

**A Randomized Factorial Feasibility Study of High-Resistance Circuit Training and
Strength Training Intervention in Untrained Adolescents: A Mixed Methods Approach**

Mitchell Wyatt¹, Leslie Podlog², Ryan Burns¹, Bradley King¹, Kristin Heumann³, and Timothy
Brusseau Jr.¹

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Correspondence:

Mitchell Wyatt

mitch.wyatt@utah.edu

¹Department of Health and Kinesiology, University of Utah, Salt Lake, Utah.

²School of Kinesiology and Physical Activity Sciences, University of Montreal, Montreal,
Quebec.

³Department of Kinesiology, Colorado Mesa University, Grand Junction, Colorado.

Consent Document for Participants Who Have Turned 18

You are being asked to take part in a research project. Participation in this study is voluntary. Before you decide if you want to be in this research project, it is important for you to understand what will be asked. Please read the following information carefully. Ask us if there is anything that is not clear or if you would like more information. Take time to decide whether you want to take part in this project.

STUDY SUMMARY

Physical inactivity is prevalent among children in the United States. Schools offer physical activity during the school day, however after-school physical activity programs such as weightlifting are limited. The purpose of this study will be to learn more about the practicality of after-school weightlifting programs. There are two weightlifting programs; One is called high-resistance circuit training and the other is called strength training.

We would like you to complete a three-week weightlifting program along with surveys, and measurements of your fitness level before and after the weightlifting program. The full explanation of what we are asking you to do is described below in this consent document in the "Study Procedure" section.

STUDY PROCEDURE

The study has one day of physical performance tests followed by three weeks of weightlifting and lastly another day of physical performance tests. If you want to be in this study, we will check and perform the following things:

PHYSICAL PERFORMANCE TESTING

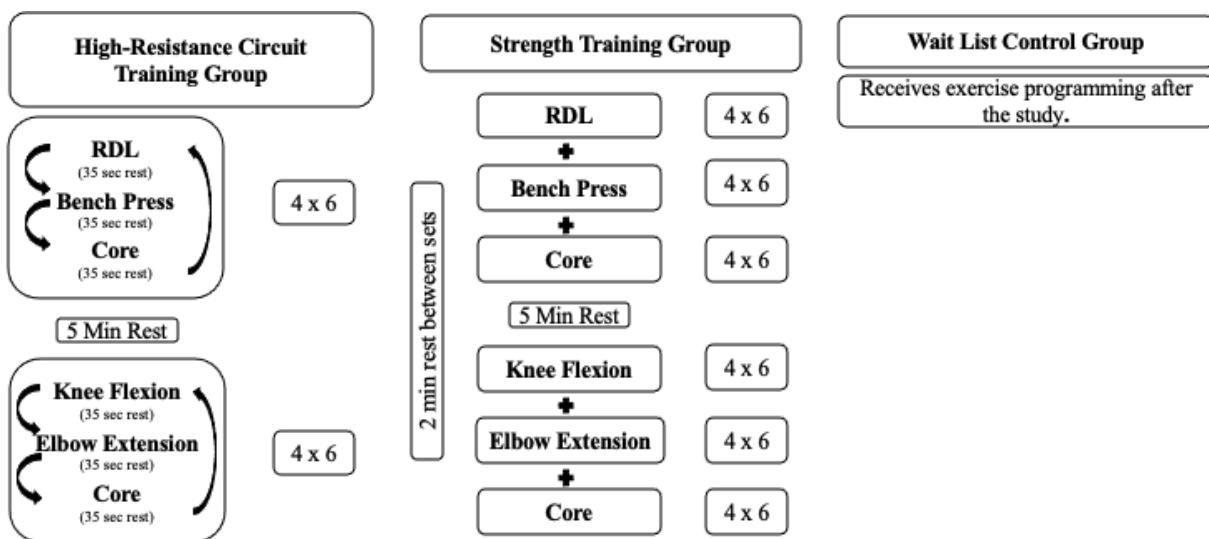
During the first and last day of physical performance tests, we will check your weight, height, body composition, muscular strength, and cardiovascular fitness.

- We will use a scale to check weight and a tape measure to check height.
- To check body composition, we will use a handheld device that can measure muscle and fat mass.
- Muscular strength will be tested by using a leg-back-chest dynamometer, a push up test and modified pull-up test.
- Lastly, we will use the Progressive Aerobic Cardiovascular Endurance Run (PACER) test will be used to assess cardiovascular fitness.

EXPERIMENT GROUPS

After the first day of physical performance tests, you will be randomly assigned to a high-resistance circuit training group, strength training group or a wait list control group. You will be in one of these groups for the following 3 weeks.

