

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

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Assent to Participate in a Research Study (12 – 17 years of age)

Who are we and what are we doing?

We are from the University of Utah and we would like to ask if you would like to be in a research study. A research study is a way to find out new information about something. This is the way we try to find out if the weightlifting programs work.

Why are we asking you to be in this research study?

We are asking you to be in this research study because we want to learn more the practicality of before-school weightlifting programs.. There are two weightlifting programs; high-resistance circuit training and strength training. These weightlifting programs will be compared to each other and a control group.

About 30 high school students will participate in this study.

What happens in the research study?

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

Physical performance testing

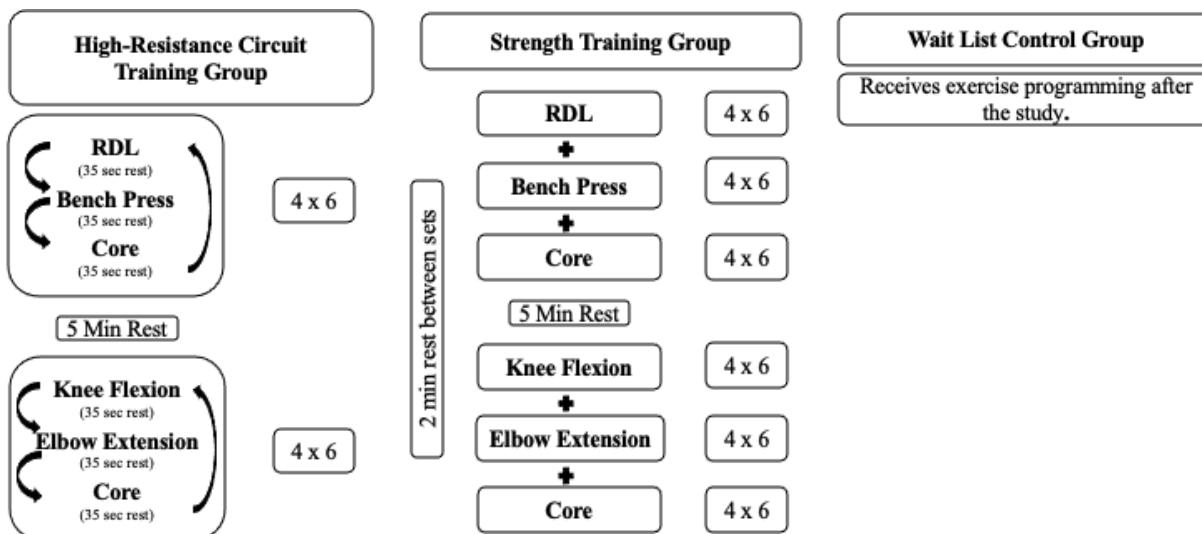
- During the first and last day of physical performance tests, we will check your weight, height, body composition, muscular strength, and cardiovascular fitness.
- We will use a scale to check your weight and a tape measure to check your height.
- To check your body composition, we will use a handheld device that can measure your 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 your 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 4 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 you 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 4 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:

- Give correct information about your current health status that would influence your ability to participate in high intensity workouts such as recent injuries or medial conditions.
- Tell the study researcher about any health issues or injuries you have during the study.
- Tell the study researcher about any change in physical activity or 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. 3 days a week for 1-1 & ½ hour sessions.

- Not participate in other research studies, sport, cardiovascular or weightlifting programs.

Will any part of the research study hurt you?

Participation in this study may or may not result in injury. The program has been designed to minimize potential risk of injury for adolescent populations and will be supervised by an insured, qualified and experienced weightlifting instructor.

Will the research study help you?

This study will be short for a physical activity program and may not increase your current fitness levels. However, participating in this study will allow you to become familiar with basic weightlifting movements.

Who will see the information about you?

Only the researchers in this or someone who oversees the study will be able to see the information about you from this research study this is to make sure the study is being done properly.

What if you have any questions about the research study?

It is okay to ask questions. If you don't understand something, you can ask us. We want you to ask questions now and anytime you think of them. If you have a question later that you didn't think of now, you can email Mitch Wyatt at mitch.wyatt@utah.edu or ask us the next time we see you.

Do you have to be in the research study?

You do not have to be in this study if you don't want to. Being in this study is up to you. No one will be upset if you don't want to do it. Even if you say yes now, you can change your mind later and tell us you want to stop.

You can take your time to decide. You can talk to your parent or guardian before you decide. We will also ask your parent to give their permission for you to be in this study. But even if your parent or guardian say "yes" you can still decide not to be in the research study. If you would like to withdraw from the study, you or your guardian can email Mitch Wyatt at mitch.wyatt@utah.edu.

Agreeing to be in the study

I was able to ask questions about this study. Signing my name at the bottom means that I agree to be in this study. My parent or guardian and I will be given a copy of this form after I have signed it.

Printed Name

Sign your name on this line

Date

Printed Name of Person Obtaining Assent

Signature of Person Obtaining Assent

Date

The following should be completed by the study member conducting the assent process if the participant agrees to be in the study. Initial the appropriate selection:

The participant is capable of reading the assent form and has signed above as documentation of assent to take part in this study.

The participant is not capable of reading the assent form, but the information was verbally explained to him/her. The participant signed above as documentation of assent to take part in this study.