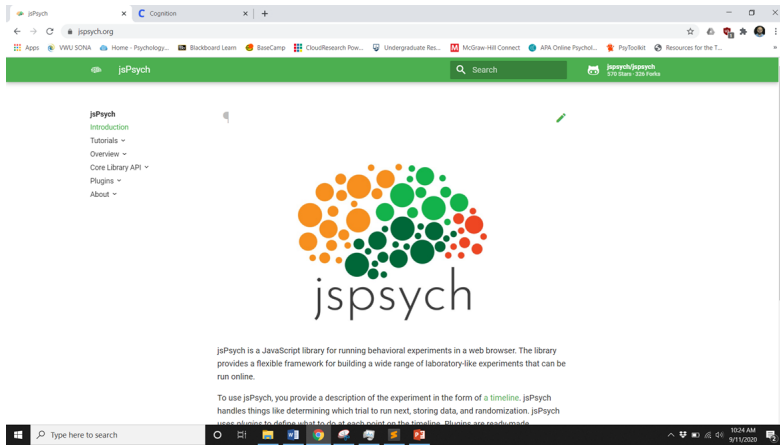




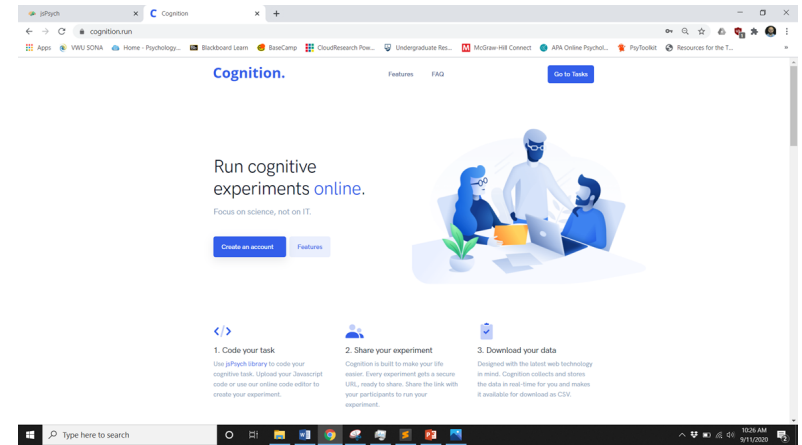
Free Tools for Developing Online Experiments

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jsPsych (jpspsych.org)



