

What if a social robot excluded you?

Using a conversational game to study social exclusion in teen-robot mixed groups

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Introduction

Belonging to a group is essential for humans' lives [1], and **being excluded** can be a stressful factor [2] for all the members involved in the interaction.

Social robots have been demonstrated to be potential tools to model and replicate **groups' dynamics**.

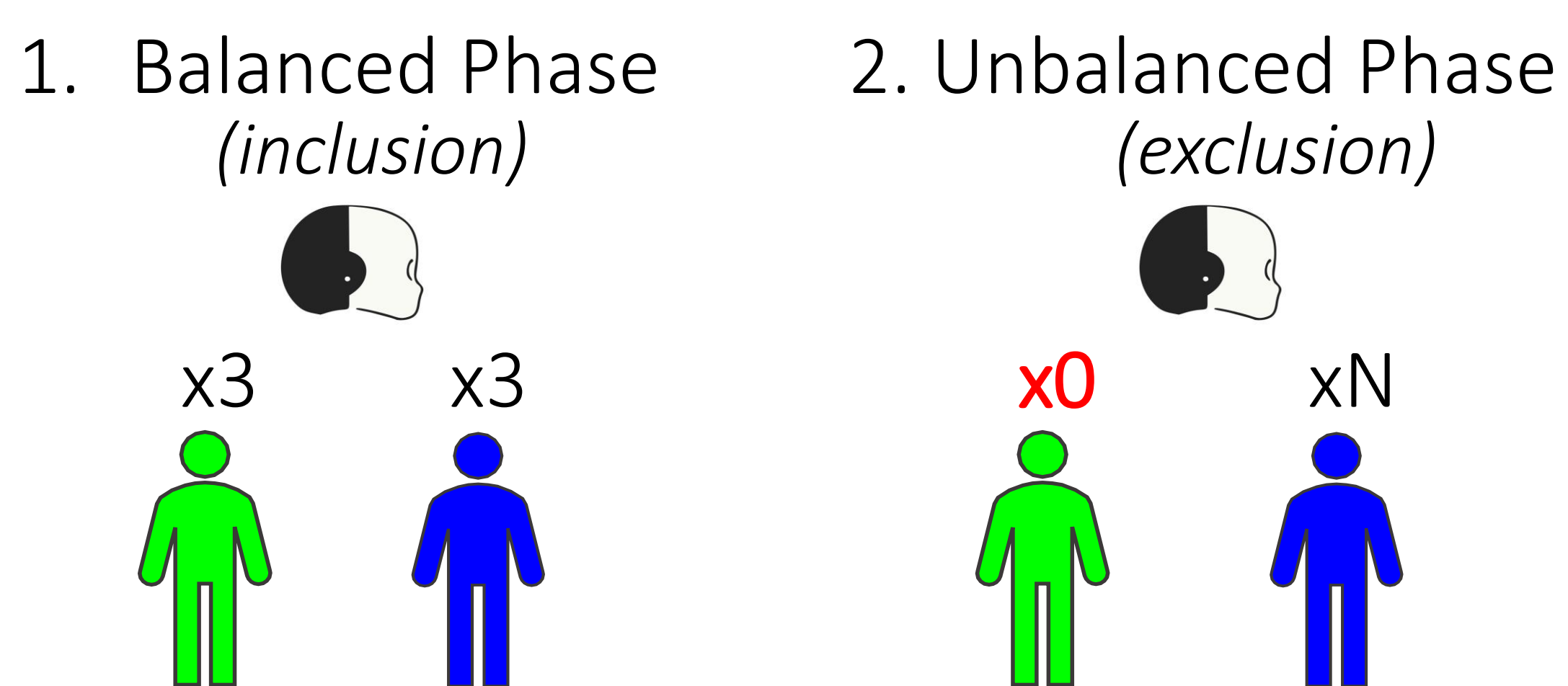
In this work, we aim to study the **effect of being excluded** by the humanoid robot iCub in a teenagers-robot interaction.

- ? RQ1. How do the **excluded players** behave when a robot excludes them?
- ? RQ2. Do the **included players** try to re-include the excluded players?
- ? RQ3. Does the **robot's behavior** affect the players' perception of the robot's appearance and behavior?

