

Documentation of the Folder Structure

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1. Scope

This document describes the folder structure of the VISFORTH+ PsychArchives deposit in [PsychArchives/](#). It summarizes the purpose of each folder, the main file types, repeated file naming patterns, and generated-output locations.

System files such as `.DS_Store`, the internal `Experiment/.git/` folder, and this table-of-contents source/PDF are not included in the file counts below. They may be present locally but should not be interpreted as curated project contents.

2. Top-Level Overview

Folder	Count	Main file types	Contents
Code/	55 files; 6 subfolders	.ipynb : 1, .py : 50, .txt : 4	Python source code for preprocessing, model evaluation, posthoc validation, and figure generation
Data/	602 files; 478 subfolders	.csv : 478, .json : 1, .pdf : 1, .qmd : 1, .tsv : 119, .txt : 2	De-identified source data, processed analysis-ready data, codebook files, and stimulus metadata
Evaluation/	188 files; 2 subfolders	.csv : 34, .pkl : 154	Observed-data model-evaluation outputs for commitment to search and number of unique clicks
Experiment/	62 files; 5 subfolders	.flac : 18, .gitignore : 1, .html : 1, .js : 2, .mp3 : 1, .png : 18, .psyexp : 2, .py : 1, .xlsx : 18	PsychoPy/ PsychoJS experiment files, instructions, randomization files, sounds, and stimuli
Figures/	182 files; 21 subfolders	.pdf : 178, .png : 1, .pptx : 3	Rendered main, supplemental, task, and posterior predictive figure files
Posthoc/	17004 files; 6 subfolders	.pkl : 17004	Posthoc validation and model-recovery simulation objects

3. [Code/](#) Folder

The [Code/](#) directory contains Python source code for data preprocessing, model estimation/evaluation, posthoc model validation, and figure generation.

Path	Files	Subfolders	Contents
<code>Code/all/</code>	2	0	Combined figure-generation script and requirements file
<code>Code/pre/</code>	11	0	Data preprocessing, quality checks, sample characteristics, experimental-design figures, and shared figure utilities
<code>Code/com/</code>	20	1	Commitment-to-search model code, evaluation scripts, posthoc validation, and visualizations
<code>Code/nuc/</code>	22	1	Number-of-unique-clicks model code, MVT-related scripts, posthoc validation, and visualizations

3.1 Code/pre/

Path	Contents
<code>Code/pre/00_data_preprocessing.ipynb</code>	Notebook for questionnaire, subjective-rating, and participant-level preprocessing
<code>Code/pre/01_apply_transform.py</code>	Applies the source-to-processed behavioral event-file transformation
<code>Code/pre/02_quality_check.py</code>	Runs quality checks and produces trial-exclusion information
<code>Code/pre/03_sample_characteristics.py</code>	Computes sample-characteristic summaries
<code>Code/pre/04_experimental_design.py</code>	Generates experimental-design figure material
<code>Code/pre/04_single_trial_event_fig.py</code>	Generates the single-trial event illustration

Path	Contents
<code>Code/pre/05_single_trial_mvt_fig.py</code>	Generates the single-trial MVT illustration
<code>Code/pre/06_acc_conf_fig.py</code>	Generates accuracy/confidence figure material
<code>Code/pre/figures_utility.py</code>	Shared preprocessing/task figure utilities
<code>Code/pre/requirements.txt</code>	Python dependencies for preprocessing/task scripts
<code>Code/pre/transform_utility.py</code>	Utility functions for transforming source output into processed behavioral events

3.2 Code/com/

Path	Contents
<code>Code/com/com_run_evaluation.py</code>	Runs commitment-to-search model evaluation
<code>Code/com/com_run_posthoc.py</code>	Runs commitment-to-search posthoc validation and model recovery
<code>Code/com/com_viz_correlations.py</code>	Plots individual-difference correlations for commitment-to-search analyses
<code>Code/com/com_viz_data_evaluation.py</code>	Plots observed commitment-to-search behavior
<code>Code/com/com_viz_model_evaluation.py</code>	Plots commitment-to-search model comparison results
<code>Code/com/com_viz_parameter_evaluation.py</code>	Plots commitment-to-search parameter estimates
<code>Code/com/com_viz_posterior_prediction.py</code>	Plots participant-level posterior predictive checks for commitment models
<code>Code/com/com_viz_posthoc.py</code>	Plots commitment-to-search posthoc validation and recovery results
<code>Code/com/requirements.txt</code>	Python dependencies for commitment-to-search scripts

