Research Report

# Exergaming for Fitness

Video Games | Weight Loss | Exercise | Technology | Coaching | African Americans

Greaux Healthy
Pennington Biomedical

GreauxHealthy.org

**Read the published, peer-reviewed paper here:** https://pubmed.ncbi.nlm.nih.gov/30027607/

## Citation

Staiano AE, Beyl RA, Guan W, Hendrick CA, Hsia DS, Newton J, R. Home-based exergaming among children with overweight and obesity: a randomized clinical trial. Ped Obes.2018;13:724-33.PMCID: PMC6203598.

Interview with Dr Staiano where she talks about Game Squad: https://www.youtube.com/watch?app=desktop&v=0H4MaR74M0U

## General Summary

In the US, childhood obesity is on the rise and kids are not getting enough physical activity. This increases the risk of young kids developing health problems. Exergames, which are video games that make you move your arms and legs to play, are a great way to get kids active and moving. This study used data from 46 children to see whether exergames improved kids' level of physical activity and health outcomes. Our findings offer support that exergames work at improving activity levels and health outcomes of kids, and that kids enjoy using exergames!

## When did the study take place?

This study took place from October 2015 to September 2016.

October 2015

September 2016

## How will the results help children, parents of children, and those who care for them?

Kids are interested in using technology to play video games. If we can meet kids where their interests already are, while making a few changes towards health, we have the opportunity to improve health behaviors in children.

## What is the purpose of the study?

The purpose of this study is to test if exergaming (video gaming that involves physical activity) can get kids more active and improve their health.

## Who was involved?

A total of 46 children between the ages of 10 and 12 with overweight/obesity participated in this study. Half of the participants were girls and 57% were African American.

**46** Adolescents

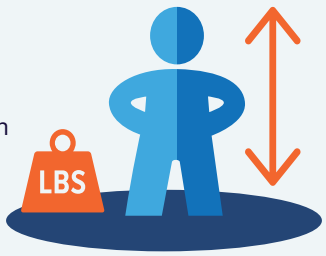
**50%** Female

**10-12** Years of Age

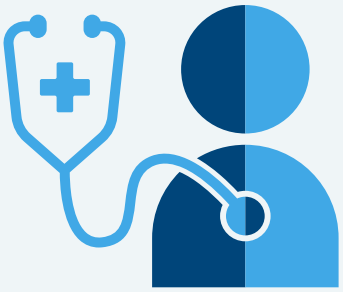
**57%** African American

## How did we get the results and findings?

The results and findings of this study were based upon information collected from 46 children between the ages of 10 and 12 with overweight/obesity. We looked at weight and other body composition measurements after 24 weeks to find any differences between the exergame kids and the control kids.



## What were participants asked to do during the study?



All kids went through a screening visit that included a physical exam conducted by a physician or nurse practitioner. A resting EKG was performed, as well as measurements of height and weight. A short interview was conducted to make sure the child met the study criteria.

We gave all kids an activity monitor to wear for 7-days; they were told to turn it back in at least 8 days later.

We did a whole-body scanner measurement, resting blood pressure, blood sample, questionnaires on eating, as well as psychosocial questionnaires

Kids were randomly assigned to either the exergames program or the control program. Kids in the exergames program were provided with a gaming console and exergames, along with instructions for playing the games. Two fitness coaches visited the parent and child at home within 7-days of enrollment to deliver and set up the equipment and play the first gaming challenge together.

Kids were told to play the games for 24 weeks; they had to have at least one family member or friend willing to play the game with them for 3 hours each week. They were also told to record the start and stop time for each challenge. For the 24 weeks, these kids wore a Fitbit Zip we provided to them; it kept track of their steps per day and wirelessly transmitted this information back to the fitness coach. This information directed the types of conversations the fitness coach had with the kids. For the first 6 weeks in the exergame program, a fitness coach would have a videochat with each participant (with a parent present). These videochats occurred biweekly after week 6. After 24 weeks of using the exergames, participants returned to the clinic for additional measurements.

Kids in the control program were told to do their normal level of physical activity. These kids got an Xbox and exergames after their final clinic visit.


## What did we learn?

The goal of this study was to see if exergames can help kids increase their activity levels and improve their health.

Kids who played the exergames lost weight and improved their health more than kids who didn't play the exergames.

Kids who played exergames improved their activity levels compared to kids who didn't play the games.Having kids play these exergames while also including video chats with fitness coaches may be promoted as an activity option for children.

## What was unique about this study? How were patients given a voice in research?

This study was unique because we included fitness coaches who offered advice through video calls; those conversations were led by the number of steps per day the child was doing. While these fitness coaches on our team had degrees in kinesiology, this role can be done by different people, such as paraprofessionals or lay health providers.

## Why is this research important to patients, clinicians, and other researchers?

Rather than see screen time in a negative way, we should think of the new and fun ways to use technology to get kids more active!

## Were there any limitations to the study?

This study had a small sample size. A larger sample size may lend more confidence to our findings. It would also be great in the future to continue to follow-up with the kids to see if they continue playing the exergames.

## What's next?

The use of telehealth in this study is promising for future projects, as virtual medical appointments are increasing in popularity and usage.