

Mini research project proposal



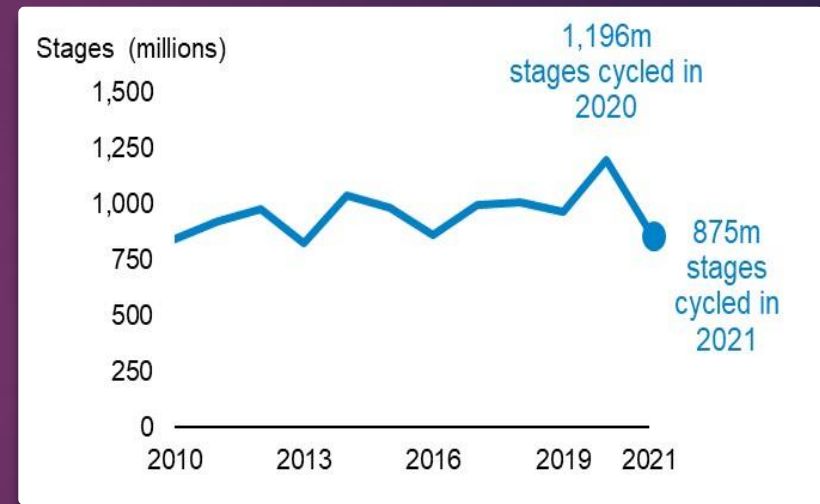
- ▶ Student name: Florentina Gavril
- ▶ ID number: 1906521
- ▶ Lecturer name : Dr Muhammed Afolabi
- ▶ Module name: Practice-Based Research
- ▶ Module code: LCHS7001

Prevalence of cycling among students in University of Liverpool



Introduction/Background

- According to WHO (2022), physical activity improves health.
- Regular physical activity prevents and manages cardiovascular diseases, several types of cancer, diabetes prevents high blood pressure, improves mental state and maintains body weight within normal limits (Department of Health and Social Care, 2019).
- Adults should exercise at least 150 minutes of moderate physical activity per week, statistics show that most adults in the United Kingdom do not achieved the recommendations.(GOV.UK, 2022).



Source: <https://www.gov.uk/government/statistics/walking-and-cycling-statistics-england-2021/walking-and-cycling-statistics-england-2021>

Introduction

- ▶ In 2021, the number of bicycle trips decreased by 27% (GOV.UK,2022).
- ▶ 45% of students in London practice cycling for pleasure, and 38% do not practice cycling on the way to University due to low traffic safety and the worry of bicycle theft (Titze et al.,2017).
- ▶ According to Paul et al.,(2020), Infrastructure and built environment implementations to promote cycling are not sufficient to increase the rate of cycling.
- ▶ In a study conducted by Oja et al.,(2011),was found that there is a positive relationship between cycling and health:
- ▶ The risk of mortality from any cause, cardiovascular disease and morbidity from colon cancer and the incidence of obesity decreases (Patterson et al.,2019).
- ▶ The reduction in the risk of all-cause mortality becomes significant with increasing daily cycling, compared with non-cyclists. (Stastna et al.,2019)
- ▶ Cancer risk similarly decreases with increased cycling. For cancer mortality, the risk reduction is about 20% with 1 hour of daily.(Oja.et al.,2011)

Literature review

Methodology used:

Database - Google scholar and University of Wales Trinity Sain David Library,

Key words by Boolean operator: students OR young people OR young adults, cycling AND health AND prevalence

