

SII Study 3 False Recognition 2F

Pending approval

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A. Hypotheses - Essential elements

Description of essential elements

Describe the (numbered) hypotheses in terms of directional relationships between your (manipulated or measured) variables.

1. We expect a significant main effect of probe type with higher error rates (more false recognitions) for implied probes (i.e., ideological probe words implied by but not included in the behavioral statement) than for implied-other probes (i.e., ideological probe words that were not implied in the behavioral statement but rather in another behavioral statement of the task).

2. We expect a significant interaction between probe type and reason type, indicating a reduction of inference effects when sufficient reasons for the behavior are provided as compared to control reasons that cannot explain the behavior.

For implicit effects, describe the expected shape of the interactions.

For implied probes, we expect lower error rates (less false recognitions) when the behavioral description is accompanied by sufficient reasons for the behavior compared to when it is accompanied by control reasons which do not sufficiently explain the behavior.

For implied-other probes, we expect no effect of the reason type on the error rate.

If you are manipulating a variable, make predictions for successful check variables or explain why no manipulation check is included.

We include a manipulation check for reason type. The sufficient reasons are supposed to sufficiently explain the behaviors, whereas the control reasons are supposed to insufficiently explain the behaviors (or not explain the behavior at all). We thus ask participants at the end of the study to rate the sufficiency of each reason for the respective behavior and expect the sufficient reasons to be rated as more sufficient than the control reasons.

Recommended elements

Recommended elements

A figure or table may be helpful to describe complex interactions; this facilitates correct specification of the ordering of all group means.

No files selected

For original research, add rationales or theoretical frameworks for why a certain hypothesis is tested.

No response

If multiple predictions can be made for the same IV-DV combination, describe what outcome would be predicted by which theory.

No response

B. Methods - Essential elements

Description of essential elements

Design

List, based on your hypotheses from section A:

Independent variables with all their levels
a. whether they are within- or between-participant
b. the relationship between them (e.g., orthogonal, nested).

Probe type: implied vs. implied-other (within-participant factor)
Reason type: sufficient reason vs. control reason (within-participant factor)
The two variables probe type and reason type are orthogonal.

List dependent variables, or variables in a correlational design

Error rates
Mean response latency of correct rejections (exploratory)

Third variables acting as covariates or moderators.

Stimulus set assignment: set A vs. set B (between-participant factor, see procedure)

Planned Sample

If applicable, describe pre-selection rules.

The sample will include respondents on Prolific,
a. whose nationality is German,
b. whose first language is German,
c. who currently reside in Germany,
d. who are 18 years or older,
e. who have not participated in any of this study's pre-tests or studies from our group using the same experimental paradigm.

Indicate where, from whom and how the data will be collected.

Participants will be recruited via the online-platform prolific.co according to the pre-selection rules. Demographic data will be collected via Qualtrics whereas the False Recognition Paradigm is programmed in PsychoJS and will be hosted on Pavlovia.org. Should we be unable to reach the necessary sample size using only prolific users, we will look for alternative recruitment strategies.

Justify planned sample size

We set our smallest effect size of interest for the interaction to a small effect of $f = .15$. To attain a test-power of $1 - \beta = .80$ at a significance level of $\alpha = .05$ in a repeated-measures ANOVA, we are prepared to collect valid data of $N = 352$ participants (MorePower 6.0; Campbell & Thompson, 2012). We will, however, employ a sequential testing procedure, which may result in a smaller sample, as explained below.

If applicable, you can upload a file related to your power analysis here (e.g., a protocol of power analyses from G*Power, a script, a screenshot, etc.).

- morepower-050.png
- sequential_design.r
- morepower-050.png

Describe data collection termination rule.

