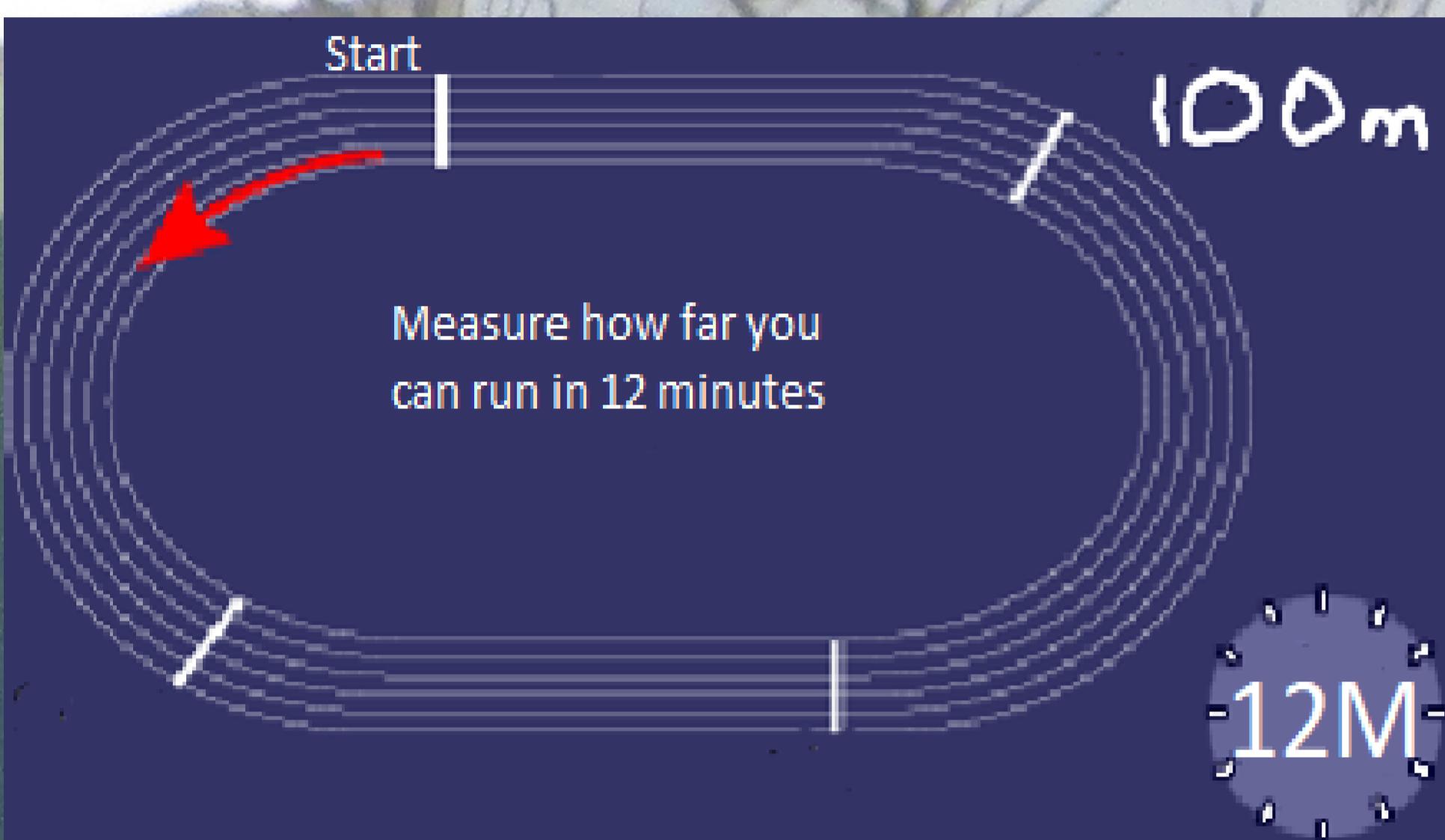


# Analysis of 1<sup>st</sup> Year Aerobic Endurance

By Konrad Bzdyra

## Introduction:

My project is an analysis of students' aerobic endurance in 1<sup>st</sup> year. The activity they took part in is the 12 Minute – Cooper Run test. The objective of this activity was to test the aerobic endurance in 1<sup>st</sup> year students aged 13 – 14 years. In this activity students run as much laps as they can in 12 minutes.



