

# Codebook

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## Codebook Study 1

### Data files included in **data/s1**

- bart\_posterior.csv
- bart\_results.csv
- bart\_rts.csv
- bartassess.csv
- demographics.csv
- grips\_results.csv
- participants.csv
- rlrisk\_results.csv
- soep\_results.csv
- study\_1.RDS

## Description of data files

### **bart\_posterior.csv**

A raw data file that contains participants' beliefs about the optimal behavior.

Variable	Description
id	An id variable used as unique identifier of each row.
partid	The participant id.
size	Number of inflations the participant believes to be optimal.
time	Response time.

### **bart\_results.csv**

A raw data file that contains the behavioral results of the BART.

Variable	Description
id	An id variable used as unique identifier of each row.
partid	The participant id.
session	A php session variable.
color	Balloon color (always <b>blue</b> ).
type	Maximum capacity of the balloon (always <b>64</b> ).
number_of_clicks	Number of inflations in current trial ( $\in \{1, 2, \dots, 64\}$ ).
exploded	Whether a balloon exploded (1) or not (0).
trial	Trialnumber ( $\in \{1, 2, \dots, 30\}$ )
payoff	Payoff of current trial in cents ( $\in \{0, 1, \dots, 64\}$ ).

### **bart\_rts.csv**

A raw data file that contains the reaction times for each inflation of a participant.

Variable	Description
id	An id variable used as unique identifier of each row.
partid	The participant id.
session	A php session variable.
balloon	Balloon identifier (same as <b>trial</b> variable in <i>bart_results.csv</i> ; $\in \{1, 2, \dots, 30\}$ )
pump1 to pump 64	Response times of individual pumps in milliseconds (measured using javascript).

### **bartassess.csv**

A raw data file that contains the responses about participants' general task representation.

Variable	Description
id	An id variable used as unique identifier of each row.
distribution_rating	A rating between 0 and 50, with 0 indicating a participant believes explosion points to be randomly distributed and with 50 indicating a participant believes explosion points to cluster ( $\in \{0, 1, \dots, 50\}$ ).
partid	The participant id.

### demographics.csv

A raw data file that contains the demographic information.

Variable	Description
id	An id variable used as unique identifier of each row.
partid	The participant id.
age	Participant's age in years.
sex	$\in \{female, male\}$
job	Participant's job status ( $\in \{retired, student, unemployed, working\}$ )
education	Participant's highest completed education ( $\in \{primary, high\_school, bachelor, master, doctor, professional\}$ ).

### grips\_results.csv

A raw data file that contains the responses to the items of the General Risk Propensity Scale (GRiPS).

Variable	Description
id	An id variable used as unique identifier of each row.
partid	The participant id.
quest_label	Item identifier ( $\in \{grips\_attracted, grips\_chances, grips\_commonly, grips\_enjoy, grips\_friends, grips\_fun, grips\_hurt, grips\_part\}$ ).
rating	Response to GRiPS item from <i>strongly disagree</i> (0) to <i>strongly agree</i> (5; $\in \{0, 1, \dots, 5\}$ ).
trial	Position in which item was presented (order was randomized).

### participants.csv

A raw data file that contains the socio-demographic variables as well as the some control variables.

Variable	Description
partid	The participant id.
start	Unix time at the start of experiment.
end	Unix time at the end of experiment.
duration	Duration of study in seconds.
bonus	Bonus payoff in \$.
imcgrips	Whether attention check in the grips items was filled correctly ( $\in \{correct, wrong\}$ ).
imcrl	Whether attention check in the frequency items was filled correctly ( $\in \{correct, wrong\}$ ).
done	Whether last page of study was reached ( $\in \{1, NA\}$ ).
session	A php session variable.
qual_focused	Self-rating of how focused participant was during the study ( $\in \{0, 1, \dots, 100\}$ ).
cond_dist	Identifier of the BART implementation a participant completed ( $\in \{uniform, normal\_high, normal\_moderate, normal\_low\}$ ).
task_order	Identifier of the task order ( $\in \{1, 2, \dots, 12\}$ ).
current_task	Last task participant has completed, 10 if the experiment was completed.
device	Reported device used ( $\in \{desktop, laptop, mobile, tablet, NA\}$ ).
imc	Counter of correct imcs ( $\in \{1, 2, NA\}$ ).

### rlrisk\_results.csv

A raw data file that contains the responses to the frequency items.

