



# Developing an international survey of bicycle and helmet usage

Narelle Haworth, David Shinar and Tal Oron-Gilad

International Cycling Safety Conference 2014, 18-19 November 2014, Göteborg

Centre for Accident Research & Road Safety - Queensland

CARRS-Q is a joint venture initiative of the  
Motor Accident Insurance Commission  
and Queensland University of Technology



[www.carrsq.qut.edu.au](http://www.carrsq.qut.edu.au)

CRICOS No. 00213J

# International comparisons

- Cyclists double the proportion of road fatalities in low and middle income compared to high income countries
- Bicycle use
  - Cycling participation
  - Distance ridden?
- Fatality and injury rates by distance
  - United States 7.2 and 25
  - Germany 3.2 and 1.6
  - The Netherlands 2.0 and 0.4
- Differences in patterns of cycling
  - Gender
  - Trip purpose

# Helmet wearing rates

- Large differences in wearing rates by children which decrease with age
- Adult rates
  - vary between less than 5% and 31%
  - Australia between 76% and 97%
- Attitudes regarding helmet effectiveness may not predict usage but most research on children

# Lack of exposure data

- International comparisons of crash risk need both better numerators and denominators than presently available
- Collection methods vary across countries
- Exposure patterns may vary across countries
  - Seasonality of riding in some countries
  - Transport versus recreation

# COST Action TU1101

- Towards safer bicycling through optimization of bicycle helmets and usage
- Work Group 2 examines bicycle helmet safety with respect to traffic psychology
  - survey on bicycle helmets and usage
  - comprehensive literature review on bicycle helmets

# Survey of Bicycle Use and Safety Perceptions

- Objectives are to develop
  1. a tool to measure bicycle riders use and perceptions of helmets and
  2. a core set of questions that could be used internationally.
- Comparison with Australia
  - bicycle helmets mandatory for more than 20 years
  - substantial amount of early research regarding the effects of bicycle helmet legislation

# Current status of survey

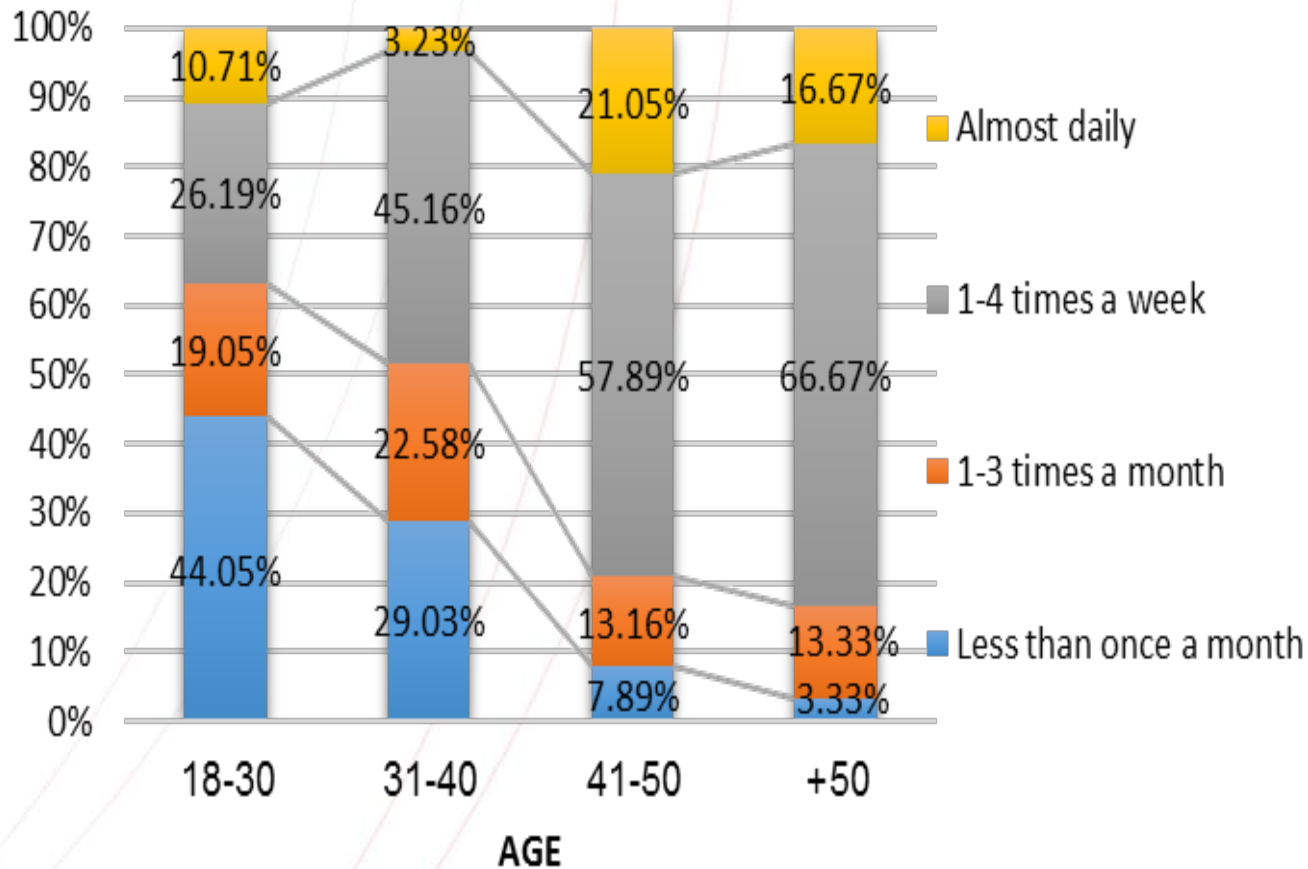
- Current survey responses
  - Croatia 192
  - France 355
  - Israel 267
  - Italy 2607
  - Norway 1214
- Survey launched in
  - Australia
  - Greece
  - Romania

