**Pittsburgh Stress Battery: Set up and Overview**

 [ Have ppt work on the FFQ and follow set up directions below ]

Study Laptop #1 - located in front of RA

* Find stopwatch function on google
* Audio File - STROOP audio interference
* Audio FIle - Miror Tracing instructions

Study Laptop #2 - located in front of ppt

* Open ePrime software and navigate to the STROOP test
* In Chrome, open bookmarked Case Math website and
* Miror Tracing qualtrics survey link
* Minimize all

Once set up described above is complete, have the participant pause on the FFQ and read the following...    
  
**During the next part of the assessment we will be taking your blood pressure and heart rate before, during and after a series of activities. Before I go over the details of the activities, I am going to fit you with the blood pressure cuff again and take your baseline readings.  First, let me ask...when you use a computer, which hand do you use to control the mouse?**

* Place the appropriate blood pressure cuff on the OPPOSITE arm used to control a computer mouse and turn the BP monitor away from the participant and towards yourself.
* Have ppt sit in the assessment chair facing the mobile table.
* Note that the BP cuff should remain on the participant for the duration of the stress battery as well as during the 30 minute recovery period.

**To begin, I am going to take your baseline blood pressure and heart rate. Just as before, we are going to have you sit up straight, feet flat on the floor or on the table stand below you, your mouse arm on the table in front of you and your other arm relaxed on the arm rest at your side. During the readings we ask that you try not to move and refrain from talking as this may affect the readings. At the end of the assessment I can let you know what the readings were if you'd like. Ready?**

[ Take baseline reading and record on the next page ]

IF PPT WISHES TO NOT COMPLETE THE STRESS BATTERY, INDICATE REFUSAL BELOW

*Make sure to have the ppt still complete the self report measures including the FFQ.*

REFUSED



Condition: **REFUSED** **Is Selected**. Skip To: **End of Block**.

**#1 - BASELINE READINGS:**

PBS\_Q1

**Systolic blood pressure (mmHg)**



PBS\_Q2

**Diastolic blood pressure (mmHg)**



PBS\_Q3

**Heart Rate:**



At this time, we are going to have you complete a series of three activities, each averaging around 4-6 minutes. These tests may be difficult for you to complete and may result in feelings of stress. We are interested in how your body responds to stress both during the tests and after the stressors are encountered. For this reason, we will be monitoring your blood pressure and heart rate throughout the process. Let me know at any point if you need to take a break. As a reminder, your participation in these activities is voluntary.

**Pittsburgh Stress Battery: Stress Activity #1 STROOP**

[ REFER TO SHOW CARD #1 ] The first activity we are going to have you do is a color naming task. In this task you will see one word in the middle of the screen and four words along the bottom. You will be asked to choose the word along the bottom that names the color that the center word is printed in. The task can be difficult because you have to focus on the COLOR in which the center word is printed in and not on what the word reads.  
  
Here are a few examples...

[ **POINT TO IMAGE #1** ] in this scenario, you would select the first of the four words on the bottom, that is "red" since the color of the word at the top is printed in the color RED.

**[ Demonstrate hand placement on the keypad** ]  Here is how we would like you to place your hand on the keyboard. The buttons under each finger are for the four color name selections. Your index finger is on button 1, your middle finger is on button 2, ring finger on button 3 and pinky on button 4. If you are left handed this would be reversed.

**[POINT TO IMAGE #2]**  In the example here, what number would you press?

[ALLOW PPT TO RESPOND BEFORE PROVIDING ANSWER]

\* Answer = button 2 (middle finger) \*

**[POINT TO IMAGE #3]**  How about image #3? What would you press here?

\* Answer = button 2 \*

If the participant is still struggling, move on to the next show card for additional examples.

Answer (p.2 top image) = 1

Answer (p.2 middle image) = 4

Answer (p.2 bottom image) = 1

We are almost ready to begin. While you are completing the task, we are going to turn on an audio recording that provides additional interference.  The entire activity takes 4 minutes to complete. We will be taking a blood pressure reading in the middle of the activity. Please continue to work on the task during the blood pressure reading. Make sure to keep your hand in the correct position on numbers 1-4 and allow your other arm to remain resting on your arm rest.

* In ePrime, click on the "running man"
* Enter the PID and session number [Baseline=1; 10wk=2; 6mo=3; 12mo=4]

Okay - When I say 'begin', please click on the SPACE bar. Remember to always focus on the color of the middle word and not on what the word reads. Ready?

* Start the AUDIO interference file
* Tell the participant to begin. "**BEGIN"**
* Start the TIMER when the ppt begins the trial (clicks on space bar)

**#2 - STROOP MID-TEST READINGS: *take readings at the 2 minute mark***

PBS\_Q4

**Systolic blood pressure (mmHg)**



PBS\_Q5

**Diastolic blood pressure (mmHg)**



PBS\_Q6

**Heart Rate:**



Page Break

**Pittsburgh Stress Battery: Stress Activity #2 Mental Math**

Case Math – Mental Math Tool

<https://www.preplounge.com/en/mental-math.php>

[OPEN UP THE CASE MATH OVERVIEW WEBPAGE ON LAPTOP #2]

You will now be asked to complete a series of mental math problems using an online program known as Case Math. To start you will be given 60 seconds to complete as many basic arithmetic problems as you can. For each problem you answer correctly, you will be given an additional two seconds of time. Answer the questions as quickly and as accurately as you are able.  You will be evaluated both on your speed and your accuracy.  
  
