Instructions for Group 7 Project– The Effect of Music Volume on Reaction Time

Purpose: The purpose of this experiment is to investigate the effect of music volume on reaction time. Softly played music is commonly referred to as "background music", and this experiment seeks to identify the distraction level of various music volumes. As over 90% of drivers listen to music in their car, the results of this experiment can be scoped to explore how the volume of the radio can affect a person's driving ability. The BrainGauge device will be used to stimulate a response and record the reaction times for subjects as they listen to different volumes of the same Carolina classic- "Sweet Caroline" by Neil Diamond.

Materials: Brain Gauge, iPhone (with Spotify/ Apple Music), low distraction environment

Duration: 15-20 minutes

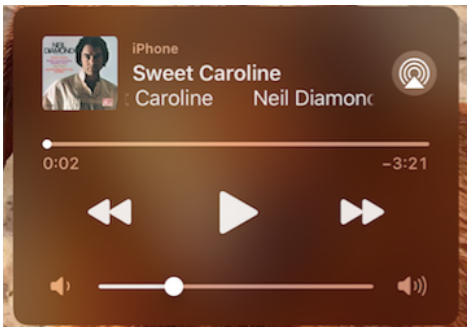
Survey: https://forms.gle/cW4LrRj66NPewCjH7

Note: If any questions arise, they can be directed to Jane Farrell at janef91@live.unc.edu

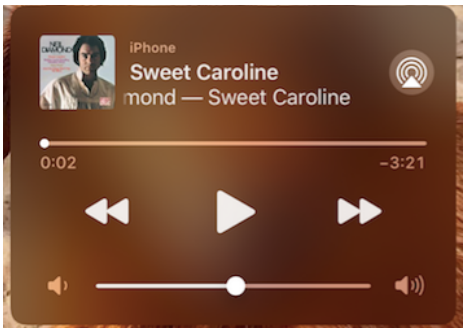
Procedure:

1. Ensure that you have answered the above survey prior to starting the BrainGauge test battery.
2. Attach the BrainGauge device and open the BrainGauge app.
3. Click on "Pro" in the upper right hand corner. Logout of the current account (yes clear data). Log in with the following information.
    a. Email: fall2020-group7@cmetrics.co
    b. Password: fall2020
4. Use your personal subject ID number. Note the ending digit of your subject ID number for whether it is **EVEN** or **ODD** (see step 9)
5. Find a low distraction environment with little noise pollution for best results. Ideal environment is seated at a desk/table with your DOMINANT hand on the brain gauge.
6. The test battery "RT RTc" is selected. Two tests are in this battery – Hardware Reaction Time and Hardware Choice Reaction Time.
7. For trial 1: take the test battery in a quiet environment. At the end of the battery, once the screen tells you to have a great day, it will ask you to re-enter your subject ID – please do so and prepare for the next trial (with the same test battery).
8. To prepare for trials 2-4: On your **IPHONE**, play the song "Sweet Caroline" by Neil Diamond **ON REPEAT** (can be found on Spotify, apple music, YouTube, etc. – Spotify is the superior option). The volume of the song will be adjusted as follows:

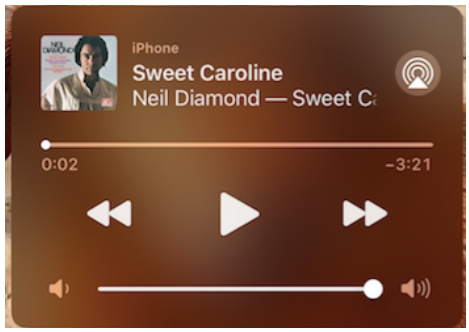
a. **<u>Low</u>** Volume – ¼ max volume



b. **<u>Medium</u>** volume – ½ max volume



c. **<u>High</u>** volume – MAX volume



9. Repeat the same battery of tests you did in Trial 1 for Trials 2-4, <u>changing the volume between each trial</u> (see below for volume order by trials- based on subject ID). Remember to start the song from the beginning before each trial.
    a. **EVEN subject ID trial order**:
        i. Trial 2- high volume
        ii. Trial 3- medium volume
        iii. Trial 4- low volume
    b. ODD subject ID trial order:
        i. Trial 2- low volume
        ii. Trial 3- medium volume
        iii. Trial 4- high volume
10. Thank you for your data and have a great day ☺