Letter of Information

The effect of high intensity interval vs moderate continuous endurance exercise training on body composition and endurance capacity

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You are being invited to participate in this study because you responded to our advertisement. This letter provides you with detailed information about our study which will be conducted in the Exercise Nutrition Research Laboratory (Rm 2235 3M Centre) and in your desired gym so you can decide if you would like to participate. The data obtained will be used to complete requirements for Kinesiology 4443 – an undergraduate research course.

Introduction
For optimal health, current physical activity guidelines recommend 150 minutes of moderate intensity or 75 minutes of vigorous-intensity endurance exercise training per week. Yet many Canadians fail to meet these recommendations apparently due to lack of time. Recently, several studies observed that very brief, repeated exercise bouts at high intensity promote similar health and exercise performance benefits as those found with moderate endurance training of much longer duration. This research study is designed to provide information for or against this theory. Please read this letter carefully and ask any questions that you have before agreeing to participate in this study.

Purpose
To determine if 20 minutes of high intensity interval training for five weeks results in greater program compliance, body fat weight loss and aerobic capacity compared to 20 minutes of moderate continuous endurance exercise training in healthy, 19-35 year old individuals.

Description & Time Involved
This study requires you to do the following:

- Report to room 2235 3M Centre on main campus for an initial 35 minute orientation session including a pre-study body composition measurement (5 minutes), education (20 minutes), a mile run on track at TD Stadium (10 minutes)
    - Body composition (fat and nonfat body weight) is measured using non-invasive densitometry (Bod Pod – this requires you to sit in a chamber while the space [volume] your body takes up is assessed). This along with your body mass allows us to calculate your body density and your body

composition) prior to and after study (week 0 and 6). The procedure takes about 5 minutes. Please refrain from exercise for 24 hours and food for 2 hours prior to testing.
    - A mile run will be performed for assessing endurance capacity. Stopwatch will be used for time.
- Report at the end of the study period involving questionnaires, rate of perceived exertion scale, and heart rate data (saved on a mobile app) (5 minutes)
- You will be assigned to either high intensity interval or moderate continuous endurance exercise training group based on your 1-mile run performance.
- You will perform either 20 minutes of high intensity interval training (consisting of six 20 second bouts of high intensity interval exercise, separated by 2 minutes of recovery (walking);
- Or moderate continuous endurance exercise training (consisting of 14 minutes of continuous exercise) at 70% Maximum Heart Rate three times per week on treadmill.
    - Both groups include 3 minutes of warm up and cool down
- First week will be with researchers and next 4 weeks will be using own gym membership.
- Record heart rate using a free mobile App (e.g. Argos) after each training session
- Complete Physical Activity Enjoyment Scale and Exercise Adherence Rating Scale after 6^{th}, 9^{th} and 15^{th} training sessions
- Have your food logged onto a free mobile App (MyFitnessPal) for three days pre and post study (week 0 and 6).
    - You will have to download an app from your mobile phone
- Report to room 2235 3M Centre on main campus for a final 30 minute orientation session including a post-study body composition measurement (5 minutes), de-briefing (15 minutes), a mile run on track at TD Stadium (10 minutes)

Benefits

Participation in this study may not be of any direct benefit to you, although you might lose body fat and improve aerobic capacity which is associated with many positive health benefits and you will find out how these type of research studies are conducted. Further, the results of this study may provide important information that will help fight against the rising incidence of obesity which has become a significant health problem in all developed countries.

Risks

This study has minimal risks. First, you may feel executing the exercise for 20 minute challenging depending on your level of fitness. However, in rare cases you could experience headaches, lack of focus and/or concentration during the first few days of supervised training sessions as your body adjusts to the new exercise training protocol. All of these are considered minor with no adverse effects.

You can participate in this study if you:

- are 19-35 years of age
- are healthy
- engage in physical activity less than three times per week
- have access to the gym
- can run a mile

You CANNOT participate in this study if you:

- have symptoms or take medication for respiratory, cardiovascular, or metabolic disease
- are pregnant
- use heart rate or blood pressure medications
- use any medications with side effects of dizziness, lack of motor control, or slowed reaction time
- have lost or gained more than 3 kg of body weight in the past 6 months
- engage in physical activity more than two times per week
- answer YES to any questions from page 1 of GAQ

Voluntary Participation

Participation in this study is voluntary. You may refuse to participate, refuse to answer any questions, or withdraw from the study at any time with no effect on your academic or employment status. Should you become pregnant you will be dismissed from the study. You must tell the investigator if you become pregnant. If you are unsure about pregnancy, take a home pregnancy test or get a blood test done at a medical facility. Further, the investigators have the right to withdraw you from the study at any time for reasons related to you (e.g., not following the study-related directions) or because the entire study has been stopped. Data from participants that choose to withdraw from the study will be removed from the database system while maintaining participant confidentiality.

Confidentiality

Although your name and email addresses will be collected to allow for scheduling of testing sessions, these data will not be stored at the conclusion of the study, unless you agree to being contacted for future studies after this study is completed. When the results of this study are reported, they will be coded to protect your identity and privacy. Individual results will be held in strict confidence and all data will be stored on a Kinesiology server behind a firewall. Only the investigators will have access to your records. Your data will be kept indefinitely for comparison with future studies but de-identified so no one will be able to link your results to you. You are encouraged to ask questions of the investigators regarding the purpose of the study or any of the methods to be used. Identifiable data will be destroyed after seven years and that only de-identified data will be maintained indefinitely.

Representatives of the University of Western Research Ethics Board may contact you or require access to your study-related records to monitor conduct of the research.

Inquiries Concerning the Study

If you have any questions about this study or your care/treatment please contact:

Peter Lemon – Primary Investigator (**plemon@uwo.ca**)
Minkee Kim – Undergraduate Student (**mkim489@uwo.ca**)

If you have questions about the conduct of this study or your rights as a research participant you may contact: 519-661-3059 or by email at ethics@uwo.ca Office of Research Ethics, Western University.

You will be given a copy of this letter of information and consent form once it has been signed. You do not waive any legal rights by signing the consent form.

CONSENT FORM

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I, _____ (please print), have read the Letter of Information / Consent document, have had the nature of the study explained to me and I agree to participate. All questions have been answered to my satisfaction.

Please indicate if you would like to be contacted for future studies by placing a checkmark in the appropriate box below:

□ I allow my contact information to be retained for contact about future studies.

□ I do not allow my contact information to be retained for contact about future studies.

Participant's Name: _____ _____
(Print name here) (Signature)

Date: _____

Person Obtaining Informed Consent: _____ _____
(Print Name here) (Signature)

Date: _____