**ReadMe**

This readMe contains basic information as well as the codebook for the datasets described in “Statistical information about reward timing is insufficient for promoting optimal persistence decisions” (Lempert, Schaefer, Breslow, Peterson, Kable, & McGuire, under review at *Cognition*). Questions can be sent to Joseph T. McGuire ([jtmcg@bu.edu](mailto:jtmcg@bu.edu)).

In a series of studies, we examined the extent to which providing individuals with general information about reward timing statistics influences their decisions about how long to persist for delayed rewards. Information was provided through counterfactual feedback (Study 1), previous exposure (Study 2a and Study 2b), or description (Study 3a and Study 3b).

Folders

* Analysis scrips: Contains the analysis scripts for each of the five studies and an R script with helper functions (wtwFxs.R)
* Figures: Contains the figures displayed in the manuscript
* The study folders are structured as follows:
  + task-code: Contains either MATLAB or jsPsych required for running the study
  + output: Various plots created in the analysis scripts
  + data: data file/files required for analysis
    - Study 1, 2a, and 3a: Each participant contributes one row to the header file which comprises general information about the participant. The second data file includes the trial data per participant, with each row representing one trial.
    - Study 2b and 3b: Each participant contributes one data file.

Analysis scripts:

Please note that the Rscripts load several R-packages, assuming you have downloaded all these packages. If not, these need to be installed for the scripts to work. Since the working directories are relative, you should be able to run a script directly after downloading the whole folder (by default, the working directory should be set to the location of the analysis script).

(1) group\_analysis\_1.R: Group analysis for Study 1

(2) group\_analysis\_2a.R: Group analysis for Study 2a

(3) group\_analysis\_2b.R: Group analysis for Study 2b

(4) group\_analysis\_3a.R: Group analysis for Study 3a

(5) group\_analysis\_3b.R: Group analysis for Study 3b

(6) wtwFxs.R: Contains helper functions that the group analysis scripts call

Explanation of variable names:

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| **Table 1. Explanation of variable names for Study 1** | |
| **Variable Name** | **Description** |
| **Header information** | |
| id | Subject ID |
| dfname | Name of data file |
| cbal | Randomization group: 1 = standard, 2 = fictive information displayed |
| sessionDurationInMin | Number of minutes in session |
| randSeed | Random seed used for generating timing distribution |
| sessionTime | Year of session |
| distribs | Timing distribution; scale\_1.5\_30 = LP |
| **Trial Data** | |
| blockNum | Current block |
| trialNum | Trial index |
| initialTime | Time of trial start, in s (cumulative) |
| itiKeypresses | Empty for this study |
| designatedWait | Time scheduled until token maturation, in s |
| rwdOnsetTime | Time of reward delivery, in s. NaN if the token was sold before it matured |
| latency | Time until token was sold, in s |
| outcomeTime | Time of sell response, in s (cumulative) |
| payoff | Trial-wise earnings in cents |
| totalEarned | Cumulative earnings in cents |
| file.name | Name of file |
| ID | Subject code |

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| **Table 2. Explanation of variable names for Study 2a** | |
| **Variable Name** | **Description** |
| **Header information** | |
| id | Subject ID |
| dfname | Name of data file |
| cbal | Randomization group: 1 = HP congruent, 2 = LP incongruent, 3 = HP incongruent, 4 = LP congruent |
| sessionDurationInMin | Number of minutes in session |
| randSeed | Random seed used for generating timing distribution |
| sessionTime | Year of session |
| distribs | Timing disctriubtion: scale\_1.5\_30 = LP, scale\_1\_20 = HP, information provided for block 1 and block 2 |
| explicit\_gut | Reported ideal giving up time |
| explicit\_dist | Not relevant for this analysis |
| **Trial data** | |
| blockNum | Current block |
| trialNum | Trial index |
| initialTime | Time of trial start, in s (cumulative) |
| itiKeypresses | Time of keypresses during inter-trial-interval, in s |
| anticKeypresses | Time of premature keypresses, in s |
| designatedWait | Time scheduled until token maturation, in s |
| rwdOnsetTime | Time of reward delivery, in s. NaN if the token was sold before it matured |
| latency | Time until token was sold, in s |
| outcomeTime | Time of sell response, in s (cumulative) |
| trialExpired | Information on whether the trial expired: 0 = sold on time, 1 = expired) |
| payoff | Trial-wise earnings in cents |
| totalEarned | Cumulative earnings in cents |
| file.name | Name of file |
| ID | Subject code |

