
MADE Documentation

Release 1.0

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Experiments in Multi-Attribute Value-Based Choice

- Source code: <https://github.com/danieljwilson/MADE>
- Contact: daniel.j.wilson@gmail.com

1.1 Getting Started

This documentation will cover some of the basics of the project, and hopefully put you in a position to run the experiment and analyze data yourself.

1.1.1 Running the Experiment

The experiment runs using Psychopy 3.1.

The experiment protocol can be found on Dropbox at [DJW_Projects/01_MADE/PAPERWORK/MADE_v3_Protocol.gdoc](#)

The questionnaire is hosted on Qualtrix. Contact daniel.j.wilson@gmail.com for login information.

1.1.2 Updating Documentation

Note: Keep in mind that if you are using the Read the Docs documentation there is always the option to add/edit.

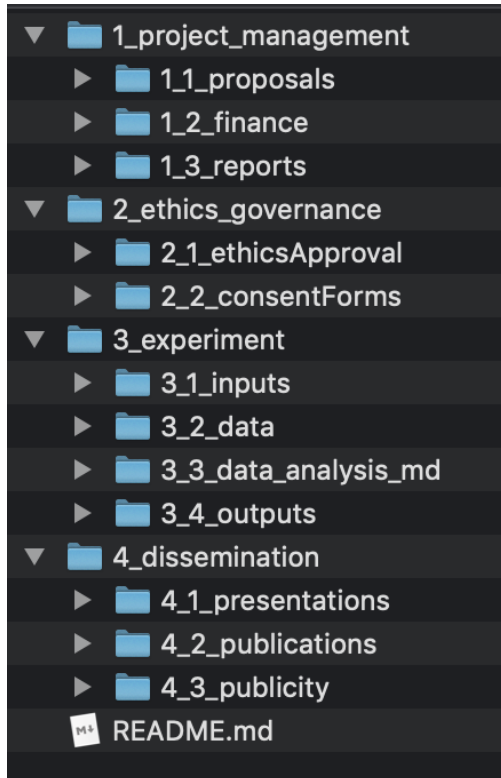
Just look for this image on the top right of the page:



Click on it (which automatically forks it), make your edits and then create a pull request.

1.2 Folder Structure

The folder structure for the project follows the format illustrated below:



1.2.1 1_project_management

This is not uploaded to git.

1.2.2 2_ethics_governance

This is not uploaded to git.

1.2.3 3_experiment

This is where most of the project lives.

3_1_inputs

Refers to the tools used to capture information, including:

- **Experiment code**

- including all assets (e.g. photos)
- Questionnaires

3_2_data

Raw data lives here.

3_3_data_analysis

This includes:

- Scripts for preprocessing and cleaning data
- Processed data
- Scripts for analyzing processed data

3_4_outputs

This includes:

- Plots
- Tables
- Markdown results section (theoretically)

1.2.4 4_dissemination

Presentations, publications and publicity live here.

1.2.5 docs

There is also a folder that has been added by [Sphinx](#), and is where all the documentation lives.

Note: Keep in mind that if you are using the Read the Docs documentation there is always the option to add/edit.

Just look for this image on the top right of the page:



Click on it (which automatically forks it), make your edits and then create a pull request.

1.3 Project Versions

All versions of the project were created in [Psychopy](#). The code for all [experiment versions](#) is on [github](#).

Note: Versions 1 and 2 were made with the Builder interface. Version 3 was written in plain Python using the Psychopy 3 toolbox.

The current iterations of the project include:

1.3.1 v1

Description

- 1,2,3 multipliers

Goal

- Disambiguate attribute weights from attribute evaluation
- Test whether value and weighting affect subject attention

1.3.2 v2

Description

- Additional multipliers (0.1, 0.5, 1, 2, 3, 10)

Goal

- Test response to fractional weights
- Calculate subjects' weighting curve to wider range of weights

1.3.3 v3.0.1

Description

- Both multipliers onscreen simultaneously (0.1, 0.33, 0.5, 1, 2, 3, 10)

Goal

- Test whether subjects bias their first/total fixation to the higher multiplier

1.3.4 v3.0.2

Description

- Accuracy incentive
- Both multipliers onscreen simultaneously (0.1, 0.33, 0.5, 1, 2, 3, 10)

Goal

- Test whether subjects try harder with an accuracy incentive, rather than a cumulative payoff
 - This avoids the most difficult trials having the lowest value/cost

1.3.5 v3.1.0

Description

- Time pressure (low)
- Accuracy incentive
- Both multipliers onscreen simultaneously (0.1, 0.33, 0.5, 1, 2, 3, 10)

Goal

- Test whether time pressure increases the likelihood of biasing first fixation toward the higher weighted stimulus

1.3.6 v3.1.1

Description

- Time pressure (low/high/no)
- Accuracy incentive
- Both multipliers onscreen simultaneously (0.1, 0.5, 1, 2, 3, 10)

Goal

- Test whether time pressure increases the likelihood of biasing first fixation toward the higher weighted stimulus under three conditions.

1.3.7 v3.2.0

Description

- Full choice (multipliers and images)
- Accuracy incentive
- (0.1, 0.5, 1, 2, 3, 10)

Goal

- Test whether a stimulus (base value) or multiplier (weight) bias exists.

1.3.8 v3.3.0

Description

- Bias test: Attractiveness
- Accuracy incentive
- (0.1, 0.5, 1, 2, 3, 10)

Goal

- Test whether subjects over-weight attractive vs. unattractive faces

1.4 Data Analysis

1.4.1 Data Processing

The [data preprocessing notebook](#) contains the code for:

- Import data from dropbox
- Add columns for analysis
- **Clean data**
 - Remove poor accuracy subjects
 - Remove really long duration trials

Note: This is a Jupyter notebook. However it is using an R kernel. It is best viewed using [Jupyter Lab](#).

1.4.2 Behavioral

The [behavioral analysis notebook](#) contains the code for:

- **Basic Psychometrics**
 - RT
 - Fixations
 - P(accept) offer
- Performance
- **Attention**
 - First Fixation
 - First Multiplier

- Middle Fixation
- Final Fixation
- Multiplier Difference
- Multiplier weighting
- Choice ~ Attention & Value

Note: This is a Jupyter notebook. However it is using an R kernel. It is best viewed using [Jupyter Lab](#).

1.4.3 DDM

A number of versions of an attentional drift diffusion model (aDDM) were simulated and fit to the data.

Versions

The versions that have been iterated through, and their fits, can be viewed via this Jupyter notebook [add notebook].

The data from these simulations lives [update location]

Note that all simulations were run using SciNet.

Running on a Cluster

In order to run on a cluster (like SciNet) you will need an account.

More information can be found [here](#) about options.