With the increase in cycling popularity, bike handling gains crucial importance to avoid falling off the bike, crashing into obstacles and to prevent injuries. It has been shown that people handle their bikes by steering and leaning, but no research has addressed the question on how can we improve it to cycle safer.

The objective of my PhD is to examine what are the fundamental skills that people use to handle their bikes and how we can improve it to increase cyclist’s safety on the road.

Methods

Participants are asked to ride in a straight line along a cycle lane.

Cyclists’ movement is being recorded with a 3D motion capturing system.

Study 1 - test protocol

12 cyclists and 12 non-cyclists were tested under three different conditions.

Study 2 - adjusting seat height

40 commuting cyclists were tested for bike handling at four different seat heights.

Adjusting the seat height lower as currently recommended improves bike handling and has important implications for road safety.

CONCLUSIONS

Riding a bike in a straight line from a standing start is a valid and reliable protocol to assess the level of bike handling skills.

Adjusting the seat height lower as currently recommended improves bike handling and has important implications for road safety.

Future Research

Developing a device that would allow us to quickly assess one’s level of bike handling skills in outdoor conditions. That would enable us to detect cyclists with an increased risk of getting themself injured due to lose of control.