Pre-Registration report for Experimental Psychology Lab Study 2019

When looking at other people, humans are able to process perceived faces and encode those information in order to form an opinion, or assumption, about the other's personality. Basically, there could be two different forms of processing faces: *featural processing* and *configural processing.*

Featural processing takes into account only the facial features (e.g. mouth, nose, eyes), while configural processing takes into account the configuration of those features as well (e.g. eyes over nose over mouth).
We want to replicate the study explained in the paper "Configural processing and social judgments: Face inversion particularly disrupts inferences of human-relevant traits" by John Paul Wilson, Steven G. Young, Nicholas O. Rule and Kurt Hugenberg from 2018. Our goal is to disrupt the possible configural processing of faces by inverting them and see if this has an effect on the perception of different character traits.

The character traits we will focus on are „dominance" and „trustworthiness".
The study is going to be a web-based experiment which participants can do wherever they choose to and without supervision. It is divided into two parts: In the first part, we want to take a look at how a certain character trait is classified as being specifically human rather than being equally attributable to humans and non-humans. In the second part, we explore the effect inversion has on the judgment of faces regarding different character traits.

We are going to start recruiting participants as soon as we finish the pre-registration. The recruitment will take place via social media (Facebook and WhatsApp/Telegram) and the bulletin board on the University of Osnabrück platform StudIP. The experiment will be available for 14 days.
The study will be conducted in German because most of the people that we are going to reach are German native speakers. Therefore, the only restriction for participants will be to be able to speak German on a B2 level or better.

We are using the images of 36 black and 36 white male faces from the Chicago face database as material plus the above-mentioned character traits and some more as fillers for the first part of the study.
The database is free to use here: https://chicagofaces.org/default/

The first part of our study will contain 10 character traits. Participants will see one trait at a time and are asked to rate them on a scale from 1 to 9 to be exclusive to humans (9) or humans and non-humans alike (1). In the second part, participants will see 72 upright male faces one after another and are asked how strong they would attribute either trustworthiness or dominance to each face. Whether „trustworthiness" or „dominance" will be rated is chosen at random. After that, the same will be done for the 72 inverted male faces.

We are going to keep track of the reaction time for every stimulus, the ratings of the character traits in the first half as well as the ratings of the faces in the second part of the study. Furthermore we are going to collect the age and gender of all participants.
The response time will be treated as an interval scale in ms, ratings as an ordinal scale, age as an interval scale and gender as a nominal scale.

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We are going to exclude data from participants who always give the same answer to every trial and data from participants who answer in a pattern for at least 3 times. As for reaction times, we are going to exclude data from participants if their reaction times are outside the mean reaction time +/- 3 times the standard deviation interval.

We are going to use R for statistical analysis with the packages tidyverse, effsize, readR, desktools and Rmisc.

For the first part of the study, we are going to firstly filter out the necessary data (which is the rating of dominance and trustworthiness). After that, we will visualize the data and calculate the median and standard deviation before performing a paired sample t-test and calculating Cohen's d.

For the second part, we will take a [..] at the sensitivity correlation for trustworthiness by splitting the data set into inverted and upright faces before calculating the Pearson correlation between the two for each subject. We will repeat this procedure for dominance. Then, we will be using the correlation sensitivity data of those two to perform a paired sample t-test and calculate Cohen's d again.

To judge if [..] hypothesis was correct, we need the mean of the calculated sensitivity correlations of every participant as well as Cohen's d to exceed 0.

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