Variable	Description
id	An id variable used as unique identifier of each row.
partid	The participant id.
quest_label	Item identifier ( $\in \{rlrisk\_cigarettes, rlrisk\_drink, rlrisk\_gamble, rlrisk\_invest, rlrisk\_speed, rlrisk\_sport\}$ ).
rating1	Rating of number of times ( $\in \{0, 1, \dots, 100\}$ ).
rating2	Rating of timeframe ( $\in \{day, month, week, year\}$ ).
trial	Position in which item was presented (order was randomized).

#### soep\_results.csv

A raw data file that contains the responses to the risk items of the German Socioeconomic Panel (SOEP).

Variable	Description
id	An id variable used as unique identifier of each row.
partid	The participant id.
quest_label	Item identifier ( $\in \{soep\_driving, soep\_faith, soep\_finance, soep\_gen, soep\_health, soep\_leisure, soep\_occupation\}$ ).
rating	Response to SOEP item from <i>Not at all willing to take risks</i> (0) to <i>Very willing to take risks</i> (10; $\in \{0, 1, \dots, 10\}$ ).
trial	Position in which item was presented (order was randomized).

#### study\_1.RDS

The data file used for the main analysis. Contains the prepared scores etc.

Variable	Description
partid	The participant id.
duration	Duration of study in seconds.
payoff	Payoff of current trial in cents ( $\in \{0, 1, \dots, 64\}$ ).
cond_dist	Identifier of the BART implementation a participant completed ( $\in \{uniform, normal\_high, normal\_moderate, normal\_low\}$ ).
task_order	Identifier of the task order ( $\in \{1, 2, \dots, 12\}$ ).
device	Reported device used ( $\in \{desktop, laptop, mobile, tablet, NA\}$ ).
adj_bart_score	Mean number of inflations of trials in which the balloon did not explode.
adj_bart_score_early	Adjusted BART score of first 10 trials.
adj_bart_score_middle	Adjusted BART score of middle 10 trials.
adj_bart_score_late	Adjusted BART score of last 10 trials.
bart_score	Mean number of inflations.
bart_score_early	BART score of first 10 trials.
bart_score_middle	BART score of middle 10 trials.
bart_score_late	BART score of last 10 trials.
n_explosions	Total number of explosions per participant.
posterior_belief	Number of inflations the participant believes to be optimal.
posterior_belief_time	Response time for posterior belief.
distribution_rating	A rating between 0 and 50, with 0 indicating a participant believes explosion points to be randomly distributed and with 50 indicating a participant believes explosion points to cluster ( $\in \{0, 1, \dots, 50\}$ ).
grips_score	Mean of all GRiPS ratings per participant.

Variable	Description
soep_leisure	Response to SOEP leisure risk item from <i>Not at all willing to take risks</i> (0) to <i>Very willing to take risks</i> (10; $\in \{0, 1, \dots, 10\}$ ).
soep_health	Response to SOEP health risk item from <i>Not at all willing to take risks</i> (0) to <i>Very willing to take risks</i> (10; $\in \{0, 1, \dots, 10\}$ ).
soep_driving	Response to SOEP driving risk item from <i>Not at all willing to take risks</i> (0) to <i>Very willing to take risks</i> (10; $\in \{0, 1, \dots, 10\}$ ).
soep_occupation	Response to SOEP occupation risk item from <i>Not at all willing to take risks</i> (0) to <i>Very willing to take risks</i> (10; $\in \{0, 1, \dots, 10\}$ ).
soep_faith	Response to SOEP faith risk item from <i>Not at all willing to take risks</i> (0) to <i>Very willing to take risks</i> (10; $\in \{0, 1, \dots, 10\}$ ).
soep_finance	Response to SOEP finance risk item from <i>Not at all willing to take risks</i> (0) to <i>Very willing to take risks</i> (10; $\in \{0, 1, \dots, 10\}$ ).
soep_gen	Response to SOEP general risk item from <i>Not at all willing to take risks</i> (0) to <i>Very willing to take risks</i> (10; $\in \{0, 1, \dots, 10\}$ ).
rlrisk_gamble	Frequency rating of XX times per day.
rlrisk_sport	Frequency rating of XX times per day.
rlrisk_cigarettes	Frequency rating of XX times per day.
rlrisk_invest	Frequency rating of XX times per day.
rlrisk_speed	Frequency rating of XX times per day.
rlrisk_drink	Frequency rating of XX times per day.
rlrisk_gamble_b	Binarized frequency rating of XX times per day.
rlrisk_sport_b	Binarized frequency rating of XX times per day.
rlrisk_cigarettes_b	Binarized frequency rating of XX times per day.
rlrisk_invest_b	Binarized frequency rating of XX times per day.
rlrisk_speed_b	Binarized frequency rating of XX times per day.
rlrisk_drink_b	Binarized frequency rating of XX times per day.
age	Participant's age in years.
sex	$\in \{female, male\}$
job	Participant's job status ( $\in \{retired, student, unemployed, working\}$ )
education	Participant's highest completed education ( $\in \{primary, high\_school, bachelor, master, doctor, professional\}$ ).

