

Social-personality dimensions of autism spectrum disorder (#55361)

Created: 01/05/2021 12:11 PM (PT)

Public: 02/21/2022 05:35 PM (PT)

Author(s)

Hongbo Yu (University of California, Santa Barbara) - hongbo.yu@psych.ucsb.edu

Runnan Cao (West Virginia University) - runnan.cao@mail.wvu.edu

Shuo Wang (West Virginia University) - shuo.wang@mail.wvu.edu

1) Have any data been collected for this study already?

No, no data have been collected for this study yet.

2) What's the main question being asked or hypothesis being tested in this study?

This is a follow-up study of our earlier study on social judgment of faces. We will investigate: (1) Are social judgment ratings of faces related to personality traits? (2) Do people with autism spectrum disorder (ASD) show a different relationship between social judgment ratings and personality traits compared to controls?

3) Describe the key dependent variable(s) specifying how they will be measured.

In our previous study, participants were asked to provide judgments of social traits on a scale of 1 to 7 through an online rating task. The social traits include warm, critical, competent, practical, feminine, strong, youthful, and charismatic; and these social traits were well validated in a previous study (Lin et al 2019). Face stimuli used for the consensus judgment ratings were from the CelebA dataset. The key dependent variables for this study are ratings on 12 self-reported personality questionnaires, including: the Social Responsiveness Scale – Adult Self-Report (SRS-A-SR), the autism-spectrum quotient (AQ), the Questionnaire of Cognitive and Affective Empathy (QCAE), Social anxiety, Big 5 (short), Prosocialness, Dark factor, Alexithymia, Apathy, Perceived Social Support, Oxford Utilitarianism Scale, and Moral scrupulosity.

4) How many and which conditions will participants be assigned to?

This study will focus on individual difference. All participants will respond to all the personality trait questionnaires.

5) Specify exactly which analyses you will conduct to examine the main question/hypothesis.

(1) For each social trait, we will average the judgement ratings for each participant. We will use a principal component analysis (PCA) to extract dimensions of personality traits. We hypothesize that different social judgment ratings are correlated with different personality dimensions. In regression models, we will use participants' PCA factor scores to predict their social trait judgment in the previous study. (2) We hypothesize that participants with ASD show a different personality trait space compared with controls, and that participants with ASD have a different association pattern between social judgment and personality dimensions.

6) Describe exactly how outliers will be defined and handled, and your precise rule(s) for excluding observations.

We will exclude participants who fail the attention checks embedded in the questionnaire items.

7) How many observations will be collected or what will determine sample size? No need to justify decision, but be precise about exactly how the number will be determined.

In our earlier study, 122 participants with a self-reported diagnosis of ASD and 436 non-ASD control participants were recruited from Prolific to complete the social judgment task. 113 in the ASD group and 412 in the control group passed the attention checks in that study. In this study, we will recruit these latter groups of participants to complete the personality questionnaires.

8) Anything else you would like to pre-register? (e.g., secondary analyses, variables collected for exploratory purposes, unusual analyses planned?)

We will conduct representational similarity analysis (RSA) to explore the correlation between the social trait space and the personality space. We will construct a participant-by-participant dissimilarity matrix for social traits (correlation between participants using ratings for all faces) and personality traits (correlation between participants using all personality questions) and then correlate the two dissimilarity matrices. We will also explore the effects of feature selection techniques such as LASSO and Random Forest model on the PCA and regression results.