The `Code/com/com/` package contains commitment-to-search helper modules:

```
com_agent.py
com_bmc.py
com_definition.py
```

```

com_estimation.py
com_evaluation.py
com_figures.py
com_posthoc.py
com_prepare.py
com_simulation.py
com_statistics.py
com_task.py

```

3.3 Code/nuc/

Path	Contents
Code/nuc/nuc_run_evaluation.py	Runs number-of-unique-clicks model evaluation
Code/nuc/nuc_run_posthoc.py	Runs number-of-unique-clicks posthoc validation and model recovery
Code/nuc/nuc_viz_correlations.py	Plots individual-difference correlations for number-of-unique-clicks analyses
Code/nuc/nuc_viz_data_evaluation.py	Plots observed number-of-unique-clicks behavior
Code/nuc/nuc_viz_model_evaluation.py	Plots number-of-unique-clicks model comparison results
Code/nuc/nuc_viz_mvt_agent.py	Plots MVT-inspired agent behavior
Code/nuc/nuc_viz_mvt_optimality.py	Plots MVT optimality-related analyses
Code/nuc/ nuc_viz_parameter_evaluation.py	Plots number-of-unique-clicks parameter estimates
Code/nuc/ nuc_viz_posterior_prediction.py	Plots participant-level posterior predictive checks for number-of-unique-clicks models
Code/nuc/nuc_viz_posthoc.py	Plots number-of-unique-clicks posthoc validation and recovery results
Code/nuc/requirements.txt	Python dependencies for number-of-unique-clicks scripts

The Code/nuc/nuc/ package contains number-of-unique-clicks helper modules:

```

nuc_agent.py
nuc_bmc.py

```

```
nuc_definition.py
nuc_estimation.py
nuc_evaluation.py
nuc_figures.py
nuc_posthoc.py
nuc_prepare.py
nuc_simulation.py
nuc_statistics.py
nuc_task.py
```

3.4 Analysis Package File Roles

File pattern	Role
*_agent.py	Agent definitions and likelihood-relevant model logic
*_bmc.py	BIC/model-comparison utilities
*_definition.py	Model, path, and analysis definitions
*_estimation.py	Parameter estimation utilities
*_evaluation.py	Evaluation data structures and model-evaluation helpers
*_figures.py	Shared plotting helpers
*_posthoc.py	Posthoc simulation, validation, and recovery utilities
*_prepare.py	Data preparation functions for analysis/model fitting
*_simulation.py	Simulation utilities
*_statistics.py	Statistical helper functions
*_task.py	Task-state and task-structure helpers

4. Data/ Folder

The `Data/` directory contains the de-identified source files, processed analysis-ready files, data codebook, and task stimulus metadata.

Path	Files	Subfolders	Contents
<code>Data/source/</code>	119	119	De-identified Pavlovia/PsychoPy

Path	Files	Subfolders	Contents
			source exports; one CSV per participant
Data/processed/	478	357	Processed BIDS-oriented behavioral event files, subjective answer files, and trial-exclusion documentation
Data/Codebook.qmd	1	0	Source file for the VISFORTH+ data codebook
Data/Codebook.pdf	1	0	PDF rendering of the VISFORTH+ data codebook
Data/Codebook_source-columns.csv	1	0	Complete source-column inventory for the wide PsychoPy/PsychoJS source files
Data/README_VISFORTH+_data.txt	1	0	Dataset-level README for PsychArchives
Data/patches.json	1	0	Patch/stimulus metadata used by task and analysis code

Source and processed data file names follow these patterns:

```

Data/source/sub-XXX/
visforthplus_[vp/pro]_[YYYY-MM-DD]_[time stamp].csv

Data/processed/sub-XXX/...
Data/processed/__trial_exclusion__.csv
Data/processed/README_exclusion.txt

```

4.1 Processed Data Files

Path	Files	Contents
Data/processed/sub-XXX/beh/	238	Processed long-format behavioral event data; CSV and TSV versions for each participant
Data/processed/sub-XXX/subj/	238	Block-level and experiment-level subjective/questionnaire answer files
Data/processed/___trial_exclusion__.csv	1	Participant/set-size/trial combinations excluded from downstream aggregation/modeling
Data/processed/README_exclusion.txt	1	Explanation of trial-exclusion criteria

Processed data file names follow these patterns:

```
Data/processed/sub-XXX/beh/  
sub-XXX_task-visforth+_events.csv  
sub-XXX_task-visforth+_events.tsv  
  
Data/processed/sub-XXX/subj/  
sub-XXX_visforth+_answers_block.csv  
sub-XXX_visforth+_answers_exp.csv  
  
Data/processed/___trial_exclusion__.csv  
Data/processed/README_exclusion.txt
```

Detailed variable-level documentation is provided in [Data/Codebook.qmd](#), [Data/Codebook.pdf](#), and [Data/Codebook_source-columns.csv](#).

