Jan 1st, 12:00 AM

12. Kinesiology

University of Central Oklahoma

Follow this and additional works at: https://dc.swosu.edu/ordabstracts

Part of the Animal Sciences Commons, Biology Commons, Chemistry Commons, Computer Sciences Commons, Environmental Sciences Commons, Mathematics Commons, and the Physics Commons

https://dc.swosu.edu/ordabstracts/2014oklahomaresearchday/mathematicsandscience/11
05. Mathematics and Science

12. Kinesiology

05.12.01 Physiological Differences Between Indoor and Outdoor Climbing

Brian, Myers

University of Central Oklahoma

It is estimated that there are over four million climbers in the U.S. alone (Smoot, 1993). As this number of climbers continues to increase the need for physiological knowledge increases. The primary aim of this study is to determine if there is a physiological difference between indoor top rope climbing (ITRC) compared to outdoor top rope climbing (OTRC). This study will focus on percent max oxygen consumption (VO2), heart rate (HR) and rating of perceived exertion (RPE) while climbing indoors versus climbing outdoors and will show VO2 and HR at separate heights of the climbs (0-60 ft and 60-95 ft). Intermediate rock climbers will be recruited. VO2 max will be obtained by means of an upper body arm ergometer while wearing the Oxycon Mobile metabolic unit. After a 48 hour rest the participants will climb one specified indoor route, rest 48 hours and climb a specified outdoor route while wearing the mobile unit. It is hypothesized that OTRC will elicit a greater VO2 and HR than that of ITRC, VO2 and HR will be higher at greater heights both indoors and outdoors and VO2 and HR will be higher at greater heights outdoors compared to indoors. The knowledge from this study can give climbing coaches, trainers, and recreational climbers the knowledge they need to give guidelines and evaluate training methods. This research study is in its early stages with participants being recruited at this time. The results of this study will be determined in the Fall of 2014.