Title: Music! Harmful or Helpful?

Purpose: To determine if listening to different types of music affects human heart rate and blood pressure

Hypothesis: If there is a relationship between the type of music a subject is exposed to and their heart rate and blood pressure, then a subjects heart rate and blood pressure will be highest when listening to heavy metal and lowest when listening to dub.

Independent variable: type of music played

Dependent variable: heart rate (measured beats per minute) and blood pressure (millimeters of mercury –mmHg, systolic over diastolic) of human subjects

Materials: iPod with: "Go Go Gadget Gospel"- Gnarls Barkley (hip hop)
"The Word"- Junkyard Band (go-go)
"I am Ahab"- Mastodon (heavy metal)
"Robot Rock"- Daft Punk (house)
"Tidal Wave"- Lee "Scratch" Perry (dub)
Recliner
Sphygmomanometer (to measure blood pressure)
Stethoscope
Stopwatch
Ten human subjects, 5 male, 5 female, all between 13 and 43 years old

Safety precautions : I will set the iPod volume to one-quarter bar to prevent hearing damage. I will screen all subjects to make sure that none suffer from high blood pressure, hypertension, irregular heart rate. I will have all students under the age of 18 fill out a parental consent form. I will have my project approved by a registered nurse who will serve as my adult sponsor.

Procedures:

1. Create a quite environment for experiment with no distractions (no TV, other people, no talking).
2. Select ten human subjects. Do not select students with any health issues that might affect their safety or impact results. Have subjects fill out consent form. Keep forms in notebook.
3. Place subject in reclining position, resting, with legs uncrossed.
4. Wrap blood pressure cuff securely around the subject's left upper arm. Arm will be extended, palm up, and resting on chair.
5. Set iPod volume to one-quarter bar. Place the iPod earphones into the subjects ears.
6. Take subject's blood pressure and pulse rate before first song and record.
7. Play first song for two minutes.
8. Take subject's blood pressure and heart rate after song. Record.
9. Allow subject to relax for five minutes before playing next song. Subject may read, but should not do any activity that would increase heart rate or blood pressure.
10. Follow steps 2-8 for songs 3-5.
11. Repeat steps 1-10 for all ten human subjects.

Bibliography: 5 sources