Cognition.run



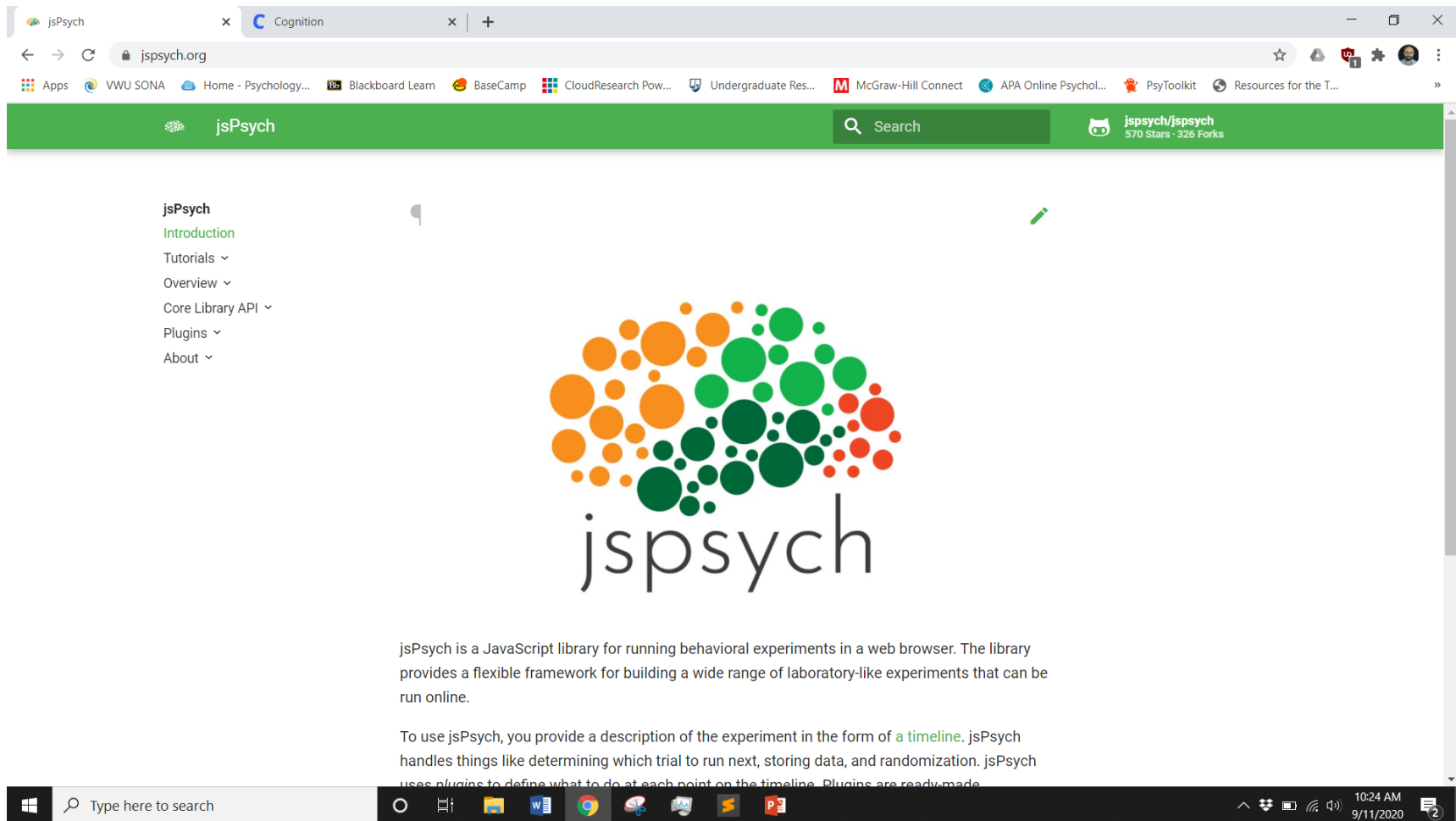
JavaScript library for web-based behavioral research

Download the library at <https://github.com/jpspsych/jsPsych/>

Online experiment platform that utilizes the jsPsych architecture.

Easily host experiments and store data online

1. Get started by visiting jspsych.org



The screenshot shows a web browser window with the URL `jspsych.org`. The browser's address bar and tabs are visible at the top. The website's navigation bar is green and contains the `jsPsych` logo, a search bar, and a GitHub repository link for `jspsych/jspsych` with 570 stars and 326 forks. On the left side, a vertical menu lists the following items: `jsPsych`, `Introduction`, `Tutorials` (with a dropdown arrow), `Overview` (with a dropdown arrow), `Core Library API` (with a dropdown arrow), `Plugins` (with a dropdown arrow), and `About` (with a dropdown arrow). The main content area features a large logo consisting of a cluster of orange, green, and red circles above the text `jspsych`. Below the logo, there is a paragraph of text: "jsPsych is a JavaScript library for running behavioral experiments in a web browser. The library provides a flexible framework for building a wide range of laboratory-like experiments that can be run online." This is followed by another paragraph: "To use jsPsych, you provide a description of the experiment in the form of a [timeline](#). jsPsych handles things like determining which trial to run next, storing data, and randomization. jsPsych uses *plugins* to define what to do at each point on the timeline. Plugins are ready-made". The Windows taskbar is visible at the bottom of the screen, showing the search bar and several application icons.

