



Colorado Science and Engineering Fair

2024 Individual Project Abstract Form

Please print 2 copies of the completed form. Sign both copies, keep 1 for your notebook and submit 1 copy to your Regional Fair Director with your other paperwork.

Title of Project: Will Pre-Workout Workout?

Finalist's Name: Deacon Brown

School and City: Yuma High School, Yuma

Sponsor's Name: Amy Melby

Category: Biomedical Sciences (BMED)

Division: Senior (9th - 12th grades)

Abstract (250 words or less):

Pre-workout is a supplement used by many in the fitness industry due to its claimed benefits on workout performances; specifically increases in strength, recovery, and focus. The researcher hypothesized participants would experience an increase in both reaction time and recovery while taking pre-workout, but would not show a change in recovery or reaction time when taking the placebo. Upon consent, participants completed three different trials in the following order: water, placebo, pre-workout. Participants were not told the order of the trials. Before each trial, the participants ingested the specified drink that corresponded to that day of testing. Then, participants completed a warm up jog for one minute and various stretches to warm up their backs, wrists, and forearms. Participants then completed a baseline grip strength test followed by completing a dead hang till failure. Participant's grip strength was tested again immediately after, two minutes after, and five minutes after failing the dead hang. Participants then completed an online reaction time test. Data was analyzed from each test to determine the percentage of change in recovery and average reaction time for each test. No significant difference in recovery between rest intervals, decrease in strength post dead hand, or average reaction when having ingested any of the three liquids was found. The only test with a significant difference was an analysis of the participants' consistency on the reaction time test when having ingested preworkout compared to the placebo or water test.

I hereby certify that the above statements are correct and the information provided in the Abstract is the result of one year's research. I also attest that the above properly reflects my own work.

Finalist's Signature:

Date:

3/5/24

In addition, all students must complete the ISEF Student Checklist (1A), Research Plan, Approval Form (1B), and Checklist for Adult Sponsor (1), and any other ISEF forms required for this type of project. See the International Rules and Guidelines for form requirements. Return COPIES of all of these forms to your Regional Fair Director with you Finalist Verification/Permission Form. A signed copy of this form must be included in your notebook.