# **1) Data collection.** Have any data been collected for this study already?

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

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

People affiliate more with LLM agents that resemble to their own personality. So we predict higher affiliation score to the Generative-AI that is prompted to produce language that mirror each participant (mirror condition) in contrast to the LLM that will be prompted with the inversion scores of the participants personality (inverse condition).

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

Affiliation score is an average metric based on 6 Likert questions: “I felt that we are similar”, “I enjoyed our conversation”, “I would chat with them again”, “I felt that they were different from me” (inverted), “I felt distant from them” (inverted), “I felt that they understood me”. Same as Castiello et al., 2025 – PsyArXiv.

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

Participants will be exposed to two text-based conversations with two different LLMs. The first one will be based on the participants big-5 dimensions, and the second “inverted” will be based on the inverse of the participants big- dimensions.

First participants will respond the Big-5 with 44-items. Then they will be randomly assigned to first mirror then inverse, or first inverse then mirror. Thus, this is a cross over design. In the mirror condition the LLM will be prompted with the actual participant scoring in the big-5, and in the inverse condition the LLM will be prompted with the inverse big-5 scores. So each participants’ conditions will be completely dependent on their own responses to the questionnaires.

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

We a pair t test between conditions, alpha will be set as 0.05.

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

Participants who completed fewer than 8 turns in a chat were excluded, or participant that did not passed the anti-ai attentional checks will be excluded. We will exclude also participants that have the same personality for the mirror and inverse conditions (i.e., no difference in conditions). This can only happened if a participant scores an average of 3 (neither agree nor disagree) in all 5 personality dimensions.

**7) Sample Size** How many observations will be collected or what will determine sample size?

We calculate the sample size with function pwrss.t.2means from the R package pwrss. Based on a previous pilot, in order to find a mean difference between conditions with a power of .8 and an alpha of .05 we will need 87 participants.

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

We will run a liner model predicting affiliation score with condition as regressor (encoding mirror as 1 and inverse as 0) and the distance between LLMs conditions’ personalities. A significant interaction will imply that the larger the differences in personalities the more participant prefer to chat with the LMM that mirror themselves.

**9) Name** Give a title for this AsPredicted pre-registration

homophily between artificial personality and humans

# **10) Type of study.**

Experiment

# **11) Data source**

Prolific