# Preliminary results from Israel

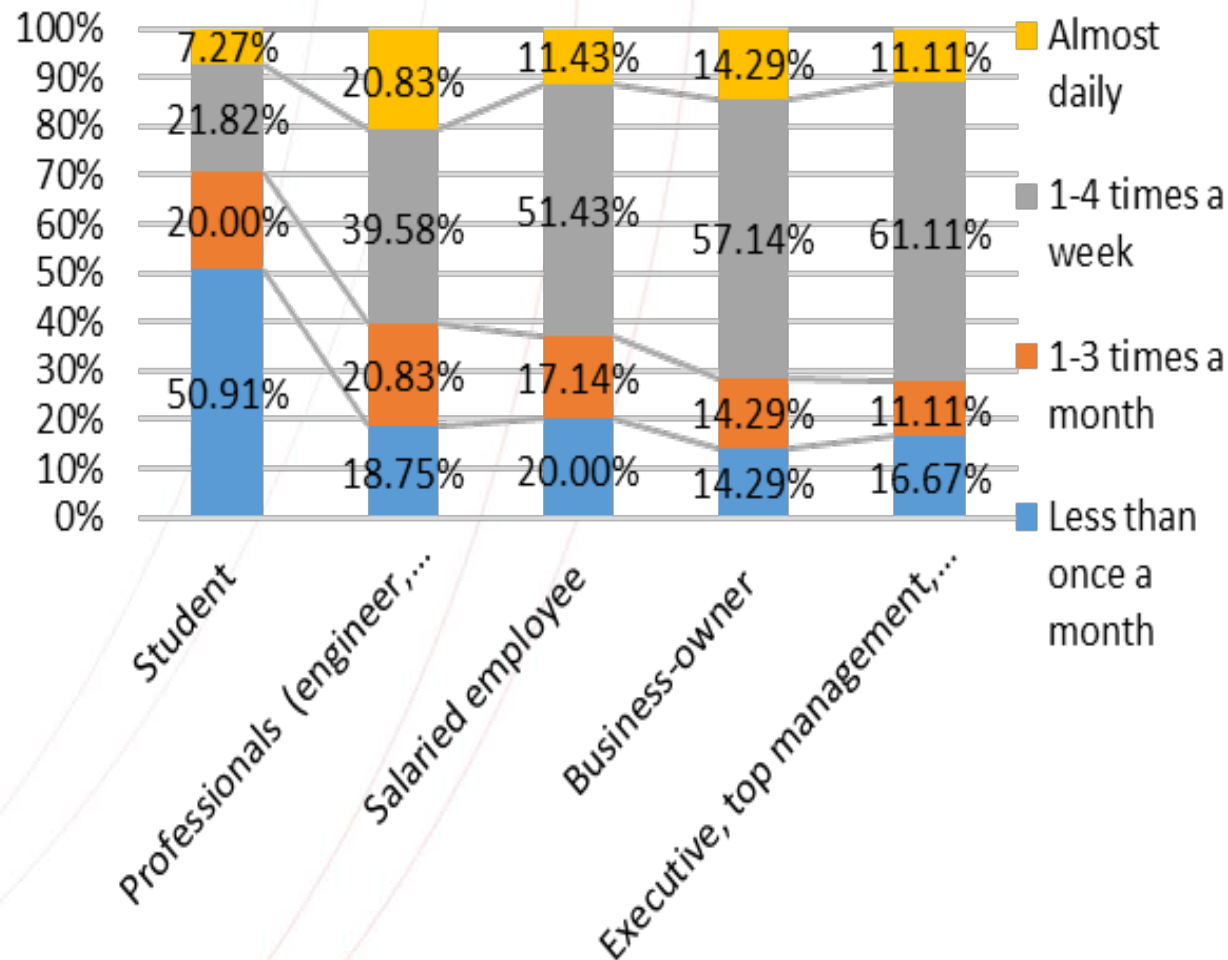
- Student project
- Translated into Hebrew
- N=267, aged 18+, rode at least 1km/week
- 76% males
- 1/3 students, 40% 18-30 years old



