***Controllability Behavioral Experiment (CPU) Protocol***

Directory: Desktop -> Experiments Shortcuts -> 2016-2017 -> Dan -> Controllability

1). Have packet with the following items included when participant arrives:

-Behavioral shock consent forms (2)

- Demographics

-Behavioral receipt

2). Have participant complete STAI forms on Qualtrics from the experiment computer

STAI\_Generally: <https://umdsurvey.umd.edu/jfe/form/SV_8og7a3Wit0s0Gk5>

STAI\_Right Now: <https://umdsurvey.umd.edu/jfe/form/SV_d9UHrmCyjVXLp9r>

Once finished, if the participant is in the **uncontrollability condition (US)**, score their STAI\_Generally from your laptop. This will involve signing into your Qualtrics account, downloading the participant’s data, following these steps:

a). Go to the study folder and on the right select Data & Analysis

b). On the right select, Export Data

c). Select Download Data Table and make sure select “user numeric values”

d). use this formula: SUM((5-C4)+D4+(5-E4)+F4+G4+(5-H4)+(5-I4)+J4+K4+(5-L4)+M4+N4+(5-O4)+(5-P4)+Q4+(5-R4)+S4+T4+V4+(5-U4))

e). Find a controllable participant whose score is similar, and whose gender is the same

3). Load Psychopy and open the following files: *Audio\_Calibration.py , Shock\_Calibration.py,* and *Run\_Controllability\_Task.py*

4). Give participant the **Instructions** sheet to read, and go over sheet with them once they’ve finished. Inform participants that the experiment will consist of a practice run and 4 main runs.

5). Audio Calibration:

a). Give participant headphones and make sure the computer volume is set to **60**

b). Run the *Audio\_Calibration.py*  script

c). Hit spacebar when text on screen reads “Please wait for audio”

d). See if participant’s OK with this level. Remind them that it should be highly unpleasant.

6). Hook up electrodes:

b). Put SCR electrodes on index and middle finger of left hand

c). Put shock electrodes on ring and pinky fingers of left hand

7). On the SCR computer, open a blank SCR template for recording.

8). Shock Calibration:

a). On the left side of the table sits the shock generator. Make sure the knob on the front is set to the **lowest** position (.2) and that the switch next to it is flipped **down**.

b). Run the *Shock\_Calibration.py* script.

c). When the screen says “Please wait for the shock”, flip the switch up to the Remote setting and press the spacebar (which delivers the shock).

d). Ask participant if they want to test the next level. If so, move the knob up one level and press the spacebar again. Have participant choose a level that’s very uncomfortable but not necessarily painful.

e). When participant has settled on a shock level, hit the escape button to exit.

9). When the participant is ready, run the *Run\_Controllability\_Task.py* script.

10). Start the SCR recording.

11). The practice run will come first. Inform participant that they when the Instructions are on the screen, they can press the space bar key to begin. After the practice, see how they feel about the task.

12). Entering Test Parameters in GUI:

-Enter participant ID

-There is a practice run, and 4 main runs. For the practice run, enter 0 into the Run box. Otherwise, enter the number that matches which run you’re about to begin.

-If participant is in the controllable condition, enter CS into the Group box. If participant is in the uncontrollable condition, enter US into the Group box.

-Enter the shock level in the Shock Lvl box (ie .2 = 1, .4=2, .6=3, etc…)

-If participant is in the controllable condition, leave the Ref box blank. If participant is in the uncontrollable condition, enter the participant ID of a previous participant who already completed the experiment in the controllable condition. We want to match by gender, so males will be yoked to males, and females to females. We may also try to match based on similar STAI scores.

13). After participant has completed the experiment, pay them $15, and be sure to flip the shock switch back down to its resting position and turn the knob back to the “.2” setting.

**14). If for any reason the program quits out early, flip the shock switch back down to resting position**