jsPsych Plugins (all included in cognition.run)

jspsych-animation
jspsych-audio-button-response
jspsych-audio-keyboard-response
jspsych-audio-slider-response
jspsych-call-function
jspsych-categorize-animation
jspsych-categorize-html
jspsych-categorize-image
jspsych-cloze
jspsych-external-html
jspsych-free-sort
jspsych-fullscreen
jspsych-html-button-response
jspsych-html-keyboard-response
jspsych-html-slider-response
jspsych-iat-html
jspsych-iat-image
jspsych-image-button-response
jspsych-image-keyboard-response
jspsych-image-slider-response
jspsych-instructions
jspsych-rdk
jspsych-reconstruction
jspsych-resize
jspsych-same-different-html
jspsych-same-different-image
jspsych-serial-reaction-time
jspsych-serial-reaction-time-mouse
jspsych-survey-html-form
jspsych-survey-likert
jspsych-survey-multi-choice
jspsych-survey-multi-select
jspsych-survey-text
jspsych-video-button-response
jspsych-video-keyboard-response
jspsych-video-slider-response
jspsych-visual-search-circle
jspsych-vsl-animate-occlusion
jspsych-vsl-grid-scene

2. Use jsPsych's Library to build your task

The screenshot shows a web browser displaying the jsPsych website. The page title is 'jpspsych-html-keyboard-response'. The main content area contains the following text:

This plugin displays HTML content and records responses generated with the keyboard. The stimulus can be displayed until a response is given, or for a pre-determined amount of time. The trial can be ended automatically if the subject has failed to respond within a fixed length of time.

Parameters

Parameters with a default value of undefined must be specified. Other parameters can be left unspecified if the default value is acceptable.

Parameter	Type	Default Value	Description
stimulus	HTML string	undefined	The string to be displayed.
choices	array of keycodes	jsPsych.ALL_KEYS	This array contains the keys that the subject is allowed to press in order to respond to the stimulus. Keys can be specified as their numeric key code or as characters (e.g., 'a', 'q'). The default value of jsPsych.ALL_KEYS means that all keys will be accepted as valid responses. Specifying jsPsych.NO_KEYS will mean that no responses are allowed.

On the right side of the page, there is a 'Table of contents' section with the following links: Parameters, Data Generated, and Examples. Under 'Examples', there are two entries: 'Displaying trial until subject gives a response' and 'Showing a 1 second fixation cross; no response allowed'.

The left sidebar shows a navigation menu for jsPsych, including sections for Introduction, Tutorials, Overview, Core Library API, and Plugins. The 'Plugins' section is expanded, listing various plugins such as jspsych-animation, jspsych-audio-button-response, jspsych-audio-keyboard-response, jspsych-audio-slider-response, jspsych-call-function, jspsych-categorize-animation, jspsych-categorize-html, jspsych-categorize-image, jspsych-cloze, jspsych-external-html, jspsych-free-sort, jspsych-fullscreen, jspsych-html-button-response, and jspsych-html-keyboard-response (which is highlighted).

The browser's address bar shows the URL 'jpspsych.org/plugins/jpspsych-html-keyboard-response/'. The Windows taskbar at the bottom shows the time as 3:48 PM on 9/12/2020.

Parameters

Parameters with a default value of undefined must be specified. Other parameters can be left unspecified if the default value is acceptable.

Parameter	Type	Default Value	Description
stimulus	HTML string	<i>undefined</i>	The string to be displayed.
choices	array of keycodes	<code>jsPsych.ALL_KEYS</code>	This array contains the keys that the subject is allowed to press in order to respond to the stimulus. Keys can be specified as their numeric key code or as characters (e.g., 'a', 'q'). The default value of <code>jsPsych.ALL_KEYS</code> means that all keys will be accepted as valid responses. Specifying <code>jsPsych.NO_KEYS</code> will mean that no responses are allowed.
prompt	string	null	This string can contain HTML markup. Any content here will be displayed below the stimulus. The intention is that it can be used to provide a reminder about the action the subject is supposed to take (e.g., which key to press).
stimulus_duration	numeric	null	How long to display the stimulus in milliseconds. The visibility CSS property of the stimulus will be set to <code>hidden</code> after this time has elapsed. If this is null, then the stimulus will remain visible until the trial ends.
			before ending the trial in milliseconds. If the subject fails to make a response before this timer is reached, the subject's response will be recorded as null for the trial and the trial will end. If the value of this parameter is null, then the trial will wait for a response indefinitely.
response_ends_trial	boolean	true	If true, then the trial will end whenever the subject makes a response (assuming they make their response before the cutoff specified by the <code>timing_response</code> parameter). If false, then the trial will continue until the value for <code>trial_duration</code> is reached. You can use this parameter to force the subject to view a stimulus for a fixed amount of time, even if they respond before the time is complete.