Location with whom: UK

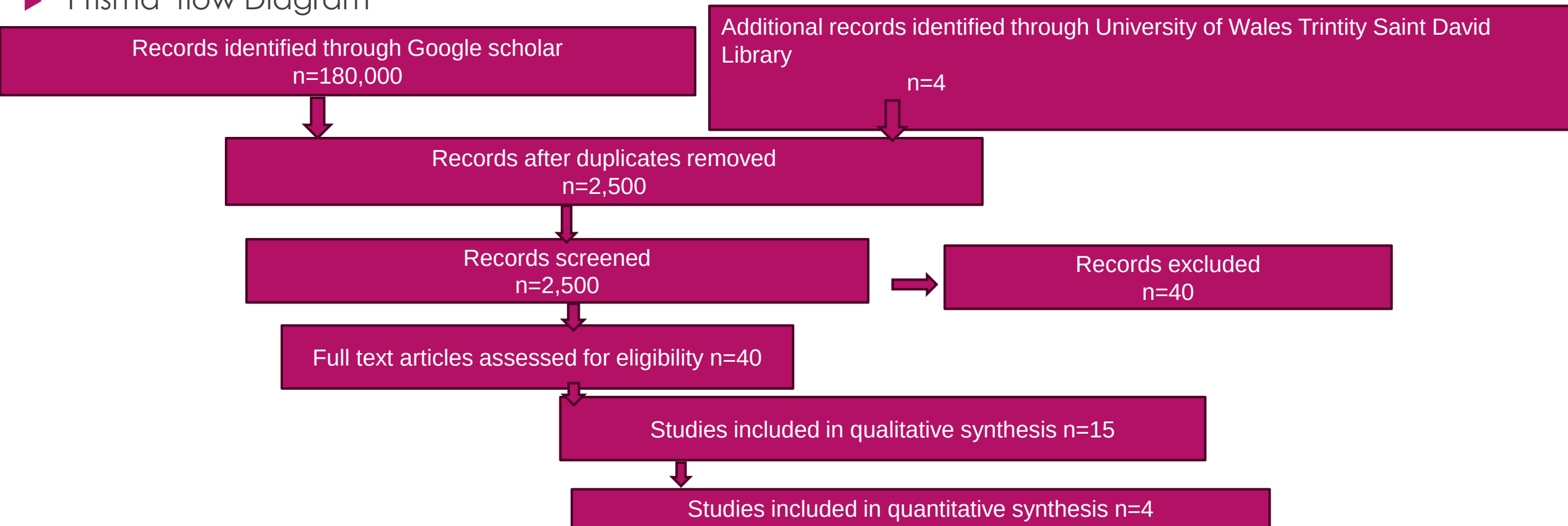
Evaluation sources : CRAAP

Inclusion criteria: University, group age: 18-30, articles only in UK, female and male, article from 2018-2023

Exclusion criteria: Primary, secondary Schools, children, older people, other countries than UK, article older than 5 years.

Literature review

► Prisma flow Diagram



Literature review -The main characteristic of selected studies

Study	Key debates	Sample size and data analysis	Gaps
Swiers, et al.,(2017)	85% of students agreed that should be done more to encourage cycling, only 15% of students practice regular cycling. , 62% reported not cycling because of the weather and 39% because of traffic safety. 24% do not practice cycling to the University because of the lack of showers and the lack of parking for bicycles.	194 students between 18–25 years - Data was extracted from the online survey into Statistical Product and Service Solutions (SPSS version 20).	The limited use of inferential statistics, due to small numbers of participants.
Osei et al., (2023)	The rate of cycling in London by black people is very lower, they face serious barriers of racism, road user abuse, and a lack of cycling infrastructure and services in black London communities compared to white communities.	- Focus group of students group Black or mixed Black men from University of London aged between 18 and 25 years. - Data extracted-interview	Lack of quantitative analysis and data related to the issues, which could form a useful focus of further research alongside further qualitative research into this and other groups.
Titze et al.,(2017)	45% of students practice cycling for pleasure, and 38% do not practice cycling on the way to university due to low traffic safety and the worry of bicycle theft.	538 students lived in Graz - Data extracted by cross-sectional questionnaire study	The study limitation was design and method. Owing to its cross-sectional design, the specific study population, and the self-reported questionnaire data, the findings could be used as a basis for further studies.
Romero et al.,(2020)	Physical activity and sedentary behaviour in health students' science, before and after the pandemic showed major changes. After the pandemic, women have a considerably lower physical activity rate than men, because they chose to remain in the sedentary behaviour acquired during the pandemic.	230 pre-post study on health sciences students aged 20-21 years. - Data extracted by a cross sectional questionnaire.	May be a selection bias because it is an observational study and all study subjects volunteered to participate in the questionnaire. Lack of strata analysed due to the low number of subjects in some group.

