A tale of two New Zealand cities: Influences on adolescents’ cycling to school in Christchurch and Dunedin

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My PhD

“Influences on cycling to school among teenagers: An investigation using the theory of planned behaviour and the prototype willingness model in Christchurch, New Zealand”
Topography

Christchurch

Dunedin

Photo: J Frater

https://en.wikipedia.org/wiki/Baldwin_Street
Lyttelton

https://de.wikipedia.org/wiki/Lyttelton_%28Neuseeland%29
Christchurch  Dunedin

http://hubpages.com/health/Stop-Sweating

http://nerdist.com/7-cold-weather-movies-to-help-you-beat-the-summer-heat/
Christchurch
Mean annual temp
11°C

Dunedin
Mean annual temp
12.1°C

(Climate Conversation Group, 2016) - mean annual temperature 1971-2000
Other differences?
Reason

To increase the proportion of teenagers that cycle to school in Christchurch and Dunedin
Proportion of adolescents that cycled to school – those living <4km from school

Christchurch: 18%
Dunedin: 2%
Proportion of adolescents that were driven to school (living <4km from school)

Christchurch: 17%
Dunedin: 38%
Premise:
Our behaviours are based on the strength of our **beliefs**, but also our **evaluations**.

e.g. We may both believe that Dunedin is a very hilly place to live, but I may evaluate this to be a bad thing, and you may evaluate it as a good thing. Consequently we might behave differently.
What we did

Asked people about their beliefs regarding themselves cycling, not about cycling itself, or other people cycling

(a reasoned action approach)

AND

Compared beliefs between the two cities
Research question

To find out whether the same or different factors influenced teenagers to cycle to school in Christchurch and Dunedin.

Differences compared

Attitudes

[Image: Smiley emoticons]


Norms

[Image: People cycling]

Photo: J Frater

Capability + Autonomy

[Image: People riding bikes]

Photo: J Frater

Intentions

[Image: Man riding bike]

http://www.gettyimages.ca
Christchurch

27 Schools invited
20 Schools declined
7 Schools participated
791 Surveyed students with valid consent

418 Invalid, boarding, living >4km, missing data

373 Students included in the analysis

Dunedin

12 Schools invited
12 Schools participated
1663 Surveyed students with valid consent

1233 Invalid, boarding, living >4km, missing data

430 Students included in the analysis
Attitude questions

For me, regularly cycling to school would be …

Dull/Interesting
Unpleasant/Pleasant
Boring/Stimulating
Unhealthy/Healthy
Useless/Useful

http://road.cc/content/blog/90885-science-cycology-can-you-draw-bicycle
Norms

• My **friends** think I should cycle to school – 1=Disagree/7=Agree

• One or both of my **parents or guardians** cycle frequently - 1=Disagree/7=Agree

• My **parents or guardians** think I should cycle to school - 1=Disagree/7=Agree

• Out of your five **friends, how many** always or sometimes cycle to school – 0,1,2,3,4,5
Capability

• I see myself as being **capable** of riding a bicycle to school. 1=Incapable/7=capable

• How **confident** are you that you could ride a bicycle to school? 1=Not very confident/7=Very confident

• I believe that I have the **ability** to ride a cycle to school 1=Definitely do not/7=definitely do

Autonomy

• I have complete **control** over whether or not I cycle to school. 1=No control/7=complete control
Intention

I want to regularly cycle to school
1=Definitely do/7=definitely don’t

How often do you intend to ride a bicycle to school? 1=Never/7=frequently

http://www.gettyimages.ca
Results – Attitudes to cycling similar in both cities

- Healthy – 50%
- Good, useful – 50%
- Interesting, pleasant, stimulating – 33%

Results – differences

Disagree

1
Dunedin

2.2

Norm

Agree

3.1
Christchurch

7

Photo: J Frater
Results – differences

Incapable/no control

Capable/complete control

Capability + Autonomy

Dunedin: 4.0
Christchurch: 5.7
Results – differences

Definitely not

\[ 1 \]

\[ 1.7 \]

\[ 2.8 \]

Dunedin

Christchurch

Definitely do

\[ 7 \]

Intention

http://www.gettyimages.ca
Conclusions

Attitudes


Norms

Photo: J Frater

Capability + Autonomy

Intentions

Photo: J Frater

http://www.gettyimages.ca
Different “environments”
Ecological Model of Cycling for Transport to School (Adapted from the Ecological Model of Four Domains of Active Living (Sallis et al., 2006))
Natural environment

Temperature

Topography

Photo: J Frater

https://en.wikipedia.org/wiki/Baldwin_Street
Behaviour setting
(Physical environment)

Bike tribes: New Zealand's love affair with cycling

ABBBIE NAPIER
Last updated 05:00, May 14 2016

Barry Bryant cycles to work wearing a suit and cap on his 1980s vintage bike.

SEE YOU AT THE FINISH LINE FELLAS!
Social cultural environment

https://cyclingchristchurch.co.nz/http://cyclingchristchurch.co.nz/bicycles
Policy environment

Conclusions

Norms

Intentions

Capability + Autonomy
Acknowledgments

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