Data Generated

In addition to the [default data collected by all plugins](#), this plugin collects the following data for each trial.

Name	Type	Value
key_press	numeric	Indicates which key the subject pressed. The value is the numeric key code corresponding to the subject's response.
rt	numeric	The response time in milliseconds for the subject to make a response. The time is measured from when the stimulus first appears on the screen until the subject's response.
stimulus	string	The HTML content that was displayed on the screen.

Examples

Displaying trial until subject gives a response

```
var trial = {
  type: 'html-keyboard-response',
  stimulus: '<p>Running</p>',
  choices: ['e', 'i'],
  prompt: "<p>Is this activity healthy or unhealthy? Press 'e' for healthy and 'i";
```

Showing a 1 second fixation cross; no response allowed

```
var trial = {
  type: 'html-keyboard-response',
  stimulus: '<p style="font-size: 48px;">+</p>',
  choices: jsPsych.NO_KEYS,
  trial_duration: 1000,
};
```

No server, no database, no problem

3. Go to Cognition.run

jsPsych x Cognition x +

cognition.run

Apps WU SONA Home - Psychology... Blackboard Learn BaseCamp CloudResearch Pow... Undergraduate Res... McGraw-Hill Connect APA Online Psychol... PsyToolkit Resources for the T...

Cognition. Features FAQ [Go to Tasks](#)

Run cognitive experiments online.

Focus on science, not on IT.

[Create an account](#) [Features](#)

- 1. Code your task**
Use [jsPsych library](#) to code your cognitive task. Upload your Javascript code or use our online code editor to create your experiment.
- 2. Share your experiment**
Cognition is built to make your life easier. Every experiment gets a secure URL, ready to share. Share the link with your participants to run your experiment.
- 3. Download your data**
Designed with the latest web technology in mind. Cognition collects and stores the data in real-time for you and makes it available for download as CSV.

Type here to search

10:26 AM 9/11/2020

Tasks

Account

+ New task

Demo

Updated: 2 days ago

[Source code](#) [Duplicate task](#)

1

Completed tasks

Clone an example task

jspsych.org Tutorials: Hello world

[Clone task](#)

jspsych.org Tutorials: Simple Reaction Time Task

[Clone task](#)

Redirect participant after finish

[Clone task](#)

4. Paste your jsPSYCH code into the script window

The screenshot displays the Cognition editor interface. The browser address bar shows the URL `381j04mlmq.cognition.run/editor`. The page title is "Tasks / Demo / Edit".

The interface is divided into several sections:

- jsPsych version:** A dropdown menu is set to "6.1.0".
- External JS/CSS:** Includes "Upload files" and "Browse" buttons.
- Stimuli:** Includes "Upload files" and "Browse" buttons.
- Task Code:** A code editor containing the following jsPsych code:

```
1 var PA_Learning = {
2   timeline: [
3     {
4       type: 'html-keyboard-response', //Initial Fixation
5       stimulus: '<p style="font-size: 64px;">+</p>',
6       choices: jsPsych.NO_KEYS,
7       trial_duration: 2000
8     },
9     {
10      type: 'html-keyboard-response', //Study Trial
11      stimulus: jsPsych.timelineVariable('WordPairs'),
12      choices: jsPsych.NO_KEYS,
13      trial_duration: 5000
14    },
15    {
16      type: 'html-slider-response', //JOL
17      stimulus: '<p><b>How likely is it that you will remember the w
18      labels: ['0%', '10%', '20%', '30%', '40%', '50%', '60%', '70%'
19      prompt: '<p></p>'
20    },
21  ],
22  timeline_variables: [
23    { WordPairs: '<p style="font-size: 48px;">OAK - TREE</p>' },
24    { WordPairs: '<p style="font-size: 48px;">PLASMA - BLOOD</p>' },
25    { WordPairs: '<p style="font-size: 48px;">TROUT - FISH</p>' },
26    { WordPairs: '<p style="font-size: 48px;">PEPPER - DENIM</p>' },
27    { WordPairs: '<p style="font-size: 48px;">HOG - STONE</p>' },
28    { WordPairs: '<p style="font-size: 48px;">ARM - HOUSE</p>' }
29  ],
30  randomize_order: true
31 };
32
33
34 jsPsych.init({
35   timeline: [PA_Learning],
36   on_finish: function() {
37     //jsPsych.data.sendData();
38   }
39 });
```
- Task Preview:** A large empty white area with a large black plus sign (+) in the center, indicating that the preview content is not yet rendered.
- Task Preview Controls:** Includes "Disable preview", "Refresh", "Add url params", and "Set condition" buttons.
- Recorded data:** A section for viewing recorded data, currently empty.

