

Study Title: Handgrip Strength and Standardized Academic Achievement
Ball State University IRB Protocol (1256977-1)

Study Purpose and Rationale

The purpose of this research project is to collect and compare student handgrip, BMI, and NWEA data in a two-year-long, exercise study. Particularly, the study is exploring the effects of exercise and handgrip strength and how that translates into standardized test scores. BMI (height and weight calculated) is a standard process of data collection for licensed physical education teachers. BMI data collection allows teachers to compare students' pre- and post-test physical scores in order to determine if the teaching methods are improving student fitness levels. This project is specifically exploring whether handgrip strength impacts BMI data in a K12 school system.

Inclusion/Exclusion Criteria

To be eligible to participate in this study, you must be a student attending elementary or middle school at the participating school in this study and be between the ages of 5-15 years old. This study is completely voluntary and requires both parental and child permission.

Participation Procedures and Duration

For this study:

- 1) The students will be asked to participate in physical education class as normal.
- 2) The students are willing to squeeze a hand dynamometer two times, at beginning and end of school year.
- 3) The students are willing to participate and provide in NWEA pre and post test scores for 2 consecutive school years 2018-2019 and 2019-2020.

Data Confidentiality or Anonymity

All data will be maintained as confidential. No identifying information such as names will appear in any publication or presentation of the data.

Storage of Data

Students' names will appear on parental consents, child assent forms, and data collection forms. These forms will be stored in a locked cabinet in file folders in the PI's locked school office. Students' names that appear on the data excel spreadsheet will be replaced by numbers. The data will be stored in a password protected computer and shared between PI's in a private Ball State Box folder. All data will be entered on a password-protected computer and will be kept indefinitely. All paper data will be stored in a locked filing cabinet. Data will be collected using NVivo 10 Software and reported in the aggregate.

Risks or Discomforts

There are no anticipated risks or discomforts associated with participating in this study. If your child expresses any discomforts, please contact the researchers, Cristina Suits (765) 285-1311 or Shannon Powers (765) 285-5170.

Who to Contact Should Your Child Experience Any Negative Effects from Participating in this Study

Should your child experience any feelings of anxiety, please contact the research investigators, Cristina Suits (765) 285-1311 or Shannon Powers (765) 285-5170.

Benefits

There are no known benefits to participating in this study.

Compensation

There is no type compensation for participation.

Voluntary Participation

Your child's participation in this study is completely voluntary. Your child is free to withdraw study participation at any time for any reason without penalty or prejudice from the investigator or your child's physical education teacher or class. Study participation will not affect students' participation in physical education class or grade. Please feel free to ask any questions of the investigator before signing this form and at any time during the study.

IRB Contact Information

For questions about your rights as a research subject, please contact researcher investigators, Cristina Suits (765) 285-1131 or Shannon Powers (765) 285-5170 or the Office of Research Integrity, Ball State University, Muncie, IN 47306, (765) 285-5070, irb@bsu.edu.

Study Title: Handgrip Strength and Classroom Growth

Consent

I give permission to participate in this research project entitled, **Handgrip Strength and Classroom Growth**
" I have had the study explained to me and my questions have been answered to my satisfaction. I have read the description of this project and give my permission to participate. I understand that I will receive a copy of this informed consent form to keep for future reference.

Parent/Guardian Printed Name

Printed Name of child, Grade, and Teacher

Parental/Guardian Signature

Date

Researcher Contact Information

Principal Investigator:

Dr. Cristina Suits, Instructor
Burris Laboratory School
Ball State University
Muncie, IN 47306
Telephone: (765) 285-1311
Email: clvetor@bsu.edu

Dr. Shannon Powers, Asst. Professor
School of Kinesiology
Ball State University
Muncie, IN 47306
Telephone: (765) 285-5170
Email: smpowers@bsu.edu