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Lab Report - 4

Introduction:

How are learning and contingency related?

The development of implicit or explicit knowledge of statistical connections between stimuli and/or responses is referred to as human contingency learning. Exposure to stimulus pairings can alter a variety of things, including reaction time, response accuracy, causal inferences, and emotional assessments.

Method:

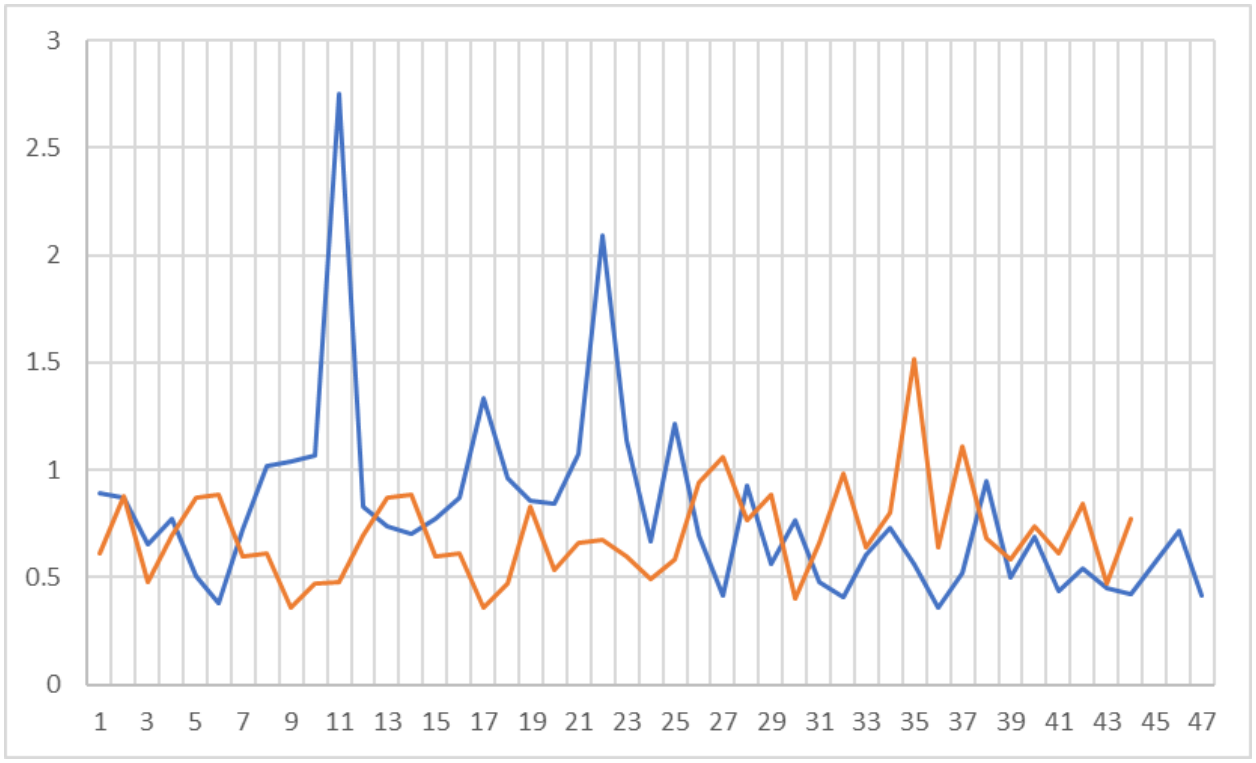
In the given tutorial, it was designed in Psychopy, and the subject was asked to use the keys on keyboards “z,x,c,v” where the subject has to press the key based on triangle position. For begin of routine:

```
fixation = visual.ShapeStim(
    win=win, name='fixation', vertices='cross',units='pix',
    size=(10,10),
    ori=0.0, pos=(0, 0), anchor='center',
    lineWidth=1.0,     colorSpace='rgb',  lineColor='white', fillColor=[-0.2549, 0.2392, 0.2549],
    opacity=None, depth=0.0, interpolate=True)
line1 = visual.Rect(
    win=win, name='line1',units='pix',
    width=(100, 10)[0], height=(100, 10)[1],
    ori=90.0, pos=(-150, 0), anchor='center',
    lineWidth=1.0,     colorSpace='rgb',  lineColor='white', fillColor='white',
    opacity=None, depth=-1.0, interpolate=True)
line2 = visual.Rect(
    win=win, name='line2',units='pix',
    width=(100, 10)[0], height=(100, 10)[1],
    ori=90.0, pos=(-50, 0), anchor='center',
    lineWidth=1.0,     colorSpace='rgb',  lineColor='white', fillColor='white',
    opacity=None, depth=-2.0, interpolate=True)
line3 = visual.Rect(
    win=win, name='line3',units='pix',
    width=(100, 10)[0], height=(100, 10)[1],
```

```
    ori=90.0, pos=(50, 0), anchor='center',
    lineWidth=1.0,     colorSpace='rgb',  lineColor='white', fillColor='white',
    opacity=None, depth=-3.0, interpolate=True)
line4 = visual.Rect(
    win=win, name='line4',units='pix',
    width=(100, 10)[0], height=(100, 10)[1],
    ori=90.0, pos=(150, 0), anchor='center',
    lineWidth=1.0,     colorSpace='rgb',  lineColor='white', fillColor='white',
    opacity=None, depth=-4.0, interpolate=True)
probe = visual.ShapeStim(
    win=win, name='probe',units='pix',
    size=(10, 10), vertices='triangle',
    ori=0.0, pos=[0,0], anchor='center',
    lineWidth=1.0,     colorSpace='rgb',  lineColor='white', fillColor='white',
    opacity=None, depth=-5.0, interpolate=True)
key_resp = keyboard.Keyboard()


For End routine:
Ending Routine "trial" ---
    for thisComponent in trialComponents:
        if hasattr(thisComponent, "setAutoDraw"):
            thisComponent.setAutoDraw(False)
    # check responses
    if key_resp.keys in ['', [], None]:  # No response was made
        key_resp.keys = None
        # was no response the correct answer?!
        if str(corr_resp).lower() == 'none':
            key_resp.corr = 1;  # correct non-response
        else:
            key_resp.corr = 0;  # failed to respond (incorrectly)
    # store data for trials_2 (TrialHandler)
    trials_2.addData('key_resp.keys',key_resp.keys)
    trials_2.addData('key_resp.corr', key_resp.corr)
    if key_resp.keys != None:  # we had a response
        trials_2.addData('key_resp.rt', key_resp.rt)
    # the Routine "trial" was not non-slip safe, so reset the non-slip timer
    routineTimer.reset()
    thisExp.nextEntry()
```

Result:



Slope= -0.72313

Discussion:
According to the data collected, the subject was able to perform better in sequential rather than random.

References:
Schmidt, J.R. (2012). Human Contingency Learning. In: Seel, N.M. (eds) Encyclopedia of the Sciences of Learning. Springer, Boston, MA. https://doi.org/10.1007/978-1-4419-1428-6_646

Github Link:
https://github.com/ShrishtiMaheshwarii/Tutorial-4.git