Cognitive Biases: Mistakes or Missing Stakes? Replication Instructions

Note: Data analysis for this paper performed using Stata 16 on MacOS Mojave.

Contents:

- **tables.do:** Stata code to generate Tables 1-2.
- **figures.do:** Stata code to generate Figures 1-2.
- **appendix_tables.do:** Stata code to generate Tables in Appendix D of the supplementary materials.
- **appendix_figures.do:** Stata code to generate Figures in Appendix E of the supplementary materials.
- **experimental_data.dta:** Stata dataset containing experimentally-collected data. See Section 2 of the paper for a description of the experimental design and procedures.

Data Dictionary:

All variables were generated by authors via experiments performed at the Busara Center for Behavioral Economics in Nairobi, Kenya and described in detail in the paper and accompanying online appendices. Variables are listed below in the order they appear in **experimental_data.dta**.

- *id:* unique identifier for an experimental participant.
- *j:* identifier of the form xy, where x differentiates the first and second experimental task each participant performs and y differentiates the first and second problem within each task.
- *high_incentives:* participant-level indicator for random assignment to the high incentive condition instead of the low incentive condition (all participants take part in the no incentive condition).
- *actual_payment:* the amount of money (in KSh) each participant received, including both guaranteed and bonus compensation.
- *age:* participant age.
- *male:* indicator for participant identifying as male.

- *consumption:* self-reported average monthly consumption (in KSh).
- *income:* self-reported average monthly income (in KSh).
- *school_year:* participant's academic progress at the University of Nairobi (1-5 = undergraduate years 1-5; 6 = graduate student; 7 = graduated).
- *education:* participant's current highest degree (1 = high school; 2 = B.A.; 3 = graduate degree).
- *gpa:* aggregate average grade on the K.C.S.E (Kenya Certificate of Secondary Education) exam (7 = A; 6 = A-; 5 = B+; 4 = B; 3 = B-; 2 = C+; 1 = C or lower).
- *stem:* indicator for STEM major.
- *above_median_income:* indicator for monthly income above 12,000 KSh (median).
- *raven:* score on the Raven matrices test.
- *score:* first principal component from PCA of GPA and Raven score.
- *iq:* standardized value of *score*, used as a measure of intelligence.
- *task:* identifier for the experimental task.
- *spec_task:* identifier for the specific problem within each experimental task.
- *correct_response:* correct response to the specific problem.
- *response:* participant's recorded response to the specific problem.
- *wason_response:* separate field for recording Wason response as a text string.
- *wason_correct_response:* correct Wason response as a text string.
- *response_time:* participant response time (in seconds).
- *confidence:* participant confidence in correct answer on a Likert scale (1 = not confident at all; 7 = very confident).
- *expert_pred_response:* estimated response time for this task and incentive condition from expert survey.
- *expert_pred_performance:* estimated performance for this task and incentive condition from expert survey.
- *correct:* indicator for whether participant response was correct for purposes of payment.
- *payment_q:* amount of bonus compensation paid for correct response on this task.

- *anchor:* value of the anchor for anchoring questions.
- *expert_pred_se_response:* standard error of response time estimates from expert survey.
- *expert_pred_se_performance:* standard error of performance estimates from expert survey.
- *first1140:* indicator for first 1,140 participants.
- *condition:* incentive level for this experimental task (no, low, high).
- *endday:* participation date.
- *day:* day of experimental data collection (e.g., 1 = first day).
- *task_type:* identifier for the experimental task that distinguishes between the abstract and intuitive versions of BRN and Wason.
- *task_type_no:* numeric version of *task_type*.
- *no_stakes:* indicator for task performed under no incentive condition.
- *high_stakes:* indicator for task performed under high incentive condition.
- *condition_number:* numeric version of *condition* (0.25 = no incentives; 1 = low incentives; 1.75 = high incentives)
- *spec_task_no:* numeric version of *spec_task*.
- *inter_anchor_no:* interaction of *anchor* × *no_stakes*.
- *inter_anchor_high:* interaction of *anchor* × *high_stakes*.
- *inter_no_gpa:* interaction of *no_stakes* × *gpa*.
- *inter_high_gpa:* interaction of *high_stakes* × *gpa*.
- *inter_no_above_median_income:* interaction of *no_stakes* × *above_median_income*.
- *inter_high_above_median_income:* interaction of *high_stakes* × *above_median_income*.
- *inter_no_male:* interaction of *no_stakes* × *male*.
- *inter_high_male:* interaction of *high_stakes* × *male*.
- *inter_no_raven:* interaction of *no_stakes* × *raven*.
- *inter_high_raven:* interaction of *high_stakes* × *raven*.
- *response_time_minutes:* participant response time (in minutes).

- *inter_anchor_response:* interaction of *anchor* × *response_time_minutes*.
- *inter_anchor_iq:* interaction of *anchor* × *iq*.
- *dist_brn:* absolute difference between response and Bayesian posterior in BRN problems.
- *brn_response_within2:* indicator for response within 2 percentage points of the Bayesian posterior in BRN problems.
- *anchor_type:* indicator for low vs. high anchor.
- *correlation_anchor:* correlation between anchor and response by incentive condition.
- *se_correlation_anchor:* standard error of correlation between anchor and response by incentive condition.
- *norm_response_time:* normalized response time.
- *norm_expert_pred_response:* normalized expert prediction of response time.
- *norm_expert_pred_se_response:* normalized standard error of expert prediction of response time.
- *response_time_logs:* natural log of (1 + *response_time*).
- *intuitive_response:* indicator for participant getting the intuitive (but wrong) answer to an experimental task.
- *wason_mistake_type_1:* indicator for participant making the mistake of not turning over the "not Q" card in the Wason Selection Task (see Section 2.1.2 of the paper).
- *wason_mistake_type_2:* indicator for participant making the mistake of turning over the "Q" card instead of the "not Q" card in the Wason Selection Task (see Section 2.1.2 of the paper).
- *memory_correct:* indicator for participant correctly recalling the incentive level for this task.
- *recall_incentive:* participant's recalled incentive size for this task.