Due to the novelty of our research design and materials, our a-priori effect size estimate is subject to uncertainty. To avoid unnecessary spending in case of a larger than expected effect size, we employ a sequential testing procedure (Lakens, 2014; Lakens et al., 2021) with two interim analyses performed at one and two thirds of the full sample size, respectively. To prevent inflation of the type 1 error probability, we correct the alpha boundaries for each analysis. We calculated the new alpha boundaries with the rpnact package for R (Wassmer & Pahlke, 2020) using the Kim & DeMets alpha spending function (with $\gamma = 2$, see sequential_design.r). We will stop data collection if the observed effects are significant at $\alpha = .006$ in the first or at $\alpha = .019$ in the second interim analysis. If they are not, we collect the full sample and perform the final analysis with $\alpha = .041$. To detect an effect of $f = .15$ given this alpha boundary, a total sample size of $N = 386$ valid datasets is needed. Accordingly, interim analyses will be performed at $n = 129$ and $n = 257$ valid datasets.

We also implement a stopping rule for futility to avoid unnecessary spending in case of an effect size considerably smaller than the smallest effect size of interest. To prevent inflation of the type 2 error probability, we calculated non-binding futility boundaries using the Kim & DeMets beta spending function (with $\gamma = 2$). We will stop data collection if the observed p-value is larger than $p = .694$ in the first or larger than $p = .233$ in the second interim analysis.

Exclusion Criteria

Describe anticipated specific data exclusion criteria. For example:

a) missing, erroneous, or overly consistent responses;
b) failing check-tests or suspicion probes;
c) demographic exclusions;
d) data-based outlier criteria;
e) method-based outlier criteria (e.g. too short or long response times).

We exclude data of participants,
a. who do not complete the false recognition task,
b. who withdraw their consent for data analysis after full debriefing,
c. who give the same response in all of the 36 test trials, or
d. who rate their own data to be unfit for analyses.

Procedure

Describe all manipulations, measures, materials and procedures including the order of presentation and the method of randomization and blinding (e.g., single or double blind), as in a published Methods section.

Procedure
Learning phase.
We employ a False Recognition Paradigm (e.g., Todorov & Uleman, 2002). On prolific the experiment is advertised as a study on "social information processing" that contains a memory test. Participants are told that the study consists of two parts. In the first part they would see information about different people together with pictures of their faces. They would have to memorize the faces and corresponding information. In the second part their memory would be tested.

In the learning phase of the experiment, participants are presented with 24 target items and 12 filler items in a randomized order – preceded by one practice trial (see stimuli.xlsx). Each target item consists of a face and two statements, describing an ideology-related behavior and a reason. Each reason comes in two different versions: A sufficient reason that can sufficiently explain the respective behavior and a control reason that consists of almost the same words yet does not (or only insufficiently) explain the behavior. For each participant, half of the target items are randomly chosen and assigned to the sufficient reason condition. The remaining target items are assigned to the control reason condition. Within the target items, the reason always comes first.

Each learning trial begins with the presentation of a face. After 1000 ms the statements appear below the face. The duration of presentation for the statements is based on statement length, with 375 ms per word, resulting in a range from 8.25 to 23.25 seconds. After an inter-trial interval of 750 ms, the next learning trial begins.

Test phase.
In the test phase, participants are told that they would again see the faces they just saw together with a single word. They would have to decide whether the word was part of the information about the person or not. They are told to press [J] if it was part of the information or [F] if it was not (see instructions.xlsx). Participants are presented with two practice trials and reminded to respond as quickly as possible before starting the 36 test trials.

The 36 faces from the learning phase are presented in a random sequence. The faces from the 24 target items are presented with labels that were implied by either the respective behavior statement (implied condition) or by another item's behavior statement (implied-other condition). We created two parallel stimulus sets. In one of the sets (set A), the first half of the 24 target faces are paired with implied labels and the second half with implied-other labels. In the other set (set B), the second half of the faces are paired with the implied labels and the first half with the implied-other labels. Participants are randomly assigned to one of the two stimulus sets. The faces from the 12 filler items are presented with labels that were actually contained in the respective statements.

In each test trial the face is presented together with the label until a response is made. The label is presented below the face. After an inter-trial interval of 750 ms, the next test trial begins.

