

The “me” in the “we”: Investigating subjectivity and the effect of group size & similarity in VR

Coordinating our actions in time/space with others may act as social glue that holds interacting groups together. However, much of what we know about how we temporally coordinate with others is based on research on dyadic interaction. Yet from sports to group music-making to surgical interventions, we often do things together with more than two people and coordinating with a group may not simply scale. Instead, it may significantly change how we coordinate with, relate to and feel about ourselves and others. Departing from tasks involving limb coordination, we introduce and discuss a novel task, chosen for its enactive and ecological qualities, that involves the whole body. The immersive quality is particularly important for modulating subjective feelings of agency and implementation into a virtual reality (VR) environment. Importantly, our study investigates the effect of both group size and group composition on the so-called self-to-other ratio; that is how we integrate “self” and “other” related information and the effects this has on the individual. Using a paradigm that models a typical everyday behavior, this project describes rich, dynamic interactions between coordinating individuals. Participants are told to walk on the spot with virtual others while listening to and synchronizing their steps with an auditory pacing signal. They are placed in a virtual scene depicting a concert hall in which we manipulate audio-visual social cues related to group size and self-other similarity. Our research questions concern how we adapt our behavior, how we update our mental body representations and how we feel when walking together with a group of virtual others as a function of a) group size and b) in group/out group racial status. We hypothesize that participants will synchronize faster and more accurately when surrounded by members of the in-group, while we also expect these differences to be modulated by the group size. Our studies will bring new insights into social cognition and interaction as well as inform the design of social and collaborative virtual environments.

Video Presentation

<https://drive.google.com/file/d/14vxkaqI0T3Beh6TNAgNNv6zLMeTAUrCm/view>