- If you are in the high-resistance circuit training group, you will perform a series of exercises with a moderately heavy weight for 6 repetitions, rest 35 seconds, then proceed to the next exercise for 6 reps, rest 35 seconds and then complete the last exercise for 6 repetitions resting for 35 seconds. This is one set; you will perform 2-4 sets of this then rest 5 min and complete another set of exercises in a similar fashion. You will have three sessions a week of this program.
- If you are assigned to the strength training group, you will do the same exercises as the high-resistance training group except they will perform the first exercise for 6 reps, rest 2 min then do another set of the first exercise until the prescribed sets are completed. Then you will move on to the next exercise until the first three exercise are performed. You will take a 5 min break then complete the last three exercises in the same fashion. You will have three sessions a week of this program.
- If you are assigned to the wait list control group, you will be asked to maintain your current level of activity for the study. After the study is over you will receive the exercise program for both groups.
- Below is a comparison of the groups you may be assigned to.
- Once the 3 weeks of the physical activity program is complete, there will be one last day of testing to measure any change in participants.



While you are in the study you must:

- Have medical insurance.
- Give correct information about your current health status that would influence your ability to participate in high intensity workouts such as recent injuries or medical conditions.
- Tell the study researcher about any health issues or injuries you have during the study.
- Tell the study researcher about any additional physical activity outside of the weightlifting program or dramatic diet change during the study.
- Not take any performance enhancing supplements such as creatine, pre- and post-workout supplements, or performance enhancing drugs like steroids.
- Come to all sessions.
- Not participate in other research studies, or regular sport, cardiovascular or weightlifting programs.

RISKS

Risks of participating are small. However, it is possible that you may feel discomfort while exercising as the weightlifting program can be challenging. While exercising there is always a risk of injury, however the program has been appropriately designed for high school students in addition to being supervised by an experienced and qualified weightlifting instructor. If an injury occurs, you will have the option to withdraw from the study.

BENEFITS

We cannot promise any direct benefit to you for taking part of this project. Participants will learn basic weightlifting movements, but because the research project is only three weeks long there may not be an increase in your overall fitness levels.

CONFIDENTIALITY

Many steps have been taken by the research team to make sure that the confidentiality of all data collected are protected. All study data will be stored on secure servers and password-protected hard drives. Any identifying information (e.g., names) will be removed from our records and replaced with a code. A list linking the code and your identifiable information will be kept separate from the research data in a locked file cabinet in a locked room at the university. All data collected will be identified only by that code (not by your name). As a result, no one outside of the research team will know what answers you have given to any question. Forms including your name (such as this one) will be kept in a locked file cabinet within a locked office, accessible only by the research team.

The information collected about you in this study will not be used for future research studies. To help us further protect your privacy, this research also is protected by 42 USC 3789g, a federal confidentiality law that states no information you provide through participation in this project can be disclosed to anyone without your consent. With this law, the researchers cannot

be forced to disclose information that may identify you, even by a court subpoena, in any federal, state, or local civil, criminal or other proceedings.

PERSON TO CONTACT

If you have questions, complaints, concerns about this study or feel that your child has been harmed during this study, you can contact Mitchell Wyatt, the primary researcher at the University of Utah at mitch.wyatt@utah.edu.

INSTITUTIONAL REVIEW BOARD: Contact the University of Utah Institutional Review Board (IRB) if you have questions regarding your rights as a research participant. Also, contact the IRB if you have questions, complaints or concerns which you do not feel you can discuss with the investigator. The University of Utah IRB may be reached by phone at (801) 581-3655 or by e-mail at irb@hsc.utah.edu.

RESEARCH PARTICIPANT ADVOCATE: You may also contact the Research Participant Advocate (RPA) by phone at (801) 581-3803 or by email at participant.advocate@hsc.utah.edu.

VOLUNTARY PARTICIPATION

It is up to you to decide whether to take part in this project. Refusal to participate or the decision to withdraw from this research will involve no penalty or loss of benefits to which you are otherwise entitled. Withdrawal can happen at any time and they will be immediately removed from the study. If you would like to withdraw from the study please email Mitch Wyatt at mitch.wyatt@utah.edu.

COSTS AND COMPENSATION TO PARTICIPANTS

There are no costs and compensations for participation in this project.

CONSENT

I confirm that I have read this parental permission document and I agree to participate in this research study. I will be given a signed copy of this consent form to keep.

Participants 's Name

Participant's Signature

Date

Printed Name of Person Obtaining Consent

Signature of Person Obtaining Consent

Date