## Title of research study: Factors influencing bicycling behavior

## IRB Protocol Number: XX-XXXX

## Investigator: Rodger Kram, Ph.D.

***Purpose of the Study***

The purpose of the study is to investigate potential factors that can affect cycling behavior. Findings from this research will provide vital information regarding how individuals can be motivated to start or continue to exercise, which is a vital public health concern. Furthermore, this research will assist rehabilitation clinicians and/or physical therapists better treat diseases like Multiple Sclerosis or Parkinson’s in which cycling is a commonly used therapeutic exercise.

We expect that you will be in this research study for about 2 hours.

We expect about 30 people will be in this research study.

***Explanation of Procedures***

Taking part in this study is completely voluntary. You do not have to participate if you don't want to. You may also leave the study at any time. If you leave the study before it is finished, you will still be paid for your time.

If you agree to take part in this study, you will be asked to participate in one, 2-hour experimental session. The cycling testing will be conducted in the Locomotion Laboratory in Clare Small Building 111c on the CU Boulder campus. During this session, you will be asked to complete 11, 400 m (quarter mile) bouts of cycling on a stationary, cycling ergometer meant to simulate what it is like riding outdoors. You will have around 3-4 minutes of rest between each experimental trial.

Prior to beginning the experimental trials, we will first have you complete a familiarization phase to become more accustomed to what each gear of the bicycle feels like. We will ask you to ride in each of the gears for approximately twenty seconds.

You will then complete a brief “ramp-up” familiarization in order to practice a start, similar to the manner you will start the following experimental 400 m trials. You will start in the easiest gear, and upon the cue to “go,” will begin pedaling and shifting into the gear that feels most comfortable.

After this practice ramp-up, you will then complete a 10 min warm-up period in which you may ride the bike however feels most comfortable.

Lastly, you will complete the 11 experimental, 400 m trials. During the experimental trials, we will record your cadence, crank power, speed, and time to complete the 400 meters. Each trial will begin in the easiest gear, and after starting you will be free to ride the remainder of the 400 meters however feels most comfortable and in whichever gear you choose. The instructions preceding each 400 m trial may be slightly different depending on the nature of the trial.

We cannot tell you everything about what we are doing in this study or why. A full explanation of the purpose of the research and procedures will be provided after you complete the study.

***Voluntary Participation and Withdrawal***

Whether or not you take part in this research is your choice. You can leave the research at anytime and it will not be held against you.

The person in charge of the research study can remove you from the research study without your approval. Possible reasons for removal include:

* Technical challenges encountered during the experiment
* Concerns with your ability to safely complete the entirety of the experiment
* Not following safety measures to prevent the spread of COVID-19

If you choose to withdraw or are withdrawn during the study, data collected to the point of withdrawal will be discarded. If you decide to leave the research, simply tell the investigator that you wish to stop.

If you are a CU Boulder student or employee, taking part in this research is not part of your class work or duties. You can refuse to enroll, or withdraw after enrolling at any time, with no effect on your class standing, grades, or job at CU Boulder. You will not be offered or receive any special consideration if you take part in this research.

## Risks and Discomforts

Exercise can cause fatigue and minor discomfort. In the unlikely event of a life-threatening event (e.g., a heart attack), the investigators would call 911, begin CPR and await EMS arrival. At least one person trained in CPR and how to use an AED (Automated External Defibrillator) will be present during the experiment. The investigators have a functional AED at each research site.

If as a direct result of participating in this study, you experience a non-life-threatening injury (for example: a cut, scratch, or wrist sprain) that requires medical treatment, the experimenters will provide reasonable assistance in getting you to Wardenburg Health Center, or Urgent Care at the Boulder Medical Center. Professor Kram has more than 25 years of experience conducting these sorts of experiments and has never had a subject experience a serious injury. It is important that you tell the Principal Investigator, Rodger Kram, if you think you have been injured because of taking part in this study. ***You can call him at 303-492-7984.***

You may be exposed to COVID-19 by participating in this experiment. We also strongly request that you contact the Principal Investigator if you test positive for COVID-19 in the following 14 days after taking part in this study.

In addition to these risks, this research may hurt you in ways that are unknown. These may be a minor inconvenience or may be so severe as to cause death.

***Payment for Research Related Injury***

If you need medical care because of taking part in this research study, seek medical attention immediately (if it is a medical emergency, first call 911). Generally, this care will be billed to you, your insurance, or other third party. The University of Colorado – Boulder has no program to pay for medical care for research-related injury.Please contact the investigator as soon as possible to report an adverse event.

***Potential Benefits***

We cannot promise any benefits to you or others from your taking part in this research. However, possible benefits include about 1 hour of mild to vigorous exercise.

***Confidentiality***

Information obtained about you for this study will be kept confidential to the extent allowed by law. Research information that identifies you may be shared with the University of Colorado Boulder Institutional Review Board (IRB) and others who are responsible for ensuring compliance with laws and regulations related to research, including people on behalf of the Office for Human Research Protections. The information from this research may be published for scientific purposes; however, your identity will not be given out.

There are some things that you might tell us that we CANNOT promise to keep confidential, as we are required to report information like:

* Child abuse or neglect
* A crime you or others plan to commit
* Harm that may come to you or others

After the study is completed, we will deidentify the data by removing the identifiers that link it to you. The deidentified data may be used for future research purposes by the Principal Investigator of this study. The deidentified data may also be shared with another investigator for future research.

Your individual results will not be disclosed to you. Upon request, you may receive an electronic copy of the published manuscript, which will anonymously describe the results.

***Cost of Participation***

Arranging transport to and from the venue (and associated costs like gas) will be your responsibility. No other costs will be incurred by you because of participation in this study.

***Payment for Participation***

You will not be paid to be in this study.

***Contact for Future Studies***

We would like to keep your contact information on file so we can notify you if we have future research studies that we think you may be interested in. This information will be used by only the principal investigator of this study and only for this purpose.

Please initial your choice below:

\_\_\_ Yes, you may contact me for future research studies. The best way to contact me is: (enter preferred telephone number and/or email address) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_ No, you may not contact me for future research studies.

***Questions***

If you have questions, concerns, or complaints, or think the research has hurt you, talk to the research team at [culocomotionlab@gmail.com](mailto:culocomotionlab@gmail.com).

This research has been reviewed and approved by an IRB. You may talk to them at (303) 735-3702 or [irbadmin@colorado.edu](mailto:irbadmin@colorado.edu) if:

* Your questions, concerns, or complaints are not being answered by the research team.
* You cannot reach the research team.
* You want to talk to someone besides the research team.
* You have questions about your rights as a research subject.
* You want to get information or provide input about this research.

***Signatures***

Your signature documents your permission to take part in this research.

Signature of subject Date

Printed name of subject

Signature of person obtaining consent Date

Printed name of person obtaining consent