Ratings and demographic information.
After completion of the probe recognition task, participants rate all presented reasons with regard to whether they can sufficiently explain the respective behaviors on a five-point scale ranging from "no" to "yes" (see ratings.xlsx). The demographic information includes a self-rating of own political orientation using the one-item Left-Right Self-Placement scale (Breyer, 2015), own interest in politics using a one-item scale (Zentralarchiv für empirische Sozialforschung (ZA) & Zentrum für Umfragen, Methoden und Analysen (ZUMA) e.V., 2014), gender, and age. Finally, participants are asked whether they think their data is fit for analyses (yes or no) and whether they had any assumptions about the exact purpose of the experiment. Ultimately, they are debriefed about the purpose of the study and asked for their informed consent for data storage and analysis. Study participation is planned to take approximately 18 minutes.

Materials
Target items.
Each target item consists of two statements, describing an ideology-related behavior and a reason. Each reason comes in two different versions: A sufficient reason that can sufficiently explain the respective behavior and a control reason that consists of almost the same words yet does not (or only insufficiently) explain the behavior. We pretested the target items to make sure that a) the behaviors are associated with ideological labels, b) the sufficient reasons sufficiently explain the behaviors, and c) the control reasons do not sufficiently explain the behaviors. We further ensured that the semantic overlap between the ideological labels associated with the target items is minimal.

To pretest the behaviors, we asked participants to read them and write down labels that come to their mind. For each behavior, we chose the most frequently mentioned label. On average 54% of the participants mentioned the chosen or a synonymous label. The consensus ranged from 30% to 89%. In a further pretest, participants rated how well the chosen labels explained the behaviors. The average score was 1.30 (ranging from 0.53 to 1.94; on a rating scale from -2 (very badly) to 2 (very well))

To pretest the reasons, we showed participants the behaviors together with the respective reasons. We asked them to indicate whether the reasons sufficiently explained the behaviors. On a rating scale from -2 (no) to 2 (yes), the sufficient reasons had an average score of 0.84 (ranging from 0.00 to 2.00); the control reasons had an average score of -0.97 (ranging from -1.80 to 0.13). The average difference between sufficient reason and control reason scores was 1.82 (ranging from 0.80 to 2.93).

For each target item we selected two probe words: (1) the implied label (implied condition) and (2) a non-synonymous control label implied by another target item (implied-other condition). We chose the implied-other probes such that their word length was similar to their respective implied probe.

Filler items.
The target items do not contain ideological labels. They do therefore exclusively warrant negative responses to the probes. To prevent strategic responding, we include 12 additional filler items. Each filler item also consists of a behavior and a reason. They differ from the target items in that they contain ideological labels (the same labels implied in the target items). This makes it seem plausible that the labels were actually part of the statements. In each filler trial one of the contained labels is randomly picked as the probe word.

Faces.
We used AI-generated portrait pictures from the Academic Dataset by Generated Photos (https://generated.photos/datasets). We selected the pictures such that characteristics like age, gender, and racialized group membership did not seem incongruent with the respective item's content.

Recommended elements

Recommended elements

Set fail-safe levels of exclusion at which the whole study needs to be stopped, altered, and restarted. You may pre-determine what proportion of excluded participants will cause the study to be stopped and restarted.

No response

If applicable, you can upload any files related to your methods and procedure here (e.g., a paper describing a scale you are using, experimenter instructions, etc.).

- instructions.xlsx
- ratings.xlsx
- stimuli.xlsx
- stimuli.xlsx
- instructions.xlsx
- ratings.xlsx

C. Analysis plan - Essential elements

Confirmatory Analyses

Describe the analyses that will test the first main prediction from the hypotheses section. Include:

the relevant variables and how they are calculated;

The error rate serves as the dependent variable.

the statistical technique;

We will conduct a two-way ANOVA with probe type (implied vs. implied-other) and reason type (sufficient vs. control) as within-participants factors.
Hypothesis 1 refers to the main effect of probe type.

each variable's role in the technique (e.g., IV, DV, moderator, mediator, covariate);

Probe type: IV
Reason type: IV
Stimulus set assignment: covariate
Error rate: DV

rationale for each covariate used, if any;

We control for the effect of stimulus set assignment.

if using techniques other than null hypothesis testing (for example, Bayesian statistics), describe your criteria and inputs toward making an evidential conclusion, including prior values or distributions.

