Are You More Fit Than A Third Grader?

KINE 3325 – Undergraduate Research Methods – Research Project

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ABSTRACT

BACKGROUND: Previous studies have tested why adults seem to perform better in the areas of aerobic and anaerobic capacity, they have found that this occurs because with age comes a higher lung capacity. Also previous studies have looked at the comparison between motor development and its effect on fitness level. It was found that the higher an individuals motor proficiency the higher their fitness level appeared.

PURPOSE: To see if there is a difference between undergraduate students and children when it comes to physical fitness.

METHODS: We used 32 total participants 15 children ages 9-11 and 17 adults ages 18-21. Each were instructed and lead through the FitnessGram Test which includes PACER, Sit N Reach, Push ups, curl ups and trunk lift. And BMI.

RESULTS: In our results we found no significant difference between children and adults. Although the adults BMI and aerobic capacity were higher, the rest of our dependent variables were similar.

CONCLUSIONS: In conclusion we found that our study failed to reject the null hypothesis and that adults were not more fit than a third grader. We found that although their BMI was higher and they seemed to have a higher aerobic capacity the rest of the independent variables there was no significant difference found.

IRB 2012-0527

INTRODUCTION

•The FitnessGram was created more than 20 years ago by The Cooper Institute. According to The Cooper Institute the FitnessGram is the only health-related assessment to use criterion-referenced standards. The point of the FitnessGram is to test aerobic capacity, body composition, muscular strength, muscular endurance and flexibility.

•We are looking to see if there is a noticeable difference between children and adults when it comes to physical fitness levels. We expected the adults to have a higher fitness level even though each group is scored according to their age. We want to see if as children we are able to achieve a successful fitness level and if as adults we are able to maintain a healthy fitness level or if our fitness abilities diminish with time.

PURPOSE

To see if there is a difference between undergraduate students and children when it comes to physical fitness.

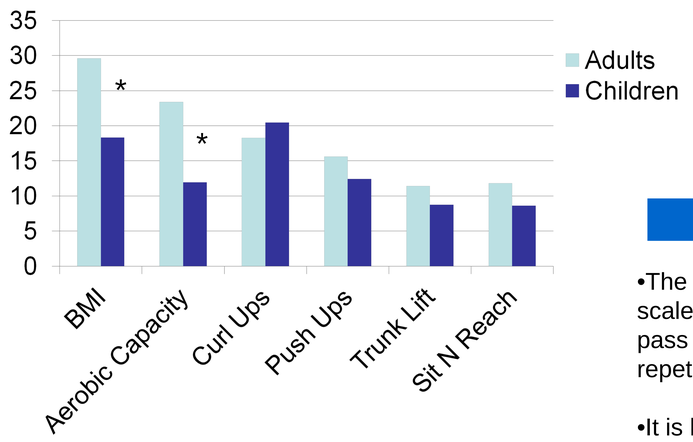
METHODS

•Fifteen children between the ages of 9-11 from Mansfield ISD and 17 undergraduate students from UTA ages 18-21 participated. Of the 15 students between the ages of 9 and 11 nine were male (mean age of 9.77) and six were female (mean age of 9.33).

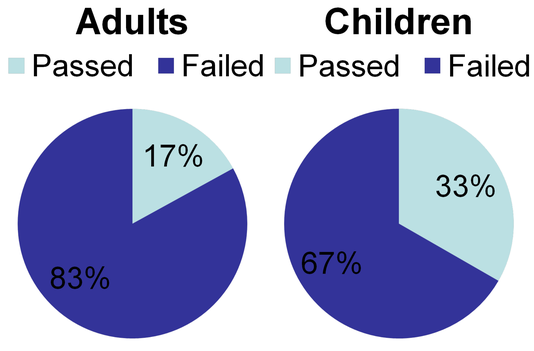
•Of the 17 undergrads tested there were eleven females (mean age of 19.90) and six males (mean age of 20.66). Each subjected had there aerobic capacity, body composition, muscular strength, muscular endurance and flexibility tested via the FitnessGram. During each test the participants reps and numbers where recorded.

RESULTS

Mean Between Adults and Children



Percentage out of 100% Who Passed or Failed



DISCUSSION

•The FitnessGram is assessed for adults on a 17 and up scale, therefore it was more difficult for the adults to obtain a pass option. Yet, for children the age is comparable to the repetitions ,so it is more accurate.

•It is known that children have a higher respiratory rate than adults and that lung and heart capacity increase with age, this explains why the PACER scores were higher for adults.

•We knew that the adults would have a higher body fat percentage, but we were surprised with how the adults did not seem to out perform the children in the areas of flexibility and muscular strength and endurance. It was interesting however that the children outperformed the adults in the curl-ups portion of the testing protocol.