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| **Table 3. Explanation of variable names for Study 2b** | |
| **Variable Name** | **Description** |
| subject\_id | Subject ID |
| condition | Always standard for this study |
| n\_block | Number of current block |
| n\_trialIdx | Trial index |
| f\_timing\_condition | High persistence (HP) or low persistence (LP), second block is always LP |
| n\_scheduled\_delay | Time scheduled until token maturation, in s |
| n\_trial\_start | Time of trial start, in s (cumulative) |
| n\_rewarded\_time | Time of reward delivery, in s. NaN if the token was sold before it matured (cumulative) |
| n\_sell\_time | Time of sell response, in s (cumulative), NA if token expired |
| n\_time\_waited | How long a participant waited, in s |
| RT | Reaction time to respond to a matured token, in s. NaN if the token was sold before it matured |
| trialEarnings | Trial-wise earnings in cents (might be inaccurate when keypresses happen 🡪 rely on totalEarnings instead) |
| totalEarnings | Cumulative earnings in cents |
| keypress\_times | Time of premature keypresses, in ms |

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| **Table 4. Explanation of variable names for Study 3a** | |
| **Variable Name** | **Description** |
| **Header information** | |
| id | Subject ID |
| dfname | Name of data file |
| cbal | Randomization group: 1 = HP standard, 2 = LP standard, 3 = HP discrete, 4 = LP discrete |
| sessionDurationInMin | Number of minutes in session |
| randSeed | Random seed used for generating timing distribution |
| sessionTime | Year of session |
| distribs | Timing disctriubtion: scale\_1.5\_30 = LP, scale\_1\_20 = HP |
| explicit\_gut | Reported ideal giving up time |
| explicit\_dist | Not relevant for this analysis |
| **Trial data** | |
| blockNum | Current block |
| trialNum | Trial index |
| initialTime | Time of trial start, in s (cumulative) |
| itiKeypresses | Time of keypresses during inter-trial-interval, in s |
| designatedWait | Time scheduled until token maturation, in s |
| rwdOnsetTime | Time of reward delivery, in s. NaN if the token was sold before it matured |
| latency | Time until token was sold, in s |
| outcomeTime | Time of sell response, in s (cumulative) |
| payoff | Trial-wise earnings in cents |
| totalEarned | Cumulative earnings in cents |
| file.name | Name of file |
| ID | Subject code |

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| **Table 5. Explanation of variable names for Study 3b** | |
| **Variable Name** | **Description** |
| subject\_id | Subject ID |
| condition | Manipulation: standard versus discrete/instructed |
| n\_trialIdx | Trial index |
| f\_timing\_condition | Low persistence (LP, all participants in this experiment experienced the LP timing condition) |
| n\_scheduled\_delay | Time scheduled until token maturation, in s |
| n\_trial\_start | Time of trial start, in s (cumulative) |
| n\_rewarded\_time\_fin | Time of reward delivery, in s. NaN if the token was sold before it matured (cumulative) |
| n\_sell\_time\_fin | Time of sell response, in s (cumulative) |
| n\_time\_waited\_fin | How long a participant waited, in s |
| RT | Reaction time to respond to a matured token, in s. NaN if the token was sold before it matured |
| trialEarnings | Trial-wise earnings in cents |
| totalEarnings | Cumulative earnings in cents |