Aims/Objective/Hypothesis

Aim : the aim of this study is to determine the prevalence of cycling among student in University of Liverpool.

Objectives:

To assess the association between socio-demographic characteristics of the students and their practice of cycling.

To identify the factors that motivate students for engaging in cycling among students.

To improve the University policy in order to encourage the students for cycling.

Research question: What are the causes among students to not practise cycling?

Hypothesis: The experimental hypothesis could be independent variable - students could face barriers to cycling winch consist in lack of parking bikes or lack of knowledge about the benefits of cycling.

Rationale

- ▶ Global efforts to establish active travel in the student population have been underway for over 20 years. From the Talloires Declaration of 1990 to the Graz Declaration of 2002, universities around the world are responsible for acting as a leader in the development of active travel (Balas, 2003).
- ▶ However, there is a lack of research into levels of cycling among UK students and the database is particularly limited (Sally, 2020)
- ▶ The biggest negative impact of universities on the environment was the use of the car for transport, Tolley (1996) and a change of thinking is needed to achieve benefits in the impact on the health of the population as well as to protect the ecosystem, increasing cycling within universities (Swiers, 2017).
- ▶ Additional research is required as well as the change of policies in Universities, regarding the promotion of cycling among students.

Proposed methodology

- ▶ **The research method** : quantitative
- ▶ **Study design** :
 - A cross-sectional descriptive design which involves the collection of data to explore the associations between the factors and prevalence of cycling among students ,research positivist approach will be adopted for this cross-sectional online survey.
 - This approach will help to identify how many students practice cycling and evaluate variables that affect bicycle user outcomes in University of Liverpool .
 - A quantitative design will allow the collection of information from a large number of students and will allow to understand the prevalence of cycling among students ,the factors that not allow students to cycle, also comparisons between behaviours and outcomes.

Proposed Methodology

► Data collection :

- Primary data quantitative will be collected from students through a structured questionnaire covering the socio-demographic characteristics of students such as :age, gender, residential location, educational level, religious affiliation, marital status, family income, factors promoting cycling among the students.

- Each student registered in the University will receive an email from the University of Liverpool administration ,with invite for participation in an online survey.

► Analysis

- Data will be extracted from the online survey into Statistical Product and Service Solutions (SPSS version 20) .

- Descriptive analysis will be undertaken : distribution, central tendency and dispersion to generate insight into cycling activity along with potential synergies and differences between groups such as regular and non-regular cyclists.

Proposed methodology

- ▶ - Analysis of major barriers and motivators will allow to compare the existing evidence and policies implemented.
- ▶ -Barriers and motivators relating to cycling will be generated . Combining such data will allow the researcher to explore the possibility of relationships between factors such as age and gender with views on cycling and barriers and motivators to establish similarities and differences.
- ▶ **Samples:**
 - ▶ -Stratified sample - students will be divided in 2 groups : undergraduates and postgraduates
 - ▶ -The study population (N = 29,600) consisted of all students enrolled in University of Liverpool including male and female, between ages 18 and 25 years old, and have the ability to read and write English.
 - ▶ Sampling technique: by random sampling : will be selected 3000 undergraduate students and 3000 postgraduate students.

Ethical consideration

- ▶ Ethical approval for this study will be sought by the ethics committee of the University of Liverpool.
- ▶ Personal information about students will be confidential, collected in a data collection software with built-in protection measures.
- ▶ The access to the information will be limited only to researchers through a secure password.
- ▶ Students will be free to opt in or out from the study at any time.
- ▶ Students will be informed about the purpose of the study, benefits and risks before agreeing to enjoy.
- ▶ Student identities will not be collected.
- ▶ The questionnaire will not contain sensitive questions.

Implication of research

Previous studies show that the statistics regarding the rate of cycling among students are low due to several barriers they face.

