

Evaluative Report

Heart rate variability, blood glucose concentration and aerobic fitness in moderate and highly active men and women

Luca Cardilli

Supervisors: Dr Ramsbottom and Dr Gilder

Having the chance to be an undergraduate research student has been a very interesting and exciting experience. It has given to me the opportunity to transfer the academic skills I have gained so far into real and concrete scientific settings. It has been a challenging period during which I have been continuously encouraged and motivated by my supervisors Dr Ramsbottom and Dr Gilder to delve into the scientific principles which underlie scientific research. Moreover, they have always offered their time and support to make me better understand the technical terms related to the data collected during the testing sessions.

My project was about the relationship between blood glucose, heart rate variability and aerobic fitness. Even though it was not possible to recruit many subjects, mostly due to the summer period and the lack of a congruous number of students around the campus, I feel I have gained a certain level of confidence in using the scientific equipment I have dealt with throughout the project and greatly improved my communication skills, which are of vital importance when a study requires human volunteers.

This research has revealed to be so interesting that the project is still ongoing. As a consequence, I will carry on testing subjects in the next months hoping to find relevant relationships between the parameters I am investigating. It is my intention to produce a final research project based on the results I will be finding once completed the data collection and analysis to be used as a final year interdisciplinary project here at the

Oxford Brookes University and to produce an abstract to be submitted in order to participate at the next BASES (British Association of Sport and Exercise Sciences) Undergraduate Student conference.

My previous experiences as physiotherapist and personal fitness trainer have been of great help during the collection of the data and in giving advice to the subjects who participated in the study on how to improve their lifestyles and fitness levels. However, without the guidance of Dr Ramsbottom who personally supervised me throughout most of the testing sessions it would have not been possible to achieve a good level of practical skills and confidence. Similarly, the technical support of Dr Gilder has revealed to be essential to understand what and the reason why I was taking certain measures instead of others.

This experience has reinforced my opinion that it is not possible to thoroughly understand physiological and scientific principles unless it comes to real practice. Even though I had already participated in several practical classes during those first two years of study here at the Oxford Brookes University, undertaking a real research project from the beginning to the end has been something completely different. I have realised that it takes a huge amount of time to prepare a project and cope with all its aspects, from the initial idea to the discussion of the results obtained. This is especially true when working with humans compared with e.g. bacteria, yeast cells or animals.

One of the more difficult aspects emerged during this experience has been the recruitment of subjects. I had no idea on how difficult it could be looking for human subjects, preparing informative leaflets to attach around the campus and in other strategic places, meeting people and explain them the experimental procedure and trying to involve and make them interested in this study. In addition, another important lesson I have learnt is the importance of following basic ethical procedures before starting to recruit and test human.

To conclude my thoughts about this unique experience, I really wish to thank all the staff at the Reinvention Centre for giving to all the undergraduate research students the support required to face this challenging situation. I am sure this research project will greatly improve both my CV and the chance to obtain a place for a PhD studentship in Exercise Biochemistry once I have completed my undergraduate studies.