## Codebook Study 2

### Data files included in data/s2

- bart\_posterior.csv
- bart\_results.csv
- bart\_rts.csv
- bartassess.csv
- grips\_results.csv
- participants.csv
- rlrisk\_results.csv
- soep\_results.csv
- study\_2.RDS
- upps\_results.csv

## Description of data files and variables

Here we only describe the additional datafiles that are not included in `data/s1/`. The other files have the same structure as described above.

### `bartassess.csv`

A raw data file that contains the responses about participants' general task representation. The structure of this file differs slightly from that in `data/s1/`, as we adapted the assessment of participants' general task representation.

Variable	Description
id	An id variable used as unique identifier of each row ( $\in \{normal, uniform\}$ ).
distribution_rating	A binary rating of which distribution participants thought better represents the distribution of explosion points in the BART implementation they completed.
partid	The participant id.
confidence_rating	How confident participants were in their <code>distribution_rating</code> ( $\in \{0, 1, \dots, 50\}$ ).

### `study_2.RDS`

The data file used for the main analysis. Contains the prepared scores etc.

Variable	Description
partid	The participant id.
duration	Duration of study in seconds.
bart_payoff	Payoff of current trial in cents ( $\in \{0, 1, \dots, 64\}$ ).
cond_dist	Identifier of the BART implementation a participant completed ( $\in \{uniform, normal\_high, normal\_moderate, normal\_low\}$ ).
task_order	Identifier of the task order ( $\in \{1, 2, \dots, 12\}$ ).
device	Reported device used ( $\in \{desktop, laptop, mobile, tablet, NA\}$ ).
adj_bart_score	Mean number of inflations of trials in which the balloon did not explode.
bart_score	Mean number of inflations.
n_explosions	Total number of explosions per participant.
posterior_belief	Number of inflations the participant believes to be optimal.
posterior_belief_time	Response time for posterior belief.
distribution_rating	A rating between 0 and 50, with 0 indicating a participant believes explosion points to be randomly distributed and with 50 indicating a participant believes explosion points to cluster ( $\in \{0, 1, \dots, 50\}$ ).
grips_score	Mean of all GRiPS ratings per participant.
soep_faith	Response to SOEP faith risk item from <i>Not at all willing to take risks</i> (0) to <i>Very willing to take risks</i> (10; $\in \{0, 1, \dots, 10\}$ ).
soep_finance	Response to SOEP finance risk item from <i>Not at all willing to take risks</i> (0) to <i>Very willing to take risks</i> (10; $\in \{0, 1, \dots, 10\}$ ).
soep_driving	Response to SOEP driving risk item from <i>Not at all willing to take risks</i> (0) to <i>Very willing to take risks</i> (10; $\in \{0, 1, \dots, 10\}$ ).
soep_leisure	Response to SOEP leisure risk item from <i>Not at all willing to take risks</i> (0) to <i>Very willing to take risks</i> (10; $\in \{0, 1, \dots, 10\}$ ).
soep_occupation	Response to SOEP occupation risk item from <i>Not at all willing to take risks</i> (0) to <i>Very willing to take risks</i> (10; $\in \{0, 1, \dots, 10\}$ ).
soep_gen	Response to SOEP general risk item from <i>Not at all willing to take risks</i> (0) to <i>Very willing to take risks</i> (10; $\in \{0, 1, \dots, 10\}$ ).