The lack of infrastructure, the lack of parking spaces for bicycles at universities, the lack of showers, the concern of students regarding the theft of bicycles, have already been identified in the studies conducted by Swiers, et al., (2017), Osei et al., (2023), Titze et al., (2017), Romero et al., (2020).

The purpose of this study is to identify the prevalence of cycling among students at University of Liverpool, and based on the result, the University will be able to implement new policies and interventions to motivate the practice of cycling by students.

Week 1	Week 2	Week3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9
Background research and literature review	Refine research question	Design questionnaire	Recruit participants and set out questionnaire	Conduct interviews	Transcribe interviews and clean data	Statistically analyse survey data	Conduct thematic analyses of interview transcript	Draft result and discussion
Read and analyse relevant literature	Develop theoretical framework	Finalise sampling and data analysis methods						

Timelines

Reference list

- ▶ Aldred R et al., (2015), "Does More Cycling Mean More Diversity in Cycling?" , *Transport review* , Vol. 36, Issue 1, pp. 28-44.
- ▶ Annerstern.M and Wredling R.(2015), "How to write a research proposal", *European Diabetes Nursing* , Vol. 3 Issue 2, pp 102-105.
- ▶ Bernard P. et al.,(2021) , "Climate Change, Physical Activity and Sport: A Systematic Review", *Sports Medicine*,(51) pp.1041–1059.
- ▶ Bonham J and Koth B. (2010), "Universities and the cycling culture", *Transportation Research part D: Transport and Environment*, Vol. 15, Issue 2 ,pp.94-102.
- ▶ Dick V.D. et al., (2012), "Perceived neighborhood environmental attributes associated with adults' transport-related walking and cycling: Findings from the USA, Australia and Belgium", *International Journal of Behavioral Nutrition and Physical Activity* ,Vol 9, Issue 70.
- ▶ GOV.UK (2022) *Walking and cycling statistics, England: 2021*. [Online]. Available at: [Walking and cycling statistics, England: 2021 - GOV.UK \(www.gov.uk\)](https://www.gov.uk/walking-and-cycling-statistics), (Accessed 1 July 2023).
- ▶ WHO (2022) *Physical activity*. [Online]. Available at: [Physical activity \(who.int\)](https://www.who.int/physical-activity), (Accessed 1 July 2023).
- ▶ Department of Health and Social Care (2019) UK Chief Medical Officers' Physical Activity Guidelines . [Online]. [UK Chief Medical Officers' Physical Activity Guidelines \(publishing.service.gov.uk\)](https://www.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/824811/uk-cmo-physical-activity-guidelines.pdf). (Accessed: 1 July 2023).
- ▶ Holton M and Finn K. (2017), "Being-in-motion: the everyday (gendered and classed) embodied mobilities for UK university students who commute", *Mobilities*, Vol. 13, Issue 3, pp. 426-440.

