**SERIAL REACTION TIME TASK INSTRUCTIONS**

**Methods in Brief**

The Serial Reaction Time Task (SRTT) is a linear, monomanual response task involving the learning of a sequence of button presses. The task appears to tap procedural learning of perceptual-motor sequences, but other versions have shown similar effects in purely-observational paradigms (showing cognitive sequence learning).

This version of the task includes the same random and patterned blocks as was shared with us by Jarrad A.G. Lum (Deakin University). Participants are exposed to a visual of four empty squares presented horizontally on the computer. A smiley face image can appear in any one of these four locations. Unbeknownst to participants, the sequence of locations of the smiley face follows either a pseudorandom and balanced (i.e., there is no pattern) sequence or a ten-item patterned sequence (locations: 1-3-4-2-3-1-4-2-1-4).

The standard finding is that participants increase their speed of responding overall, but with patterned trials being faster than pseudorandom trials as the task progresses, indicating some amount of learning.

**Instructions for the Experimenter**

**Session 1**

1. Make sure Chronos is attached correctly.
2. To open the task, click on the folder **SRT Task (Linear) > SRTT\_Session 1 E-Run 3.0 Script File**
3. Enter the subject’s ID number and session number.
4. Make sure Chronos’ lights are on. There should be four of them, each a different color.
5. Remind participants that they are to place four fingers on their dominant hand along the lighted buttons. They should respond ONLY with these fingers.
6. Do NOT inform the participants of the presence of a pattern.
7. You may read the task instructions to the participant verbatim.
   1. “You will see a smiley face appear in one of four places on the computer screen. Press the buttons on the response box that match where the smiley face is. Let's try a few out loud to practice first.”
   2. “If the smiley face is here, you should press the green button. Go ahead and press it now.”
   3. And so on..
8. After the brief practice phase, tell the participants: “Okay. Now it is time to start the real game. Remember to go as fast as you can, but also be accurate. That means try not to make any mistakes. Do you have any questions?”
9. If the participant has questions, answer them to the best of your ability at this time. Again, do NOT inform the participants of the presence of a pattern.
10. Once the participant has no further questions, you can instruct them to begin the task by pressing any of the buttons on the Chronos box.
11. The task will continue through several blocks before a 30 second break occurs. At this point, you can tell the participants that this is a chance for them to rest their eyes and fingers if they need to.
12. At the end of the break, they will be warned that the task is about to begin again. They can continue the task at this point until it is done, when a goodbye message appears on the screen (e.g., “That’s all for this experiment. Thanks.”)

**Session 2**

1. Make sure Chronos is attached correctly.
2. To open the task, click on the folder **SRT Task (Linear) > SRTT\_RETENTION\_Session 2 E-Run 3.0 Script File**
3. Enter the subject’s ID number and session number.
4. Make sure Chronos’ lights are on. There should be four of them, each a different color.
5. Remind participants that they are to place four fingers on their dominant hand along the lighted buttons. They should respond ONLY with these fingers.
6. Do NOT inform the participants of the presence of a pattern.
7. You may remind participants that this task is similar to one they did in a previous session.
8. You may read the task instructions to the participant verbatim.
   1. “You will see a smiley face appear in one of four places on the computer screen. Press the buttons on the response box that match where the smiley face is. Let's try a few out loud to practice first.”
   2. “If the smiley face is here, you should press the green button. Go ahead and press it now.”
   3. And so on..
9. After the brief practice phase, tell the participants: “Okay. Now it is time to start the real game. Remember to go as fast as you can, but also be accurate. That means try not to make any mistakes. Do you have any questions?”
10. If the participant has questions, answer them to the best of your ability at this time. Again, do NOT inform the participants of the presence of a pattern.
11. Once the participant has no further questions, you can instruct them to begin the task by pressing any of the buttons on the Chronos box.
12. The task will continue through until the end, when participants are told there is one more part to complete.
13. The final step is an explicit recall task. NOW, participants are told that the location of the smiley faces sometimes followed a pattern. Participants are asked to produce a series of button presses that they think matches the pattern they saw. They are given twenty seconds to do this. Participants are then asked to produce a pattern that is DIFFERENT from the one they just produced. They are given twenty seconds to do this, too. Verbatim delivery of the instructions should suffice here.
14. When this task is complete, a goodbye message is delivered and the data are auto-saved.