

Plain Language Statement

School of Biomedical Sciences, Department of Anatomy and Physiology, Faculty of Medicine Dentistry and Health Sciences



Project: The effect of an acute bout of moderate intensity exercise on academic performance

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Additional Researchers:

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Ms Carmen Tan (Student researcher)

Introduction

Thank you for your interest in participating in this research project. The following few pages will provide you with further information about the project, so that you can decide if you would like to take part in this research.

Please take the time to read this information carefully. You may ask questions about anything you don't understand or want to know more about.

Your participation is voluntary. If you choose not to participate, or withdraw from the project, this will not have any effect on your progression through the course or your grades.

What is this research about?

This study aims to investigate how a single short bout of moderate-intensity exercise affects university students' ability to learn and remember information from academic lectures.

In particular, we want to understand if exercising for a short period, immediately before studying, can help students focus on a learning task and perform better on tests, both immediately after learning and a week later. This allows us to evaluate the short-term and long-term impacts of exercise on academic performance. We are also interested in

comparing the effects of moderate-intensity exercise with a more passive activity like watching a TV show.

This research will guide the development of better study strategies for students, potentially improving their academic performance.

What will I be asked to do?

Should you agree to participate in this study, you will be asked to attend the University of Melbourne (Parkville campus), a maximum of four times over a 4-5-week period.

Session 1: Intervention 1

Duration: 90 minutes.

In this session, you will be randomly allocated to complete either a 20-minute bout of moderate-intensity exercise on a stationary bike, or 20 minutes of a passive activity (such as watching an entertainment video). During exercise, your heart rate will be continuously monitored, and we will ask you about your perceived level of exertion.

You will then be asked to:

- watch and study (including taking notes on) a 10-minute lecture recording for 30 minutes;
- complete a 5-minute cognitive test by completing the Stroop task;
- complete a 10-minute test on the lecture content; and
- complete a 5-minute survey that evaluates the level to which your mind wandered from the learning task.

At the start of session 1 only, you will be asked to complete a short online survey (5 minutes). This survey will collect your name, email address, and University of Melbourne student ID. The survey will also collect demographic information (age, biological sex, gender, domestic/international student) and information about your physical activity habits via the short-form International Physical Activity Questionnaire.

Session 2: Test session 1

Duration: 30 minutes.

Session 2 will occur 7-10 days after session 1. Here, you will receive your notes from the previous sessions to aid in revision. After 10 minutes of revision, you will be tested on your understanding of the lecture content via a 15-minute test on the lecture content.

Session 3: Intervention 2

Duration: 90 minutes.

This session will proceed as per session 1, but you will complete the alternative intervention activity (i.e., if you completed an exercise bout in session 1, you will be asked to complete the passive activity in session 3).

Session 4: Test session 2

Duration: 30 minutes.

Session 4 will occur 7-10 days after session 3. This session will proceed as per session 2.

After the intervention

During the trial, you will be asked to take notes on a pre-recorded lecture. We will keep these lecture notes and analyse them for content and quality. No identifying features of these lecture notes will be retained, and all analyses will be anonymous.

Upon completion of the trial activities, you will receive a \$100 electronic gift card to compensate the time you have dedicated to the project.

What are the possible benefits?

The findings have direct implications for student study habits. If a link between moderate exercise and improved academic performance is established, it could lead to easily implementable strategies for students to enhance their learning outcomes. This, alongside existing research that shows positive effects of single bouts of exercise on mood and cognition, as well as mood states, potentially offers a comprehensive, evidence-based approach to help students succeed at university.

What are the possible risks?

The potential risks of this study are minimal.

A single bout of moderate-intensity exercise may cause mild discomfort or fatigue, but this is not expected to exceed what you might experience in daily life. As with all exercise, there is a small risk of muscle soreness or strain, which we will minimise by adjusting the bike to ensure a good riding position for each participant, and appropriate warm-up and cool-down exercises. As the exercise intensity is moderate, and the duration is relatively short (20 minutes), we do not expect participants to experience dehydration. Nonetheless, hydration fluids will be available to participants.

The online survey and tests are unlikely to cause distress or discomfort, and you can stop the surveys or tests at any time.

Do I have to take part?

No, participation is completely voluntary. You are able to withdraw at any time. If you choose to withdraw from the study, you can do so without providing a reason, and at any time by informing the researchers. Your decision to withdraw will not impact any subject grade or assessment of your academic performance, as this study is not part of any subject expectations.

If you withdraw before the end of the study, you can request that any data already collected from you be destroyed and not used in the analysis. However, if you withdraw after the data

across sessions has been linked and de-identified (at the end of session 4), it will not be possible to remove your specific data from the study results.

Remember, this research activity is entirely separate from your coursework. Your participation or non-participation will not affect your grades or academic standing in any way.

Will I hear about the results of this project?

Upon request we can share any published manuscript with research participants.

What will happen to information about me?

All data collected during this study will be kept strictly confidential and stored securely on password-protected databases. Throughout the study period:

- Your name and email address will be used to communicate with you throughout the study to schedule sessions.
- Your student ID will be used enrol you into a “Community” page through which you will be able to access the learning task materials.
- Your student ID will be used to link data across the four sessions (intervention and test sessions).

When data collection is complete and electronic gift cards have been distributed, your email address will be deleted and student IDs will be removed from the dataset that is used for analysis, making it fully de-identified.

Only aggregate and de-identified data will be reported in any research reports or summary of results. After the research project ends, your data will be retained for a period of 5 years after publication in a scholarly journal, after which it will be securely destroyed.

The findings from this study may be used in future projects that are closely related to this project, the same general area, or could make valuable use of this data. In such instances, only de-identified data will be used. The same confidentiality protections will apply to any future use of the data, and any future use will require additional ethical review and approval.

Where can I get further information?

If you would like more information about the project, please contact the researchers:

Associate Professor Yossi Rathner (joseph.rathner@unimelb.edu.au).

Who can I contact if I have any concerns about the project?

This project has human research ethics approval from The University of Melbourne 2026-32873-78304-5.

If you have any concerns or complaints about the conduct of this research project, which you do not wish to discuss with the research team, you should contact the Research Integrity

Administrator, Office of Research Ethics and Integrity, University of Melbourne, VIC 3010. Tel: +61 3 8344 1376 or Email: research-integrity@unimelb.edu.au.

All complaints will be treated confidentially. In any correspondence, please provide the name of the research team and/or the name or ethics ID number of the research project.