Reference list

- ▶ Patterson R. et al.,(2019), “Associations of Public Transportation Use With Cardiometabolic Health: A Systematic Review and Meta-Analysis”, *American Journal of epidemiology* , Vol. 188, Issue 4, pp.785–795.
- ▶ Paul K. et al.,(2019) , “Beyond cycle lanes and large-scale infrastructure: a scoping review of initiatives that groups and organisations can implement to promote cycling for the Cycle Nation Project”, *British Journal of Sports Medicine*, Vol 54, Iss 23,pp.1405-1415.
- ▶ Rosenberger. M.E et al.,(2019), “The 24-Hour Activity Cycle: A New Paradigm for Physical Activity”, *Medicine & Science in Sports & Exercise*, 51(3):pp. 454-464.
- ▶ Romero C. et al.,(2020), “Physical Activity and Sedentary Lifestyle in University Students: Changes during Confinement Due to the COVID-19 Pandemic”, *International Journal of Environmental Research and Public Health*, Vol.17, Issue 18 .
- ▶ Sabyrbekov R. and Overland I. (2020), “Why Choose to Cycle in a Low-Income Country?”, *Sustainability* , Vol. 12, Issue 18.
- ▶ Scally J. et al.,(2020), “Evaluating functional electrical stimulation (FES) cycling on cardiovascular, musculoskeletal and functional outcomes in adults with multiple sclerosis and mobility impairment: A systematic review”, *Multiple Sclerosis and Related Disorders*, Vol 37. pp 101485.
- ▶ Stastna .M et al.,(2018), “Cycling: A benefit for health or just a means of transport? Case study Brno (Czech Republic) and its surroundings”, *Transportation research part F : Traffic Psychology and Behaviour*, Vol. 55, pp2019-233.
- ▶ Scribbr(2023), *How to Write a Research Proposal | Examples & Templates*. [Online], Available at :[How to Write a Research Proposal | Examples & Templates \(scribbr.co.uk\)](https://www.scribbr.co.uk/how-to-write-a-research-proposal/), (Accessed 7 July 2023).
- ▶ Swiers R. et al.,(2017), “A cross sectional survey of attitudes, behaviours, barriers and motivators to cycling in University students”, *Journal of Transport and Health*, Vol. 6,pp. 379-385.

Reference list

- ▶ Titze S. et al.,(2011), “Health benefits of cycling: a systematic review”, *Scandinavian journal of medicine & Science in Sport*, Vol. 21, Issue 4, pp. 496-509.
- ▶ Telfer B. et al.,(2006), “Encouraging cycling through a pilot cycling proficiency training program among adults in central Sydney”, *Journal of Science and Medicine in Sport*, Vol 9, Issue 1-2, pp.151-156.
- ▶ Torraco R. et al., (2005), “Writing Integrative Literature Reviews: Guidelines and Examples”, *Human Resource Development Review*, Vol.4, Issue 3.
- ▶ Titze S. et al.,(2023), “Environmental, Social, and Personal Correlates of Cycling for Transportation in a Student Population”, *Journal of Physical Activity and Health*, Vol. 4, Issue 1, pp.66-79.
- ▶ Teuber M and Sudeck G. (2021), “Cycling: A benefit for health or just a means of transport? Case study Brno (Czech Republic) and its surroundings”, *International Journal of environmental research and Public Health*, Vol. 18. Issue 4.
- ▶ VeryWellMind(2023), *How the Health Belief Model Influences Your Behaviors*. [Online]. Available at: [How the Health Belief Model Influences Your Behaviors \(verywellmind.com\)](https://www.verywellmind.com/how-the-health-belief-model-influences-your-behaviors-2795887), (Accessed 5 July 2023)

Reference List

- ▶ Varpio L. et al.,(2020), “The Distinctions Between Theory, Theoretical Framework, and Conceptual Framework”, *Academic Medicine*, Vol. 95, pp. 989-994, (6).
- ▶ Osey A. et al.,(2023), “You always think about what other people be thinking”: Black men and barriers to cycling in London”, *Journal of Transport Geography* , Vol. 108, 103576.
- ▶ Utley J. and Lovelace R.(2016), “Cycling promotion schemes and long-term behavioural change: A case study from the University of Sheffield”, *Case Study on Transport Policy* , Vol . 4 ,Issue 2, pp.133-142.
- ▶ WHO (2022) *Physical activity*. [Online]. Available at: [Physical activity \(who.int\)](https://www.who.int/physical-activity), (Accessed 1July 2023).
- ▶ Wuerzer T. and Mason S (2015), “Cycling willingness: Investigating distance as a dependent variable in cycling behavior among college students”, *Applied Geography* ,Vol. 60, pp. 95-106.
- ▶ Wilson O. ET AL.,(2018), “Best practices for promoting cycling amongst university students and employees”, *Journal of Transport and Health* ,Vol.9, pp. 234-243.
- ▶ Yang Y. et al.,(2017), “Towards a cycling-friendly city: An updated review of the associations between built environment and cycling behaviors (2007–2017)”, *Journal of Transport & Health*, Vol 16. pp. 100613.