Informed Assent Form

Northeastern University, Psychology

Name of Investigators: Charles Hillman, Ph.D.

Title of Project: Sympathetic nervous system mediation of acute exercise effects on childhood brain and cognition

Informed Consent to Participate in a Research Study

We are inviting you to take part in a research study. This form will tell you about the study, but I will explain it to you first. You may ask me any questions that you want. When you are ready to decide, you may tell me if you want to participate or not. You do not have to participate if you do not want to. If you decide to participate, I will ask you to sign this statement and will give you a copy to keep.

Why am I being asked to take part in this research study?

We are asking you to be in this study because you are between 9 and 10 years old.

Why is this research study being done?

The purpose of this research is to better understand how exercise may help your thinking.

What will I be asked to do?

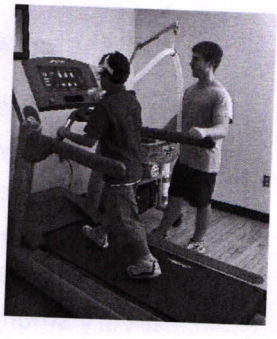
Today, you will:

Answer questions about pictures, which hand you like to use, what you eat, and how much you sleep

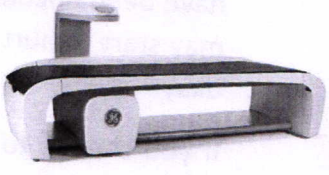
Play computer games

Exercise (walk or run) on a treadmill for 7-10 minutes, this includes:

- measuring your height and weight
- wearing a band around your chest
- breathing in and out of a mouthpiece
- practice on the treadmill and mouthpiece
- raise the treadmill so that it feels like you are going up a hill



After that, you will lie down on a table and lie still for about 10 minutes while a picture is taken of your body. While we are doing this, your parent/guardian will be answering questions about your health.



Before you leave today, we will give you a small red box on a belt called an "accelerometer". It measures how much you move. We will also give you a monitor to wear on your leg. We would like you to wear them for 7 days.

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Visits 2-4



At each visit, you will wear a band around your chest that tells us how fast your heart is beating and we will ask you drool into a small container 4 times. We will put an EEG cap on your head. It feels and looks like a swimming cap. When the cap is on, we will put some gel in the holes of the cap. Next you will play computer games. We will give you practice before you play these games. Then, we will ask you to exercise, sit quietly, or complete a speech and math task. The exercise will involve walking on the treadmill for 25 minutes, or performing circuits of exercises (such as jumping jacks, lunges, etc.). When resting, you will sit on a chair and read a book. You will then play the computer games again. Finally, you will complete some activities like schoolwork.

Optional Additional Visit

In addition, you may choose to participate in an optional blood draw. If you decide to participate in the OPTIONAL day, you will be asked NOT to eat or drink for 8-10 hours prior to the morning of testing. Venous blood (~ 3 tablespoons) will be drawn from a vein in your arm by certified nurse. A blood draw will not be attempted more than twice if the first try is unsuccessful. After the blood draw is completed, you will be offered a light snack and refreshment.

Where will this take place and how much of my time will it take?

This study takes place in the Cognitive and Brain Health Laboratory in the Interdisciplinary Science and Engineering Complex at Northeastern University. If you decide to take part in this study, we will ask you to visit with us on four (or five) different days. You will be here about two hours on each day. If you participate in the optional blood draw, this visit will last about 20 minutes.

Will there be any risk or discomfort to me?

All the things we will have you do in this study have been safely done before by other kids. I do need to tell you there is a small risk that you could get hurt while exercising. This risk is small and you will have people surrounding you the entire time you are on the treadmill. You may be short of breath for a few minutes after you exercise and your muscles may be sore the next day. However, most kids feel fine after the exercise test. During the DXA scan, you will be exposed to a very small amount of radiation from the DXA scan. However, no harmful effects of radiation have been documented from the DXA suggesting the risk is very small. In rare cases, your head may start to hurt after wearing the EEG cap, but I will check on you to make sure you are doing okay.

If you choose to participate in optional blood draw, you may feel nervous having your blood drawn. Your arm may feel a little sore afterwards for a day or so and you get a small temporary black and blue mark for a few days. There is also a possibility of dizziness and lightheadedness associated with blood draws. These risks are minimized by having qualified individuals draw your

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blood, only collecting as much as is needed for the study, and making sure you are okay after your blood is drawn and before you leave the lab. Risks are further minimized using sterile procedures and equipment at all times. You will be seated or lying down during and immediately following the blood draw.

Will I benefit by being in this research?

There will be no direct benefit to you for taking part in this study. However, what we learn from this study may help scientists understand how your brain responds to exercise.

Who will see the information about me?

Everything you do and say while you visit us will be kept private and your answers will be combined with other answers. Your part in this study will be confidential.

Even though your parent/guardian has given their permission for you to be in the project, your participation is voluntary- this means you can decide whether or not you want to be in the project. If you want to stop at any time, you can.

What will happen if I suffer any harm from this research?

In the event of physical injury resulting from this research study, immediate medical treatment is available from a number of health care providers in the area. However, Northeastern University does not provide medical or hospitalization insurance coverage for participants in this research, nor will any special arrangements will be made for compensation or for payment for treatment solely because of my participation in this research, except as required by law.

Can I stop my participation in this study?

If you want to stop at any time, you can. You do not have to participate if you do not want to and you can refuse to answer any question. Even if you begin the study, you may quit at any time.

Who can I contact if I have questions or problems?

If you have any questions about this study, please feel free to contact Dr. Lauren Raine (l.raine@northeastern.edu), or the Principal Investigator, Dr. Charles Hillman (617 373 8342, c.hilman@northeastern.edu).

Who can I contact about my rights as a participant?

If you have any questions about your rights in this research, you may contact Nan C. Regina, Director, Human Subject Research Protection, Mail Stop: 560-177, 360 Huntington Avenue, Northeastern University, Boston, MA 02115. Tel: 617. 373. 4588, Email: n.regina@neu.edu. You may call anonymously if you wish.

Will I be paid for my participation?

To thank you for participating in this study, you will be paid $20 per hour after you complete the study. If you decide to stop being part of the study before it is over, we will pay you for the time

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you were here, rounded up to the closest half hour. You will be paid an additional $20 if you participate in the optional blood draw. Even if the optional blood draw is unsuccessful, you will still be compensated for your time and effort.

Will it cost me anything to participate?

Participation in this study is free.

Is there anything else I need to know?

Do you have any questions? Before you agree to be in the study, I need you to please tell me what I am asking you to do each day, so that I can be sure that you understand.

We may contact you after you have completed this study if we need more information from you for this study, or if we have other studies in which you may be interested in participating.

I agree to take part in this research.

_____ _____

Signature of child agreeing to take part Date

_____

Printed name of person above

_____ _____

Signature of person who obtained consent Date

_____

Printed name of person above

☐ Online, virtual, verbal consent and assent obtained:

_____ _____

Printed name of person who obtained consent verbal consent Date

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