**Cardiovascular responses to different intensities of exercise across age groups**

**METHODS**

**Equipment:** Peloton Bike, Stethoscope, Apple Watch, computer for data collection, water

**Time:** Total time for experiment is approximately 30 minutes per participant.

**Participants**: Up to 10 participants ranging in age from 6-45 years old will participate. All participants will be asked to sign an informed consent and ACSM Pre-Participation Screening Form. In the case of minors, informed consent and screening will be completed by parents. Inclusion criteria: Ages 6-45, male or female, no known health conditions that would make cycling on a Peloton unsafe. Exclusion: <6 or >45. Years of age, known health risks that would make participating in an exercise study unsafe.

**Procedure:**

Participants will be asked to dress comfortably in exercise clothing and running shoes. They will be asked to sit quietly in a chair for two minutes. We will place the Apple Watch on their right wrist, comfortably. We will then take resting heart rate using both the Apple Watch and stethoscope. All data will be recorded in the Data Sheet (attached). Stethoscope measurements will be taken over the heart. Participants will then be asked to warm up on the Peloton at a light intensity (20) for 3 minutes. Following warm up, they will be asked to cycle for 3 minutes at each of 3 different intensities: light (30), moderate (40) and hard (50). Intensities are defined using the metric on the Peloton bike. At the end of each minute of exercise, we will measure heart rate using both Apple Watch and stethoscope. The highest heart rate achieved at each intensity will be used as the result. Participants will then cool down at a low intensity (20) for 3 minutes. Recovery heart rate will be measured at the end of the cool down.

**Supervision**: All testing will be supervised by a Professor of Exercise Science, Certified Kinesiologist and Certified Exercise Physiologist (Dr. Christy Lane).

**Screening Form**: Attached (ACSM Pre-Participation Screening Form)

**Informed Consent**: Attached

**Anonymity**: All participants will be provided with an ID number. This will be recorded in the table below and the key available only to the primary researcher.

**Data Collection Form: Apple Watch**

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| **Participant** | **Baseline HR** | **Low Intensity** | **Mod Intensity** | **High Intensity** | **Cool Down** |
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**Data Collection Form: Stethoscope**

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| **Participant** | **Baseline HR** | **Low Intensity** | **Mod Intensity** | **High Intensity** | **Cool Down** |
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**Identification Key**

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| **Participant Name** | **ID Number** |
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