The Windows taskbar at the bottom shows the search bar, task view, and system tray with the time 9:57 PM and date 9/13/2020.

5. Preview and debug your code in real time

The screenshot displays the Cognition editor interface. The top navigation bar includes "Tasks / Demo / Edit" and "Account". The main workspace is divided into three panels:

- jsPsych version:** A dropdown menu showing "6.1.0".
- External JS/CSS:** Buttons for "Upload files" and "Browse".
- Stimuli:** Buttons for "Upload files" and "Browse".

The **Task Code** panel shows the following JavaScript code:

```
1 var PA_Learning = {
2   timeline: [
3     {
4       type: 'html-keyboard-response', ///Initial Fixation
5       stimulus: '<p style="font-size: 64px;">+</p>',
6       choices: jsPsych.NO_KEYS,
7       trial_duration: 2000
8     },
9     {
10      type: 'html-keyboard-response', ///Study Trial
11      stimulus: jsPsych.timelineVariable('WordPairs'),
12      choices: jsPsych.NO_KEYS,
13      trial_duration: 5000
14    },
15    {
16      type: 'html-slider-response', ///JOL
17      stimulus: '<p><b>What is the likelihood that you will remember
18 labels: ['0%', '10%', '20%', '30%', '40%', '50%', '60%', '70%',
19 prompt: '<p></p>'
20    },
21  ],
22  timeline_variables: [
23    { WordPairs: '<p style="font-size: 48px;">OAK - TREE</p>' },
24    { WordPairs: '<p style="font-size: 48px;">PLASMA - BLOOD</p>' },
25    { WordPairs: '<p style="font-size: 48px;">TROUT - FISH</p>' },
26    { WordPairs: '<p style="font-size: 48px;">PEPPER - DENIM</p>' },
27    { WordPairs: '<p style="font-size: 48px;">HOG - STONE</p>' },
28    { WordPairs: '<p style="font-size: 48px;">ARM - HOUSE</p>' }
29  ],
30  randomize_order: true
31 };
32
33
34 jsPsych.init({
35   timeline: [PA_Learning],
36   on_finish: function() {
37     jsPsych.data.displayData();
38   }
39 });
```

The **Task Preview** panel shows the rendered output: "OAK - TREE". Below the preview are controls: "Disable preview", "Refresh", "Add url params", and "Set condition".

The **Recorded data** panel shows a table with the following data:

rt	stimulus	key_press	trial_type	trial_index	time_elapsed	internal_r
	<p style="f...		html-keybo...	12	66823	0.0-0.0-0
955.12000	<p style="f...		html-slid...	11	44540	0.0-0.0-0

At the bottom of the interface, there are "Clear" and "Download" buttons. The Windows taskbar at the very bottom shows the time as 10:00 PM on 9/13/2020.

jsPsych version ?

jsPsych library version: 6.1.0

External JS/CSS ?

