Study Information

Title: The influence of Focus on Conditional Perfection

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Description: Conditional Perfection (CP) refers to the interpretation of a conditional sentence as a biconditional under some specific conditions. In this experiment we want to check whether the focused case has an influence on the rise of CP. In other words, in this replication of the experiment by Farr (2011), we try to test whether the presence of focus (= having a 'whenq'-question) makes CP rise (response = 'No'). The focused- or non-focused case depends here on the question type 'what-if-p' or 'when-q' of the test items. This means that in the 'when-q'-question type, the focused case, the focus lies on the antecedent, while in the 'what-if-p'-question type, the non-focused case, the focus lies on the consequent. In addition to the test items, there are additional filler items to check if the subjects correctly understand conditionals.

Hypothesis: Amount of negative responses on when-q-questions is significantly higher than the amount of negative responses on what-if-p-questions.

Design Plan

Study Type: Experiment

Blinding: The relevant manipulation is within-participants. Participants are not informed about this manipulation. The experiment is conducted via the internet. No direct contact between experimenters and participants will take place.

Study design: The experiment is within-subjects design with one factor (two levels: question type 'when-q', question type 'what-if-p').

Randomization: All participants see all experimental items, each in pseudo random order. Additionally, whether a participant is assigned to 'what-if-p' or 'when-q' questions is pseudo randomized per test item. This makes sure that half or the test items are assigned to 'what-if-p' questions, the other half to 'when-q'.

Sampling Plan

Existing data: Pilot data (N=3) was collected and guided the specification and procedure of the statistical analysis. The pilot data will not be included in the final analysis. No data from the experiment to be preregistered here was available at the time or preregistration.

Data collection procedures: Participants will be drafted through direct email contact. Participation is voluntary and will not be compensated. Every participant is allowed to take

part only once. We will wait for 10 days after having sent the initial invitations, if not enough data can be collected until then we will resend the invitation link before closing data collection after 14 days.

Sample size: We are aiming to recruit as many participants as possible.

Sample size rationale: Since our pool of reachable participants is limited and we have no monetary or other incentives to offer, and since time is critical (project deadline) we cannot state a minimum number of participants to draft.

Stopping rule: We will stop data collection at midnight of the 14th day after starting the collection through announcements via email.

Variables

Manipulated variables: We manipulate the question type of each test item. This variable question type has two values: 'when-q' and 'what-if-p'. Concretely, the question type will be treated as a 2-level factor with default / reference level 'when-q'.

Measured variables: We measure whether the answer given (answer to truth value judgment) was negative or positive (binary choice).

Analysis Plan

Statistical models: We will run a Bayesian logistic regression model with the independent variable question type ('when-q' and 'what-if-p') to analyze the effect on the dependent binary variable (negative and positive response on truth value judgment).

Our analysis will use the statistical programming language R and rely on the 'brms' package. We will use the default (flat) priors of the 'brms' package for the effect coefficients. The attached script "stats_analysis_logreg.R" contains the analysis as planned.

Inference criteria: We will use a posteriori credible values for the effect coefficient for factor question type. We judge there to be a credible effect of the manipulation 'when-q' vs 'whap-if-p' if the 95% credible interval of the posterior for the question type coefficient contains only positive values, which means that in comparison to 'what-if-p', the question type 'when-q' is more likely to result in a negative response (i.e. letting CP arise).

Data exclusion: We exclude every participant with prior knowledge in either logic or pragmatics or both, and non-native German speakers. A participant is also excluded if three or more filler items are responded incorrectly.
We exclude every individual trial which was responded to in less than 10 seconds.