[Refer to Show Card #2 if needed] To begin, you will click on the blue 'START' button found in the bottom left hand corner under Random-Easy. The test will start right away. The math problems will appear horizontally in a blue bar on the center of your screen. Solve the problems in your head as you are able. Use the keyboard on the laptop to enter your answer and then click 'ENTER' to submit. Remember that you are being evaluated on both speed and accuracy.

Any questions?  [ANSWER AND HAVE PPT **START TRIAL 1**WHEN READY]

* *Enter results in the table below. Make sure to calculate % correct based on # correct / # questions answered.*
* *Review Trial 1 results. If ppt scored 60% or greater, have him/her move on to the Random-Medium level. Otherwise, repeat Easy.*
* *Navigate back to the overview page for Trial 2.*

[**TRIAL 2**] We will now have you complete the exercise again. Remember that you are being evaluated on both your speed and accuracy. For this trial please select Random-[EASY/MEDIUM]. When ready, begin.

* *Enter results in the table below.*
* *Calculate the % correct. If ppt scored 60% or greater, have him/her move on to the next level. Otherwise, stay at same level of difficulty.*
* *Navigate back to the overview page for Trial 3.*

[**TRIAL 3**] You will now repeat this exercise one last time. This time during the trial we will take your heart rate and blood pressure. Please keep your arm with the cuff as still as possible and still attempt to do your best on the math test. For this trial please select Random-[EASY/MEDIUM/HARD]. When ready, begin.

* ***Take the BP and HR reading 30 seconds into Trial 3.***
* *Record results below.*

PBS\_Q7

Record the results below:

|  |  |  | # RIGHT | # WRONG | POINTS | Seconds per Answer | % CORRECT - calculate this |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Trial 1 |  |  |  |  |  |  |  |
| Trial 2 |  |  |  |  |  |  |  |
| Trial 3 |  |  |  |  |  |  |  |

**#3 - MATH TRIAL 3 READINGS:***take at 30 second mark of 3rd math trial*

PBS\_Q8

**Systolic blood pressure (mmHg)**



PBS\_Q9

**Diastolic blood pressure (mmHg)**



PBS\_Q10

**Heart Rate:**



**Pittsburgh Stress Battery: Stress Activity #3 Mirror Tracing**

For the last activity, you will complete four online mirror-tracing trials.

* Open up the Mirror Tracing Qualtrics suvey link in Chrome on laptop #2
* Reduce the screen size to 80% {CTL + "-"}
* Enter the PID, cohort, and assessment info
* Open up and pause audio file on laptop #1

[Refer to SHOW CARD #3] There will be four trials to this test. In each trial, you will see two rectangular panels. The "drawing panel" is at the bottom; this is where you will move the mouse cursor. The "mirror panel" is at the top, this will record your mouse movements in mirrored format as you try to trace the figure.

To begin a trial, move the mouse so that your cursor rests over the green circle in the drawing panel and then click the left mouse button to signal that you are ready to begin. Once the trial begins, a red target circle appears in the mirror panel. Trace the figure working from the starting point towards the red target circle. The trial ends automatically when you reach the red circle.   
  
[Image #2] When your mouse trail is red, you are within the lines and are earning points. When your mouse trail is blue you are outside the line and are not earning points. Your score is shown at the top of the drawing panel. Your score is based on the percentage of tracing made within the lines, so simply drawing straight to the red target will not earn a high score. Please try your best to earn a good score.  
  
You will have 45 seconds to complete each trial. You will hear an audio warning indicating when time is almost up. When 45 seconds have passed, you will be instructed to immediately move your cursor to the red dot to end the trial, regardless of whether or not you completed the tracing task.

Any questions?  [ANSWER AND HAVE PPT CLICK TO **TRIAL 1**]

* Start the audio file
* Have ppt complete Trials 1-3, repeating the audio instructions for each trail
* After Trial 3, but before Trial 4, read...

For the last trial, I will be taking your blood pressure and heart rate during the test. As much as you can, try not to move during the reading. Focus on completing the task quickly and accurately.

* Start the BP reading when there is 30 seconds remaining to the 4th and final trial.
* Record results below.

**#4 - MIRROR TRACING (T4) READINGS:** *take during the 4th trial when audio recording indicates there is "30 seconds remaining"*

PBS\_Q11

**Systolic blood pressure (mmHg)**



PBS\_Q12

**Diastolic blood pressure (mmHg)**



PBS\_Q13

**Heart Rate:**



Page Break

That is the end of the Stress Battery. Now begins the recovery period. We are going to take your blood pressure and heart rate three more times over the next 30 minutes. We'll start with one now. Afterwards we'll have you work on completing some self report measures, including finishing up the dietary questionnaire.  
  
Record data below. START A TIMER and take two more readings at 15 minutes recover and 30 minutes recovery. During that time period, have the participant work on the self report questionnaires (Qualtrics survey, BASE-I, Part 2).

PBS\_Q14

Record recovery period readings below:

|  |  |  | Systolic | Diastolic | Heart Rate |
| --- | --- | --- | --- | --- | --- |
| 0 minute recovery |  |  |  |  |  |
| 15 minute recover |  |  |  |  |  |
| 30 minute recovery |  |  |  |  |  |