# Participant Training

**Instructions**

* We run eleven (11) sessions, which will take approximately 150 minutes.
* Ensure the subject always fixates on the central dot (called the “fix dot”).

Summary of **script arguments**:

>> create\_stimuli(paramstxt, debug, session, discrete\_trials, integration\_window, ordered\_coherences, vert\_motion);

>> rdk\_continuous\_motion(paramstxt, training, session, rewardbar, annulus, subid, age, gender, feedback);

* You may need to set *debug* in **create\_stimuli()** to 2 instead of 0 in the below code if you have trouble with PsychToolbox measuring your refresh rate. (This sometimes happens, we don’t know why.) Ideally this **shouldn’t** happen because then stimulus presentations and durations won’t be exact or consistent, so if it does happen, I suggest you debug it as much as possible.
* If you have more than one screen in your training/experiment rooms, and the task is not showing up on the screen you want, you must go into both **discrete\_rdk\_trials\_training()** and **present\_rdk()** to manually change the value of tconst.winptr (which determines which screen will be used for the task).

Changes in script arguments between sessions are marked with bolded and underscored letters and/or numbers. Below, **any parameters mentioned must be changed in your parameters file** (i.e. parameter.csv) **before you run the code**!

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| **Session 1** | Discrete trials, 90 – 10% coherences, ordered (5 minutes). |
| Parameters:   * subid: **<subject’s id>** * totaltrials: 70 * cohlist: [-0.9 -0.7 -0.6 -0.4 -0.3 -0.2 -0.1 0.1 0.2 0.3 0.4 0.6 0.7 0.9]   Code:  >> [S, tconst] = create\_stimuli(‘parameter.csv’, 0, 1, 1, 1, 1, 0);  >> rdk\_continuous\_motion(‘parameter.csv’, 1, 1, 1, 0, <subject’s id>, <age>, <gender>, 0, 0); | |

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| **Session 2** | Discrete trials, 50 – 10% coherences, random (5 minutes). |
| Parameters:   * totaltrials: 80 * cohlist: [-0.5 -0.3 -0.2 -0.1 0.1 0.2 0.3 0.5]   Code:  >> [S, tconst] = create\_stimuli(‘parameter.csv’, 0, **2**, 1, 1, **0**, 0);  >> rdk\_continuous\_motion(‘parameter.csv’, 1, **2**, 1, 0, id, age, g, 0, 0); | |

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| **Session 3** | Discrete trials, continuous motion (5 minutes). |
| Notes: From now on, the dots will not move only in one direction; they will change direction over time. Your new goal is to guess in which direction the dots are moving *on average*.   * Fix dot will shrink, telling you how much time you have left * Catch trials (explain)—you must not respond in these trials * You will see vertical motion in dots—this is irrelevant, the only thing that matters is left/right movement, nothing else   Parameters:   * totaltrials: 28 * cohlist: [-0.8 -0.6 -0.5 0 0.5 0.6 0.8]   Code:  >> [S, tconst] = create\_stimuli(‘parameter.csv’, 0, **3**, **2**, **0**, 0, **1**);  >> rdk\_continuous\_motion(‘parameter.csv’, 1, **3**, 1, 0, id, age, g, 0, 0); | |

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| **Session 4** | Discrete trials, continuous motion (10 minutes). |
| Parameters:   * totaltrials: 56 * cohlist: [-0.5 -0.4 -0.3 0 0.3 0.4 0.5]   Code:  >> [S, tconst] = create\_stimuli(‘parameter.csv’, 0, **4**, 2, 0, 0, 1);  >> rdk\_continuous\_motion(‘parameter.csv’, **0**, **4**, 1, 0, id, age, g, 0, 0); | |

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| **Session 5** | Discrete trials, continuous motion (5 minutes). |
| Notes: In this session, you will have less time to integrate (fix dot shrinks faster).  Parameters:   * totaltrials: 56 * cohlist: [-0.5 -0.4 -0.3 0 0.3 0.4 0.5]   Code:  >> [S, tconst] = create\_stimuli(‘parameter.csv’, 0, **5**, 2, 0, 0, 1);  >> rdk\_continuous\_motion(‘parameter.csv’, 0, **5**, 1, 0, id, age, g, 0, 0); | |