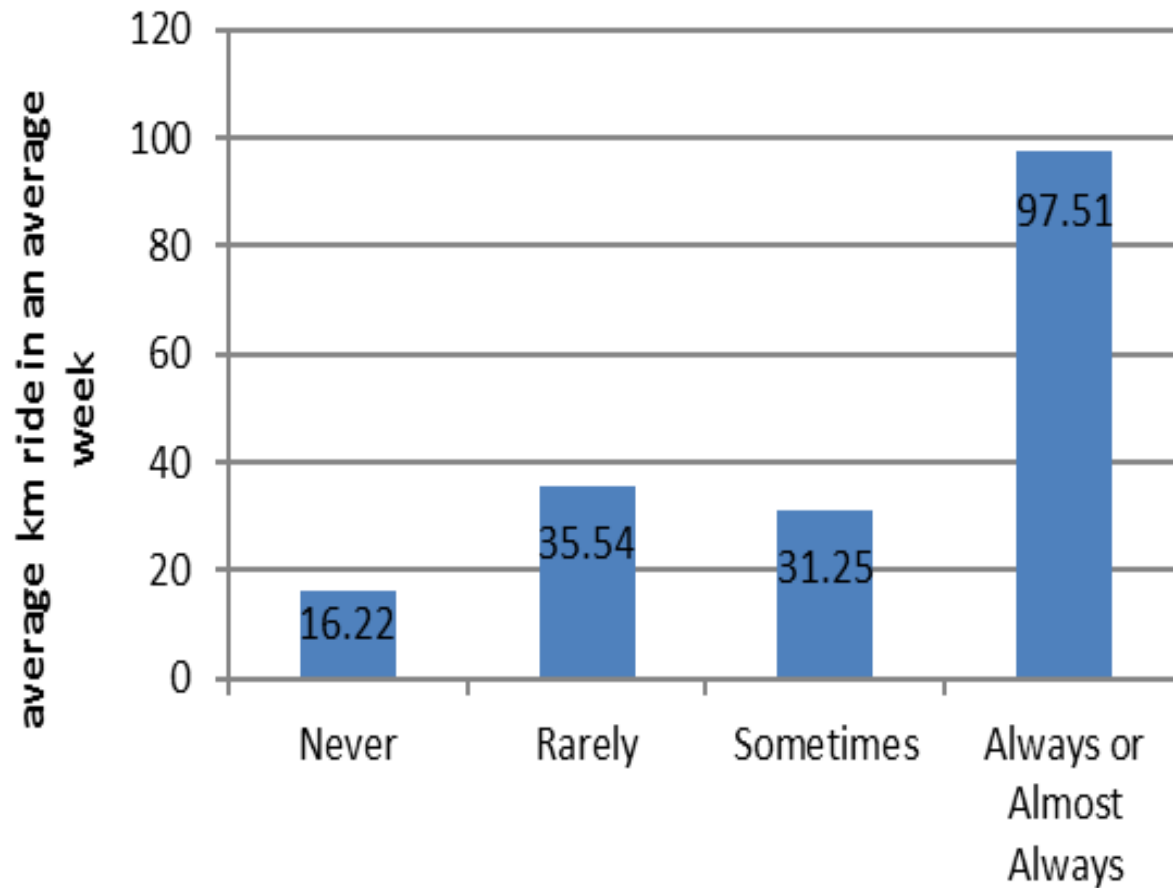
# Frequency of cycling by age



# Frequency of cycling by occupation



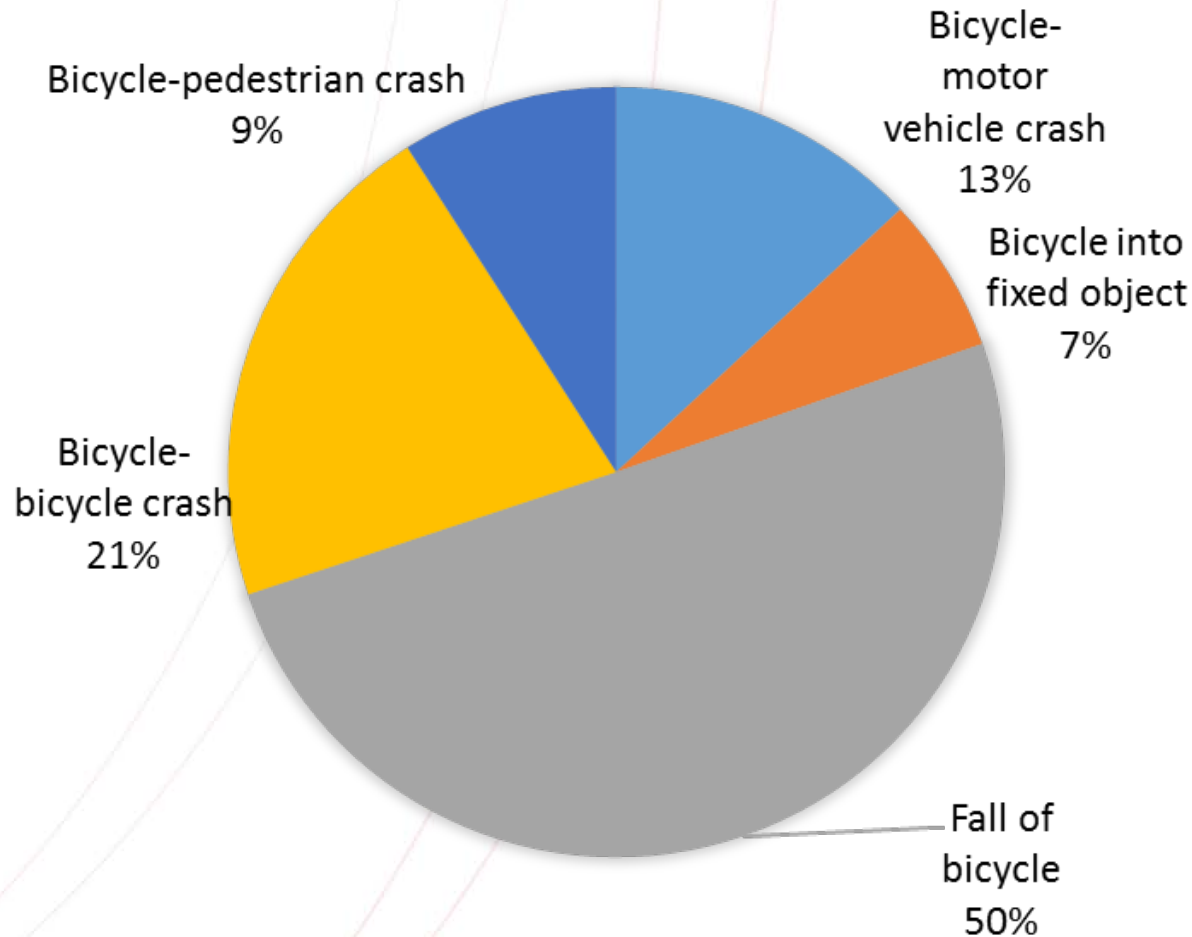
# Helmet use by distance ridden



# Crash involvement

- 20% of cyclists had been involved in at least one crash
- None of the crashes were reported to police
- Crash rate decreased with distance ridden (over 10 km/week)

# Types of bicycle crashes



# Limitations

- Convenience sample may have biased towards interested cyclists
  - Many students in Israeli sample
- Lack of detailed information about crash circumstances
- Small sample in Israeli pilot survey

# Preliminary conclusions

- It is possible to create an international survey
- Israeli data suggests complex relationship between age, socioeconomic status, purpose of riding and helmet use (and attitudes)
- Falling off the bike most common crash and none of these crashes reported to police

# Acknowledgments

- Input to survey from all Work Group 2 members
- Development of the survey was supported by a seeding grant from CARRS-Q
- Israeli students who collected data



# Questions?

[n.haworth@qut.edu.au](mailto:n.haworth@qut.edu.au)

[shinar@bgu.ac.il](mailto:shinar@bgu.ac.il)



**Save the Date!**



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The graphic is designed to look like a road with yellow and white diagonal stripes. It features several traffic-related images: a city skyline at night, a 'GIVE WAY' sign, a kangaroo crossing sign, a motorcycle, a truck, a bus, and a cyclist. A yellow circle with a black arrow points towards the top right.