## Research:

I researched on the internet to find the national averages for people aged 13 - 14 and used those averages. The website we found ([brianmac.co.uk](http://brianmac.co.uk)) had the results we were looking for. Data was gathered from the 1<sup>st</sup> Year classes in our school about their performance in the 12 – minute cooper run. With the help of our Physical Education teacher, we were able to observe their performance in the 12 minute - cooper run. We used this data to show how well the 1<sup>st</sup> years performed in comparison with the national averages. Students were separated into males and females, as they have different averages. The students we recorded were in the 13-14 age group. One lap is 100 metres.

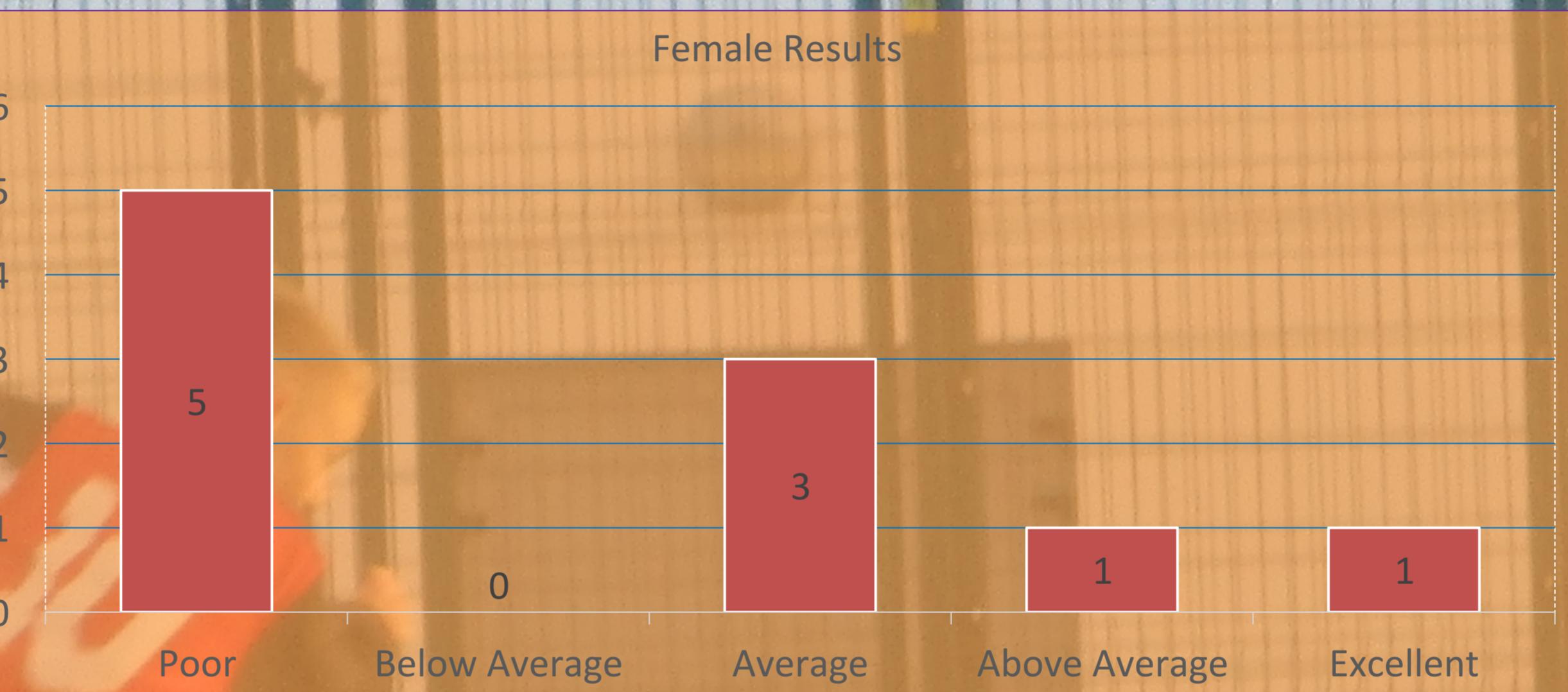
## National Averages:

### Male Averages:

Age	Excellent	Above Average	Average	Below Average	Poor
13-14	>2700m	2400-2700m	2200-2399m	2100-2199m	<2100m
15-16	>2800m	2500-2800m	2300-2499m	2200-2299m	<2200m