5. Evaluation/ Folder

The `Evaluation/` directory stores observed-data model-evaluation results for the commitment-to-search analysis (`com`) and the number-of-unique-clicks analysis (`nuc`).

Path	Files	Main file types	Contents
Evaluation/com/	104	.csv: 16, .pkl: 88	Commitment-to-search model-evaluation outputs
Evaluation/nuc/	84	.csv: 18, .pkl: 66	Number-of-unique-clicks model-evaluation outputs

5.1 Evaluation File Groups

File group	Files	Contents
MLE_eva_A0.csv through MLE_eva_A8.csv	9 per analysis folder	Model-specific maximum-likelihood estimate summaries
df_bic_summary.csv , df_bic_participants.csv , df_win_p.csv	3 per analysis folder	BIC summary, participant-level BIC information, and winning-model weights
df_posthoc_*	Commitment: 4 files; number of unique clicks: 5 files	Posthoc model-comparison and recovery summary tables
df_mvt_optimality_A7.csv	Number-of-unique-clicks folder only	MVT optimality output for A7
eva_config.pkl	1 per analysis folder	Serialized evaluation configuration
sub-XXX_eva.pkl	Commitment: 87 files; number of unique clicks: 65 files	Participant-specific serialized model-evaluation objects

6. Posthoc/ Folder

The [Posthoc/](#) directory contains serialized posthoc validation and model- recovery outputs generated from empirically informed simulations.

Path	Files	Contents
Posthoc/com/validation/	8701	Participant-winning-model posthoc validation outputs for commitment to search

Path	Files	Contents
Posthoc/com/recovery/	901	Empirically informed model-recovery outputs for commitment to search
Posthoc/nuc/validation/	6501	Participant-winning-model posthoc validation outputs for number of unique clicks
Posthoc/nuc/recovery/	901	Empirically informed model-recovery outputs for number of unique clicks

Typical posthoc file names use the pattern:

```
PXXX_AX_posthoc_R.pkl
```

where `XXX` is the participant number, `AX` is the generating or winning model, and `R` is the repetition index. Each posthoc subfolder also contains `sim_config_100.pkl`, which stores the simulation configuration.

7. Experiment/ Folder

The `Experiment/` directory contains the PsychoPy/PsychoJS online experiment and its task assets.

Path	Files	Contents
Experiment/index.html	1	PsychoJS experiment entry point
Experiment/ visforthplus_pro.js, Experiment/ visforthplus_pro-legacy- browsers.js	2	PsychoJS task scripts
Experiment/ visforthplus_pro.psyexp, Experiment/ visforthplus_pro_legacy.psyexp	2	PsychoPy Builder experiment source files
Experiment/.gitignore	1	Experiment-folder git ignore file
Experiment/Code/	1	Experiment-support Python code

Path	Files	Contents
Experiment/Instructions/	8	Instruction images used by the task
Experiment/Randomization/	18	Spreadsheet files defining randomized task conditions
Experiment/Sounds/	18	Sound files used in the experiment
Experiment/Stimuli/	11	Image and audio stimulus files used by the experiment

8. Figures/ Folder

The **Figures/** directory contains rendered project figures, selected editable PowerPoint files, and participant-level posterior predictive figures.

Path	Files	Main file types	Contents
Figures/all/	5	.pdf: 4, .pptx: 1	Composite/cross-analysis figures, including combined correlation, data-evaluation, model-evaluation, and experimental-paradigm files
Figures/com/	95	.pdf: 95	Commitment-to-search figures and participant-level posterior predictive figures
Figures/nuc/	74	.pdf: 74	Number-of-unique-clicks figures and participant-level posterior predictive figures
Figures/tsk/	8	.pdf: 5, .png: 1, .pptx: 2	Task-design, single-trial event, single-trial MVT, and

