

From joint-attention to joint-action: Effects of gaze on human following motion

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Gaze discrimination impairment in Schizophrenia severely affects social interactions and deteriorate patients' quality of life. The AlterEgo develops therapeutic games using humanoids. To better understand these impairments we investigate in a systematic manner the effects that gaze has in dyadic joint action tasks. Specifically, we study the role that gaze cues play using the mirror game, a naturalistic scenario in which two players imitate each other's hand motions. One of the two player is a humanoid robot, whose gaze can be controlled to give or not cues as to where it will move its hand next. In this talk, we report on a pilot study with healthy subjects. We measure the effect that the presence of these gaze cues have on the human subject's performance at synchronizing her movement with that of the robot. Through post-hoc questionnaire, we also assess whether subjects perceive the robot as acting more human-like when producing gaze cue.

A total of 43 subjects participated in the study. Results show that subjects are able to exploit the gaze cue in order to improve their performance. Moreover, participants found the robot not only more human-like, but also easier to interact with, in presence of gaze cue.