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| **Session 6** | Continuous trials, continuous motion (12 minutes). |
| Notes: We will now stop with discrete trials, meaning you will see continuously moving dots through the entire session.   * Sessions composed of trials (left/right average motion, response required) and non-trials (random motion, no response required) * Four conditions (explain) * Fix dot turns white during trials to help you learn differentiate between them and non-trials (but this will not be the case later, including the EEG experiment) * Feedback after each block (explain)   Parameters:   * cohlist: [-0.6 -0.5 -0.4 0.4 0.5 0.6] * block\_length: 3 * condition\_vec: 2, 2, 4, 4   Code:  >> [S, tconst] = create\_stimuli(‘parameter.csv’, 0, **6**, **0**, 0, 0, 1);  >> rdk\_continuous\_motion(‘parameter.csv’, **1**, **6**, 1, 0, id, age, g, 0, **1**); | |

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| **Session 7** | Continuous trials, continuous motion (12 minutes). |
| Notes:   * No more white fix dot during trials, must figure out yourself   Parameters:   * cohlist: [-0.5 -0.4 -0.3 0.3 0.4 0.5]   Code:  >> [S, tconst] = create\_stimuli(‘parameter.csv’, 0, **7**, 0, 0, 0, 1);  >> rdk\_continuous\_motion(‘parameter.csv’, **0**, **7**, 1, 0, id, age, g, 0, 1); | |

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| **Session 8** | Continuous trials, continuous motion (12 minutes). |
| Notes:   * White fix dot present * Conditions changed   Parameters:   * cohlist: [-0.6 -0.5 -0.4 0.4 0.5 0.6] * condition\_vec: 1, 1, 3, 3   Code:  >> [S, tconst] = create\_stimuli(‘parameter.csv’, 0, **8**, 0, 0, 0, 1);  >> rdk\_continuous\_motion(‘parameter.csv’, **1**, **8**, 1, 0, id, age, g, 0, 1); | |

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| **Session 9** | Continuous trials, continuous motion (12 minutes). |
| Notes:   * No more white fix dot   Parameters:   * cohlist: [-0.5 -0.4 -0.3 0.3 0.4 0.5]   Code:  >> [S, tconst] = create\_stimuli(‘parameter.csv’, 0, **9**, 0, 0, 0, 1);  >> rdk\_continuous\_motion(‘parameter.csv’, **0**, **9**, 1, 0, id, age, g, 0, 1); | |

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| **Session 10** | Continuous trials, continuous motion (20 minutes). |
| Notes:   * Block (condition) lengths changed 3 → 5 minutes * All conditions present in randomised order   Parameters:   * block\_length: 5 * condition\_vec: 2, 3, 1, 4   Code:  >> [S, tconst] = create\_stimuli(‘parameter.csv’, 0, **10**, 0, 0, 0, 1);  >> rdk\_continuous\_motion(‘parameter.csv’, 0, **10**, 1, 0, id, age, g, 0, 1); | |

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| **Session 11** | Continuous trials, continuous motion (20 minutes). |
| Parameters:   * condition\_vec: 3, 1, 2, 4   Code:  >> [S, tconst] = create\_stimuli(‘parameter.csv’, 0, **11**, 0, 0, 0, 1);  >> rdk\_continuous\_motion(‘parameter.csv’, 0, **11**, 1, 0, id, age, g, 0, 1); | |

# Full Task

The full task (i.e. for EEG/eye tracking) is run by the same code as the last session, **except**:

* The **eeg** and **eyelink** parameters are set to 0/1 as you need them in your experiment,
* The condition\_vec parameter order is randomised for each session (and the session number is changed, of course), and
* Set the last flag of **create\_stimuli()** to 0/1 depending on whether you want vertical motion (no/yes).
* Set the last flag of **rdk\_continuous\_motion()** to 0/1/2 depending on whether you want feedback (none/after each block/after session).

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| **Session X** | Continuous trials, continuous motion. |
| Parameters:   * block\_length: default 5, but as needed * condition\_vec: **randomised**   Code:  >> [S, tconst] = create\_stimuli(‘parameter.csv’, 0, **X**, 0, 0, 0, **0**);  >> rdk\_continuous\_motion(‘parameter.csv’, 0, **X**, 1, 0, id, age, g, 0, **0**); | |