



Consent for Research Participation

IRB #: 20-077-JER-EXM

IRB Approval Date: 6/8/2020

Study title: Emergence of Trust Clusters in Human-Robot Teams operating under Resource Constraints

Funding source: Army Research Lab (ARL) is funding this research study.

Researcher[s]:

Kshitij Jerath, Ph.D., Assistant Professor, Department of Mechanical Engineering

Paul Robinette, Ph.D., Assistant Professor, Department of Electrical and Computer Engineering

Reza Ahmadzadeh, Ph.D., Assistant Professor, Department of Computer Science

We're inviting you to participate in a research study. Participation is completely voluntary. If you agree to participate, you can always change your mind and withdraw. There are no negative consequences, whatever you decide.

What is the purpose of this study?

The goal of this study is to determine how humans and robots trust each other when asked to work together on a team.

What will I do and how long will it take?

Your time in this experiment might range from about 15 minutes to about an hour depending on your speed and the conditions you are randomly assigned to participate in. You will be asked to either play a game with a robot or watch videos of a game. You will be asked questions about this experience before, during, and/or after the game/videos. You will also be asked a few questions about yourself.

Risks

- With any type of research participation there is the risk for stress. You can skip any questions you don't want to answer or stop the research at any time.
- There is a risk that your online data could be intercepted: This is a risk you experience any time you provide information online. We're using a secure system to collect this data, but we can't completely eliminate this risk.
- Amazon could link your worker ID (and associated personal information) with your survey responses. Make sure you have read Amazon's MTurk participant and privacy agreements to understand how your personal information may be used or disclosed.



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- **Breach of confidentiality:** There is a chance your data could be seen by someone who shouldn't have access to it. We're minimizing this risk in the following ways:
 - We'll remove your MTurk ID after you are paid.
 - We'll store all electronic data on a password-protected, encrypted computer.

Possible benefits: There are no significant individual benefits

Estimated number of participants: We estimate 300 participants in the online MTurk study

Costs: None

Compensation: You will receive between \$1 and \$4 depending on which condition you are in and how long we expect you to participate. Due to the nature of the study, you will only be paid if you complete it and submit to MTurk.

Future Research: De-identified data (all identifying information removed) may be shared with other researchers. You won't be told specific details about these future research studies.

Confidentiality and Data Security:

We'll collect the following identifying information for the research: your Mechanical Turk worker ID. This information is necessary so that we can compensate you. It will be removed from the dataset as soon as payment is made.

Where will data be stored and how long will it be kept? On the researchers' encrypted, password protected computers.

Who can see my data?

- We (the researchers) will have access to your **MTurk worker ID and** de-identified data. This is so we can analyze the data and conduct the study.
- The Institutional Review Board (IRB) at UML, the Office for Human Research Protections (OHRP), or representatives of the DOD are authorized to review research records. This is to ensure we're following laws and ethical guidelines.
- We may share our findings in publications or presentations. If we do, the results will be de-identified (no MTurk ID).



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- We intend to make our dataset public so other researchers can use it. This public dataset will include only de-identified (no MTurk ID) data.
- Amazon: Because they own the MTurk internal software, and to issue payment, Amazon will have access to your MTurk worker ID. There is a possibility Amazon could link your worker ID (and associated personal information) with your survey responses.

Contact information:

For questions about the research, complaints, or problems: Contact

Kshitij Jerath - Phone: 978-934-5657, E-mail: kshitij_jerath@uml.edu

Paul Robinette - Phone: 978-934-3347, E-mail: paul_robinette@uml.edu

For questions about your rights as a research participant, complaints, or problems: Contact the UMass Lowell IRB (Institutional Review Board) at 978-934-4134 or at IRB@uml.edu

Please select your choice below. You may print a copy of this consent form for your records.

Clicking on the “Agree” button indicates that

- You have read and understand the above information
- You voluntarily agree to participate in the research
- You are 18 years of age or older

☐ Agree

☐ Disagree