Methodology

We developed a **conversational turn-taking game** inspired by the Cyberball Paradigm [3] but the turn is passed with a **question** instead of a ball.

The game involves iCub and two human players, and it consists of two phases:

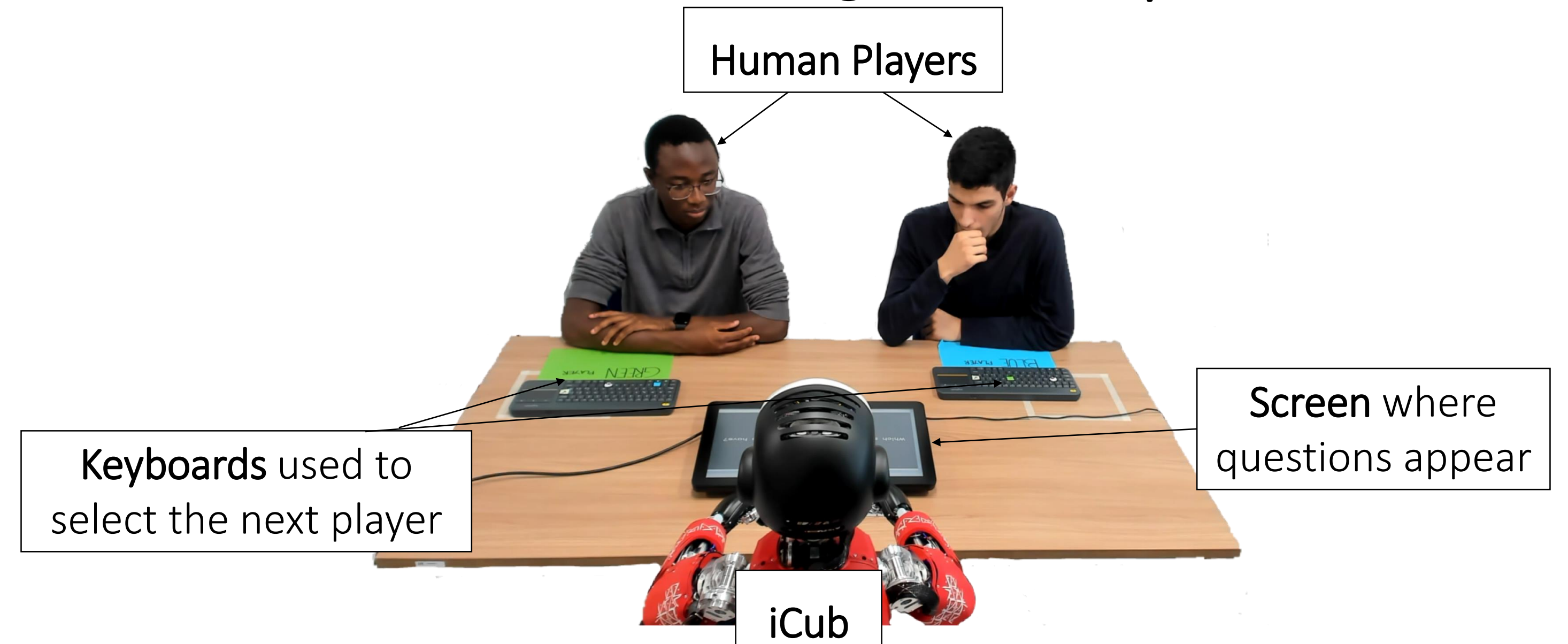


During each turn, the current player has to **read a question aloud, answer it, and choose the next player**.