### Female Averages:

Age	Excellent	Above Average	Average	Below Average	Poor
13-14	>2000m	1900-2000m	1600-1899m	1500-1599m	<1500m
15-16	>2100m	2000-2100m	1700-1999m	1600-1699m	<1600m



## Statistical Analysis:

Averages of the laps are as follows:

### In Laps:

- Mean: 16.066
- Mode: 15, 19 and 24
- Median: 17.5
- Range: 25
- Standard Deviation: 6.003

### Distribution Data:

The total amount of the sample of first year students was 43. Using the normal distribution rate of 68%, and using the mean and standard deviation we found our results. The test we conducted showed that 68% of the population will run an average between 10 and 22 laps in 12 minutes. The averages we got from the site ([brianmac.co.uk](http://brianmac.co.uk)), prove our test was valid

## References:

brianmac.co.uk – 2016 – Cooper VO<sub>2</sub> max Test by Brian Mackenzie – [Online] Available at <https://www.brianmac.co.uk/gentest.htm> [Accessed 10<sup>th</sup> January 2018]

Senior Cycle Physical Education Curriculum & Instruction Models – 2013 – Dr. S.Luttrell & Dr. F.Chambers – Dublin, Ireland

## Discussion:

In comparison to the averages, the sample did much worse than the national average, and should improve. The area they would have to improve is their aerobic endurance, which is the ability to exercise continuously for extended periods without tiring. It is a crucial component of fitness which is needed for many sports and physical activities; otherwise the person wouldn't be able to keep up. Many health problems can come with a poor aerobic endurance such as poor stamina, tiredness, and would perform worse in sports such as football.

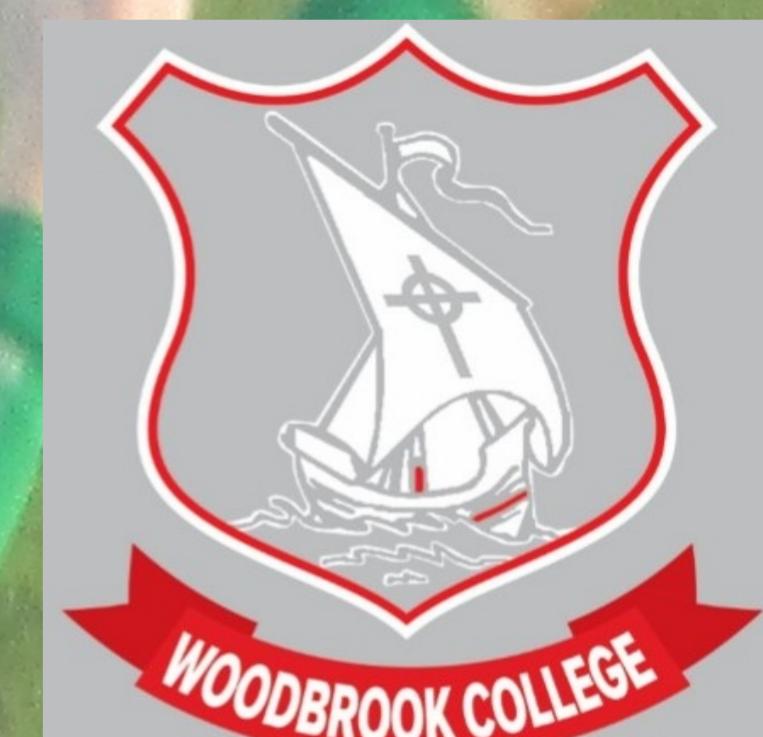
To these 1<sup>st</sup> Year Students I would recommend they would take up activities such as going running for long distances in their free time or even simply cycling a lot, to school for example. If they did it for the time they are in school, they would have a much better aerobic endurance by the time they do their leaving certificate.

## Limitations:

The males got better results as more got above average than the amount of females. There were fewer females than males in the sample, which could mean that if both genders had the same amount, the females could possibly have better results.

Another limitation was the fact that we only had two 1<sup>st</sup> Year classes from our school to observe for this research. If we could manage to do the same for another school and another year we would have much better results to compare. For all we know our school was an outlier and had much different results.

There is also a possibility of miscount while counting the amount of laps the students made, affecting the results.



## Conclusion:

In conclusion the students didn't get great results; most are below average. We hope this will help show and improve how 1<sup>st</sup> year students can improve their fitness levels and improve their physical performance.