text, audio, audio/video, or VR.
- Participants used the “fast friends” procedure (Aron et al., 1997), which includes three sets of questions intended to elicit increasingly deep self-disclosure. Participants discussed each set of questions with each other for 5 minutes.
- Agreeableness (α = .76), the moderator variable, was measured using the 60-item Big Five Inventory-2 (Soto & John, 2017), administered via an online Qualtrics survey following the interaction.
- The dependent variable was participants’ reported closeness to their partner following the interaction, as assessed with the following question: “How close do you feel toward your interaction partner?” Responses ranged from 1 (“Not at all”) to 7 (“A great deal”).

Results

- Results indicate that, consistent with Hypothesis 1, participants in the text condition (M = 3.46, SD = 1.38) reported significantly lower closeness than participants in the other three conditions (audio (M = 3.87, SD = 1.21), audio/video (M = 4.19, SD = 1.21), and VR (M = 3.96, SD = 1.22)), in which levels of closeness were statistically identical.
- Analyses testing Hypothesis 2 failed to provide support in the expected manner, though low agreeable dyads in the text condition (n = 7) reported marginally lower closeness vs. low agreeables in other conditions (n = 18; p = .076).

Discussion

- The present study has important implications for understanding how technological advances affect developing relationships, especially concerning the degree to which virtual reality technology can increase closeness among previously unacquainted people.
- VR interactions were comparable to both audio and audio/video interactions in generating closeness among unacquainted people.
- One noteworthy limitation of this study is its lack of a face-to-face condition (due in part to the COVID-19 pandemic). Future research should directly compare each of the current modalities to face-to-face interactions.
- Future research should also continue to investigate how well social psychological phenomena translate within different modalities, including virtual reality.

References


Average Closeness by Interaction Modality

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