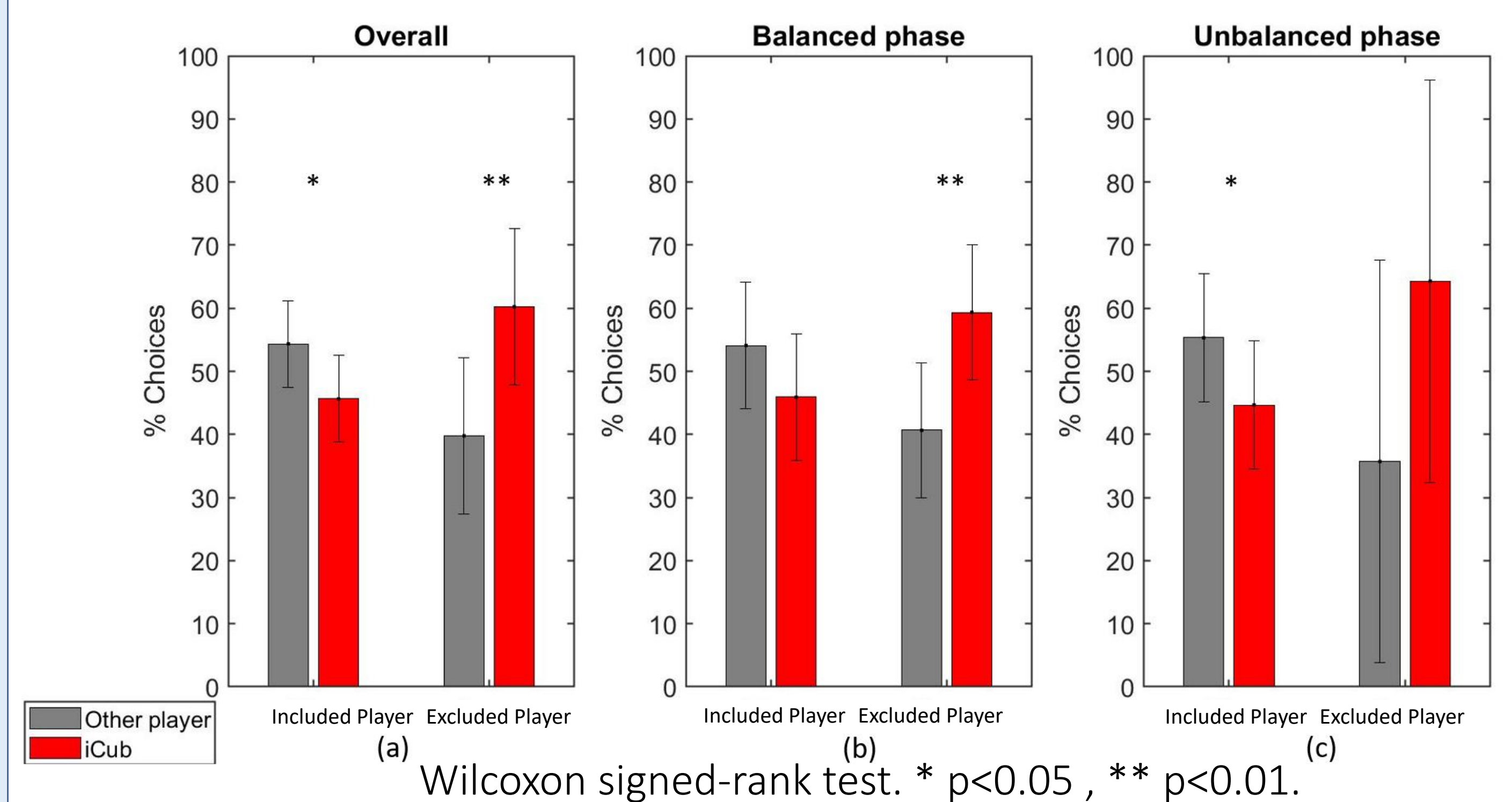
At the beginning and at the end, participants were asked to fill out two questionnaires to investigate their **impression** about the **robot**.

Pilot Study

Inside the EU-Rate Project, **28 participants** from four different countries joined the study.
8 female, 18 male. Age **16.5±1.2 y.o.**



Preliminary Results



- ✓ The excluded player chooses iCub more than the other player as if to seek **reciprocity** [4].
- ✓ The included player tries to **re-engage** the excluded player [5].
- ✓ **No effects** on players' perception of the robot's appearance and behavior.

Conclusion and Future work

The proposed paradigm is a suitable tool to investigate **social influence** in group human-robot interaction contexts.

We will perform a video analysis to evaluate **participants' behavior** and study their choices to verify existence of **recurrent strategies**.

References

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