Path	Files	Main file types	Contents
			accuracy/ confidence figures

8.1 Figure File Groups

File group	Files	Contents
Figures/all/*.pdf	4	Cross-analysis rendered PDF figures
Figures/all/experimental_paradigm.pptx	1	Editable PowerPoint source for the experimental-paradigm figure
Figures/com/com_*.pdf	8	Commitment-to-search rendered summary figures in the direct Figures/com/ folder
Figures/com/psp/A*/com_sub-XXX_psp.pdf	87	Participant-level commitment posterior predictive plots grouped by winning model
Figures/nuc/nuc_*.pdf	9	Number-of-unique-clicks rendered summary figures in the direct Figures/nuc/ folder
Figures/nuc/psp/A*/nuc_sub-XXX_psp.pdf	65	Participant-level number-of-unique-clicks posterior predictive plots grouped by winning model
Figures/tsk/*	8	Rendered and editable task/design figure files

8.2 Posterior Predictive Figure Groups

Commitment-to-search posterior predictive figures are grouped by the participant-specific winning model:

Path	Files	Contents
Figures/com/psp/A0/	50	A0 participant-specific posterior predictive figures
Figures/com/psp/A1/	2	A1 participant-specific posterior predictive figures
Figures/com/psp/A2/	2	A2 participant-specific posterior predictive figures
Figures/com/psp/A3/	6	A3 participant-specific posterior predictive figures
Figures/com/psp/A5/	26	A5 participant-specific posterior predictive figures
Figures/com/psp/A6/	1	A6 participant-specific posterior predictive figures

Number-of-unique-clicks posterior predictive figures are grouped by the participant-specific winning model:

Path	Files	Contents
Figures/nuc/psp/A0/	7	A0 participant-specific posterior predictive figures
Figures/nuc/psp/A1/	1	A1 participant-specific posterior predictive figures
Figures/nuc/psp/A2/	1	A2 participant-specific posterior predictive figures
Figures/nuc/psp/A3/	1	A3 participant-specific posterior predictive figures
Figures/nuc/psp/A4/	1	A4 participant-specific posterior predictive figures
Figures/nuc/psp/A5/	4	A5 participant-specific posterior predictive figures
Figures/nuc/psp/A6/	2	A6 participant-specific posterior predictive figures
Figures/nuc/psp/A7/	27	A7 participant-specific posterior predictive figures
Figures/nuc/psp/A8/	21	A8 participant-specific posterior predictive figures

9. File-Type Summary

File type	Files	Primary top-level locations	Interpretation
.csv	512	Data/, Evaluation/	Comma-separated data tables, evaluation summaries, and source-column inventories
.flac	18	Experiment/	Audio files used by the online experiment
.html	1	Experiment/	PsychoJS experiment entry point
.ipynb	1	Code/	Jupyter notebook for questionnaire and preprocessing work
.js	2	Experiment/	PsychoJS experiment scripts
.json	1	Data/	Stimulus/patch metadata
.mp3	1	Experiment/	Audio stimulus file
.pdf	179	Data/, Figures/	Rendered documentation, figures, and posterior predictive plots
.pkl	17158	Evaluation/, Posthoc/	Serialized Python model-evaluation, posthoc validation, and recovery objects
.png	19	Experiment/, Figures/	Instruction, stimulus, or figure-supporting images

File type	Files	Primary top-level locations	Interpretation
<code>.pptx</code>	3	<code>Figures/</code>	Editable PowerPoint figure files
<code>.psyexp</code>	2	<code>Experiment/</code>	PsychoPy Builder experiment files
<code>.py</code>	51	<code>Code/</code> , <code>Experiment/</code>	Python source code
<code>.qmd</code>	1	<code>Data/</code>	Quarto documentation source files
<code>.tsv</code>	119	<code>Data/</code>	Tab-separated processed behavioral event files
<code>.txt</code>	6	<code>Code/</code> , <code>Data/</code>	Plain-text README or requirements files
<code>.xlsx</code>	18	<code>Experiment/</code>	Spreadsheet files for task randomization
<code>.gitignore</code>	1	<code>Experiment/</code>	Git ignore configuration for the experiment folder

10. Notes for Reuse

The main entry points for reproducing analyses are the scripts in `Code/pre/`, `Code/com/`, and `Code/nuc/`. The processed behavioral and subjective data are stored in `Data/processed/`; the original de-identified Pavlovia/PsychoPy exports are stored in `Data/source/`. Model-evaluation summaries are stored in `Evaluation/`, posthoc simulation objects are stored in `Posthoc/`, and rendered figures are stored in `Figures/`.