Upload files Browse

Stimuli

Upload files Browse

Hide

```

1 var PA_Learning = {
2   timeline: [
3     {
4       type: 'html-keyboard-response', ///Initial Fixation
5       stimulus: '<p style="font-size: 64px;">+</p>',
6       choices: jsPsych.NO_KEYS,
7       trial_duration: 2000
8     },
9     {
10      type: 'html-keyboard-response', ///Study Trial
11      stimulus: jsPsych.timelineVariable('WordPairs'),
12      choices: jsPsych.NO_KEYS,
13      trial_duration: 5000
14    },
15    {
16      type: 'html-slider-response', ///JOL
17      stimulus: '<p><b>what is the likelihood that you will remember
18      labels: ['0%', '10%', '20%', '30%', '40%', '50%', '60%', '70%',
19      prompt: "<p></p>"
20    },
21  ],
22  timeline_variables: [
23    { WordPairs: '<p style="font-size: 48px;">OAK - TREE</p>' },
24    { WordPairs: '<p style="font-size: 48px;">PLASMA - BLOOD</p>' },
25    { WordPairs: '<p style="font-size: 48px;">TROUT - FISH</p>' },
26    { WordPairs: '<p style="font-size: 48px;">PEPPER - DENIM</p>' },
27    { WordPairs: '<p style="font-size: 48px;">HOG - STONE</p>' },
28    { WordPairs: '<p style="font-size: 48px;">ARM - HOUSE</p>' }
29  ],
30  randomize_order: true
31 };
32
33
34 jsPsych.init({
35   timeline: [PA_Learning],
36   on_finish: function() {
37     jsPsych.data.displayData()
38   }
39 });

```

Task Preview ?

What is the likelihood that you will remember the word pair you just studied on the upcoming test?

Please move the slider to a number between 0% and 100%.

Continue

Disable preview Refresh Add url params Set condition

Recorded data ?

rt	stimulus	key_press	trial_type	trial_index	time_elapsed	internal_node_id
	<p style="f...		html-keybo...	1	7258	0.0-0.0-1.0
	<p style="f...		html-keybo...	0	2002	0.0-0.0-0.0

Clear Download

Experiment Code: Basic JS and HTML

```
1 var PA_Learning = {
2   timeline: [
3     {
4       type: 'html-keyboard-response', //Initial Fixation
5       stimulus: '<p style="font-size: 64px;">+</p>',
6       choices: jsPsych.NO_KEYS,
7       trial_duration: 2000
8     },
9     {
10      type: 'html-keyboard-response', //Study Trial
11      stimulus: jsPsych.timelineVariable('WordPairs'),
12      choices: jsPsych.NO_KEYS,
13      trial_duration: 5000
14    },
15    {
16      type: 'html-slider-response', //JOL
17      stimulus: '<p><b>What is the likelihood that you will remember the word pair you just studied on the upcoming test?</b> <br>Please move the slider to a number between 0% and 100%.</br></br></p>',
18      labels: ['0%', '10%', '20%', '30%', '40%', '50%', '60%', '70%', '80%', '90%', '100%'],
19      prompt: "<p></p>"
20    },
21  ],
22  timeline_variables: [
23    { WordPairs: '<p style="font-size: 48px;">OAK - TREE</p>' },
24    { WordPairs: '<p style="font-size: 48px;">PLASMA - BLOOD</p>' },
25    { WordPairs: '<p style="font-size: 48px;">TROUT - FISH</p>' },
26    { WordPairs: '<p style="font-size: 48px;">PEPPER - DENIM</p>' },
27    { WordPairs: '<p style="font-size: 48px;">HOG - STONE</p>' },
28    { WordPairs: '<p style="font-size: 48px;">ARM - HOUSE</p>' }
29  ],
30  randomize_order: true
31 };
32
33
34 jsPsych.init({
35   timeline: [PA_Learning],
36   on_finish: function() {
37     jsPsych.data.displayData();
38   },
39   default iti: 250
40 });
```

Link

Share this link with your participants.

<https://381j04mlmq.cognition.run>

 **6. Your study link**

Design

Edit your task paradigm, submit your stimuli and define the Informed Consent.

[Configuration](#) [Source code](#) [Informed consent](#) [Collaborators](#)

Results

Access your recording data and see new recordings.

[Download CSV](#) [Download all CSV](#) [?](#)

 **7. Your data**

Id	View	Date	Status	Download	Delete
#1	View	2 days ago	Finished	Download CSV	Delete this run