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What it is like to be Obese? A Practical Example

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As researchers and practitioners in the area of obesity, we are familiar with the different types of obesity that are prevalent and the alarming increase of younger children that are impacted globally. Moreover, we recognise the health problems concerned with the relationship between obesity and the lack of physical activity, with the drain on health funding with increased teeth extractions, type 2 diabetes and heart conditions, to name but a few. In an attempt to combat this global epidemic, there are many policies and interventions in place which work in conjunction to address obesity. One such example is the globally recognised recommendation by the World Health Organisation1 to encourage between 30-60 minutes of exercise per day, depending on age. However, to the general population, such advice seems too simplistic and neglects to recognize the difficulties that individuals have with becoming more physically active.

In order to appreciate some of these health concerns, it is increasingly evident that we need to get our young people's attention and show them how real and pressing these issues are for their future. In an attempt to illustrate what being obese is like from a phenomenological perspective, an experiment was conducted for *n*=8 sport and exercise undergraduate degree university students to actually 'feel' what it was like to be obese in a practical environment. The experiment was designed to highlight the physical constraints of being obese and provide them with an opportunity to reflect on whether recommendations by WHO1 were realistic.
As part of the practical, students took part in a series of two sets of six tests. Body mass (kg) was measured at rest and they performed to the best of their ability in four standardised physical fitness field testing parameters. These included, (sit and reach (cm), vertical jump (cm), Illinois Agility run (s) and 10 m sprint (s)). On completion of the field tests, a 2 minute (s) exercise bout of low impact and low intensity was conducted on a motorised walker with a Polar heart rate monitor (bpm). All results were recorded as Pre. Students then put on a bariatric weighted suit which consisted of a padded leg section with jeans (size 60 cm waist circumference), padded arm section with sweater (size 6 XL) and weighted torso section (20lbs in weight). This suit is normally used with the National Health Service to train nurses, so designed in such a way to not only represent weight but size. Students repeated all six tests and all results were recorded as Post.

The mean results of eight students revealed that sit and reach test ranged from Pre 28.0 cm to Post -20.0 cm with an overall reduction of 48 cm and the vertical jump

ranged from Pre 46.0 cm to Post 20.0 cm and a reduction of 26 cm. The 10 m sprint ranged from Pre 2.2 s to Post 5.7 s with an increase of 3.5s and the largest time increase was found with the Illinois agility run which ranged from Pre 12.7 s to Post 27.8 s, with an overall increase of 40.5 s. Body mass measurements showed no difference in measurement except for the Post 20 lb increase. Finally, results from the two minute exercise bout indicated that the Pre resting heart rate averaged 56 bpm, which would appropriately represent the sample population. However, after two minutes of low intensity and low impact exercise, post testing heart rate increased to 148 bpm which is an increase of 92 bpm or 164%.

The students noted an abrupt customisation of wearing the bariatric suit. This was particularly evident with the 164% increase in heart rate. This led to a discussion at the end of the practical about the significant increase in heart rate and stress being placed on the heart and whether the link between 30 minutes of physical activity is realistic given these findings. Furthermore, students had to deal with significant adaptation of their running style for both the 10 m sprint and Illinois Agility Run, and moving from a standing to sitting position on the floor in preparation for the sit and reach test. These changes in mechanical processes posed challenges that the students had not considered and let to a further discussion about the stress that 30 minutes of physical activity could have upon joints.

In summary, there are plenty of other avenues to explore within an experiment of this type, including nutritional, sociological, psychological, physiological, and biomechanical processes. However, within the context of this practical example, it provided an opportunity for students to appreciate, albeit briefly, what it is like to be obese from a physical point of view. Key findings suggested mechanical problems were encountered when having to move with the bariatric weighted suit and more alarmingly the 164% increase of the heart rate from a two minute exercise bout. As such, the short term WHO[1] recommendation of 30 minutes a day was considered appropriate in principle, but given the practical's findings not realistic until weight loss and careful heart monitoring during aerobic activity is in place.

REFERENCES

1. World Health Organisation. Global recommendations on Physical Activity for Health. Geneva: WHO Press; 2010.