Variable	Description
soep_health	Response to SOEP health risk item from <i>Not at all willing to take risks</i> (0) to <i>Very willing to take risks</i> (10; $\in \{0, 1, \dots, 10\}$ ).
rlrisk_gamble	Frequency rating of XX times per day.
rlrisk_sport	Frequency rating of XX times per day.
rlrisk_drink	Frequency rating of XX times per day.
rlrisk_speed	Frequency rating of XX times per day.
rlrisk_invest	Frequency rating of XX times per day.
rlrisk_cigarettes	Frequency rating of XX times per day.
rlrisk_gamble_b	Binarized frequency rating of XX times per day.
rlrisk_sport_b	Binarized frequency rating of XX times per day.
rlrisk_cigarettes_b	Binarized frequency rating of XX times per day.
rlrisk_invest_b	Binarized frequency rating of XX times per day.
rlrisk_speed_b	Binarized frequency rating of XX times per day.
rlrisk_drink_b	Binarized frequency rating of XX times per day.
perseverance	Mean of all UPPS perseverance subscale ratings per participant.
premeditation	Mean of all UPPS premeditation subscale ratings per participant.
ss	Mean of all UPPS ss subscale ratings per participant.
urgency	Mean of all UPPS urgency subscale ratings per participant.
bart_payoff_s1	bart_payoff from study 1.
adj_bart_score_s1	adj_bart_score from study 1.
bart_score_s1	bart_score from study 1.
n_explosions_s1	n_explosions from study 1.
posterior_belief_s1	posterior_belief from study 1.
distribution_rating_s1	distribution_rating from study 1.
grips_score_s1	grips_score from study 1.
soep_leisure_s1	soep_leisure from study 1.
soep_health_s1	soep_health from study 1.
soep_driving_s1	soep_driving from study 1.
soep_occupation_s1	soep_occupation from study 1.
soep_faith_s1	soep_faith from study 1.
soep_finance_s1	soep_finance from study 1.
soep_gen_s1	soep_gen from study 1.
rlrisk_gamble_s1	rlrisk_gamble from study 1.
rlrisk_sport_s1	rlrisk_sport from study 1.
rlrisk_cigarettes_s1	rlrisk_cigarettes from study 1.
rlrisk_invest_s1	rlrisk_invest from study 1.
rlrisk_speed_s1	rlrisk_speed from study 1.
rlrisk_drink_s1	rlrisk_drink from study 1.
rlrisk_gamble_b_s1	rlrisk_gamble_b from study 1.
rlrisk_sport_b_s1	rlrisk_sport_b from study 1.
rlrisk_cigarettes_b_s1	rlrisk_cigarettes_b from study 1.
rlrisk_invest_b_s1	rlrisk_invest_b from study 1.
rlrisk_speed_b_s1	rlrisk_speed_b from study 1.
rlrisk_drink_b_s1	rlrisk_drink_b from study 1.
age	Participant's age in years.
sex	$\in \{female, male\}$
job	Participant's job status ( $\in \{retired, student, unemployed, working\}$ )
education	Participant's highest completed education ( $\in \{primary, high\_school, bachelor, master, doctor, professional\}$ ).

upps\_results.csv

A raw data file that contains the responses to the items of the General Risk Propensity Scale (GRiPS). Note that the items **urgency\_11**, **perseverance\_2**, and **perseverance\_10** need to be reflected before aggregation.

Variable	Description
id	An id variable used as unique identifier of each row.
partid	The participant id.
quest_label	Item identifier ( $\in$ <i>perseverance_1</i> , <i>perseverance_2</i> , ..., <i>perseverance_10</i> , <i>premeditation_1</i> , <i>premeditation_2</i> , ..., <i>premeditation_11</i> , <i>ss_1</i> , <i>ss_2</i> , ..., <i>ss_12</i> , <i>urgency_1</i> , <i>urgency_2</i> , ..., <i>urgency_12</i> }).
rating	Response to UPPS item from <i>strongly disagree</i> (1) to <i>strongly agree</i> (4); $\in \{1, 2, 3, 4\}$ .
trial	Position in which item was presented (order was randomized).

## Codebook experiment

### Data files included in data/experiment

- bart\_distributions.RDS

### Description of data files and variables

#### bart\_distributions.RDS

The sequences of explosion points used in the four BART implementations in studies 1 and 2.

Variable	Description
uniform	Sequence of explosion points used in the BART <sub>uniform</sub> .
normal_low	Sequence of explosion points used in the BART <sub>normal-L</sub> .
normal_moderate	Sequence of explosion points used in the BART <sub>normal-M</sub> .
normal_high	Sequence of explosion points used in the BART <sub>normal-H</sub> .