OIST ECSU

Experiment Information

Perceptual Crossing experiment

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Experiment	Perceptual Crossing Experiment
Lead Researcher	Tom Froese
Experimenters	Brian Morrissey, Shannon Hayashi, Tae Morrissey, Milan Rybar Moritz Fabian Kriegleder, Luna Wang
Experimental equipment	EEG, ECG, EDA, Respiration belt, Perceptual Crossing device

Dear Participant,
Thank you for agreeing to participate in this study! Before you begin, it is important that you learn about the procedures involved. Please read the following carefully.

1. Our goals

The goal of this study is to investigate how people recognise each other and inanimate objects in a very simple virtual environment. To avoid behavioural bias, we cannot describe our specific research questions and hypotheses prior to the experiment. Once you have completed the experiment you will be debriefed.

2. Instructions and procedures

You will participate in a cooperative two-person experiment. You and your experiment partner interact with each other via a computer interface using a Perceptual Crossing device.
This device simulates a virtual circle. The circle contains your avatar, your partner's avatar, and other objects. You can navigate through the virtual circle by controlling the knob on the device. The device will vibrate when your avatar encounters objects in the virtual circle.
You will be asked to press a button attached to the device, once you believe your avatar is interacting with your partner's avatar, rather than other objects in the circle. Additionally, a computer will be provided that will display the stages of the experiment, instructions and questionnaires. Throughout the Perceptual Crossing experiment, you and your partner will be wearing a set of non-invasive sensors to measure physiological activity such as brain activity (EEG), heart rate (ECG), respiration rate (respiration belt) and skin conductance (EDA). The details of the devices used in the entire experiment can be found in ***Equipment Information***.

The experiment contains resting phases, Perceptual Crossing trials, and four types of questionnaires. The first one is a demographic questionnaire that you will fill out before the experiment. The second one is the personality questionnaire which you will fill out before and after the experiment. The third one is the questionnaire about your experience during the trial that you will fill out after each trial. The fourth one is the overall experience questionnaire that you will fill out after the experiment (in which you will describe your experience, strategy, and your idea of your partner's strategy and personality).

Note that all the answers you provide will be anonymized, and used exclusively for data analysis. You will see more detailed instructions on a separate instruction sheet once you begin the experiment and there will be a series of practice trials so you can familiarise yourself with the experimental interface.

3. Time involvement

The experiment will take approximately three hours, and a 3,000-yen Amazon gift card will be provided as compensation. If the experiment cannot be completed for any reason, compensation will be provided on an hourly basis.

4. Risks and benefits

Physiological recordings used in this study are generally low risk to the participants. The risks involved such as the discomfort of wearing an EEG cap and potential skin infection if there is any open or unhealed wound. The risk of infection will be minimized by sanitizing the skin surface and the equipment. In the unlikely event of sudden allergic reactions to experimental equipment, the recording will be aborted.
Although participants will not receive any direct benefits, the findings of this study may contribute to a deeper understanding of the relationship between decision-making, behavior, and physiological signals.

5. Conflict of interest

We manage conflict of interest in accordance with the OIST Conflict of Interest Management Rules, and all matters are appropriately reviewed by the OIST Conflict of Interest Review Committee.

6. Further explanations

General information about the experimental policies adopted by our unit and the equipment used in research can be found on our website: https://www.oist.jp/research/research-units/ecsu/equipment. If you would like more detailed information regarding this study, please contact Tae Morrissey (tae.morrissey@oist.jp). If you have any concerns or complaints about the research, please contact the principal investigator, Tom Froese (tom.froese@oist.jp).