We don't plan to use other techniques.

Second Prediction

Describe the analyses that will test the second main prediction from the hypotheses section. Include:

the relevant variables and how they are calculated;

The error rate serves as the dependent variable.

the statistical technique;

We will conduct a two-way ANOVA with probe type (implied vs. implied-other) and reason type (sufficient vs. control) as within-participants factors.
Hypothesis 2 refers to the interaction effect for probe type and reason type.

each variable's role in the technique (e.g., IV, DV, moderator, mediator, covariate);

Probe type: IV
Reason type: IV
Stimulus set assignment: covariate
Error rate: DV

rationale for each covariate used, if any;

We control for the effect of stimulus set assignment.

if using techniques other than null hypothesis testing (for example, Bayesian statistics), describe your criteria and inputs toward making an evidential conclusion, including prior values or distributions.

We don't plan to use other techniques.

Third Prediction

Describe the analyses that will test the third main prediction from the hypotheses section. Include:

the relevant variables and how they are calculated;

No response

the statistical technique;

No response

each variable's role in the technique (e.g., IV, DV, moderator, mediator, covariate);

No response

rationale for each covariate used, if any;

No response

if using techniques other than null hypothesis testing (for example, Bayesian statistics), describe your criteria and inputs toward making an evidential conclusion, including prior values or distributions.

No response

Fourth Prediction

Describe the analyses that will test the fourth main prediction from the hypotheses section. Include:

the relevant variables and how they are calculated;

No response

the statistical technique;

No response

each variable's role in the technique (e.g., IV, DV, moderator, mediator, covariate);

No response

rationale for each covariate used, if any;

No response

if using techniques other than null hypothesis testing (for example, Bayesian statistics), describe your criteria and inputs toward making an evidential conclusion, including prior values or distributions.

No response

Recommended elements

Recommended Elements

Specify contingencies and assumptions, such as:

Method of correction for multiple tests.

No response

The method of missing data handling (e.g., pairwise or listwise deletion, imputation, interpolation).

No response

Reliability criteria for item inclusion in scale.

No response

Anticipated data transformations.

For exploratory analyses of mean response latencies we will apply cutoffs and transformations to the raw reaction times. No transformations will be applied directly to the dependent variable (error rate), provided that the assumptions of analysis are met.

Assumptions of analyses, and plans for alternative/corrected analyses if each assumption is violated.

If upon visual inspection the error rates are severely non-normal in any cell of the design, we will apply transformations to try and achieve a normal distribution. If Mauchly's test of sphericity indicates that the assumption of sphericity is not met, we will apply a correction to the degrees of freedom.

Optionally, upload any files here that are related to your analyses (e.g., syntaxes, scripts, etc.).

No files selected

Final questions

Has data collection begun for this project?

No, data collection has not begun

If data collection has begun, have you looked at the data?

No

The (estimated) start and end dates for this project are

Start: 20.07.2022

Any additional comments before I pre-register this project

No response

Contributors

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Description

Research on person perception has revealed that people tend to attribute others' behavior to stable person characteristics, even if it can just as well be explained by reasons such as situational factors or mental states. This tendency is known as the correspondence bias (Gilbert & Malone, 1995) and may play an important role in the domain of political polarization. Specifically, people may attribute each other's politically relevant behaviors to stable ideological dispositions (such as leftist, conservative, racist, or feminist), while neglecting potential other causes and thereby impeding mutual understanding. To investigate the role of the correspondence bias in political polarization, we examine whether spontaneous ideological inferences are reduced when behaviors are accompanied by information on relatively sufficient reasons for the behavior. We thus extend previous research on spontaneous trait inferences (STI; Winter & Uleman, 1984) and the correspondence bias to spontaneous inferences of ideological dispositions.

Show less

Registration type

Pre-Registration in Social Psychology (van 't Veer & Giner-Sorolla, 2016); Pre-Registration

Date registered

July 20, 2022

Date created

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Associated project

osf.io/c7wkp

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Social and Behavioral Sciences

Social Psychology

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