

REPORTING BICYCLE ACCIDENTS TO POLICE IN THE COST TUI101 SURVEY DATA BASE: CROSS- COUNTRY COMPARISONS AND ASSOCIATED FACTORS

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INTRODUCTION: THE COST TU1101 GROUP

The COST TU1101 action “Towards safer bicycling through optimization of bicycle helmets and usage” focused on different aspects of bicycle helmet design, acceptance, etc.

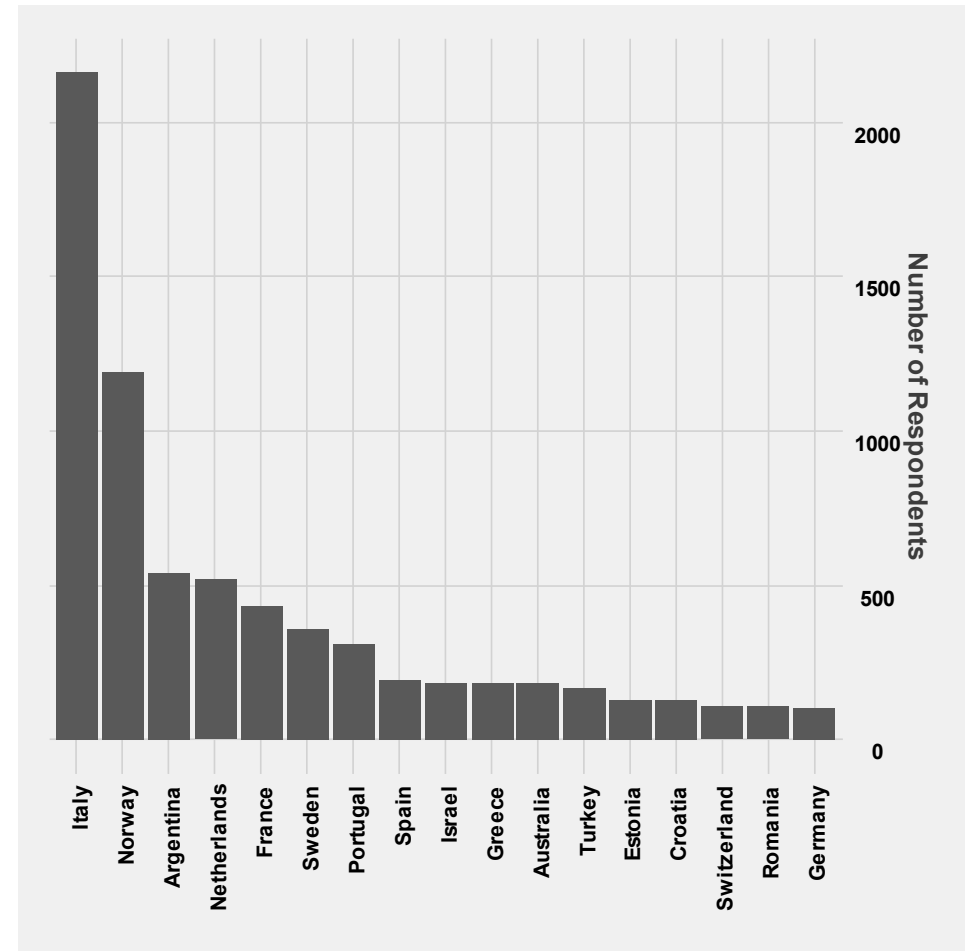
Within this action, the WG2 focused on social, behavioral, perception aspects related with the use/no use of bicycle helmets

This group decided to set up a multinational survey about bicycle helmet’s use and bicycles in general



INTRODUCTION: THE SURVEY

- A questionnaire was developed with questions based on previous surveys carried out by members of the group
- The questionnaire was translated to the native languages of the different countries with a few questions added at the end by some of them
- 17 Countries participated in the survey providing at least 100 valid questionnaires.
- Responses were gathered online and their dissemination was promoted by different venues by the COST Action researchers
 - Social media, word-of-mouth and bicycle organizations was the primare recruitment strategy
- Participants were adults that had ridden a bicycle in the last month
- 9240 questionnaires were received but after filtering the final sample size was reduced to 7015



RESULTS: REPORTING OF CRASHES TO THE POLICE

- The survey had the following question about accidents

Q28. In the last year, how many accidents have you been involved in as a cyclist in which you ... (please put the number zero [0] in each box, if you have not had a crash that matches the description):

(a) Had cuts or scrapes that did not require medical attention,

(b) Were treated by a nurse or doctor without being admitted to hospital,

(c) Were admitted to hospital.

- This presentation focuses on responses to the subsequent question Q28(b)

Was the crash reported to police? (a) Yes, (b) No

- 1792 respondents answered this question either with a YES or a NO

RESULTS:REPORTING OF CRASHES

The average percentage of bicycle accidents reported to the police across all countries was:

9.25%

This value, however, does not take into account differences in reporting among countries and. Because simple sizes varied greatly we calculated weighted percentages, as they were moderated by different variables:

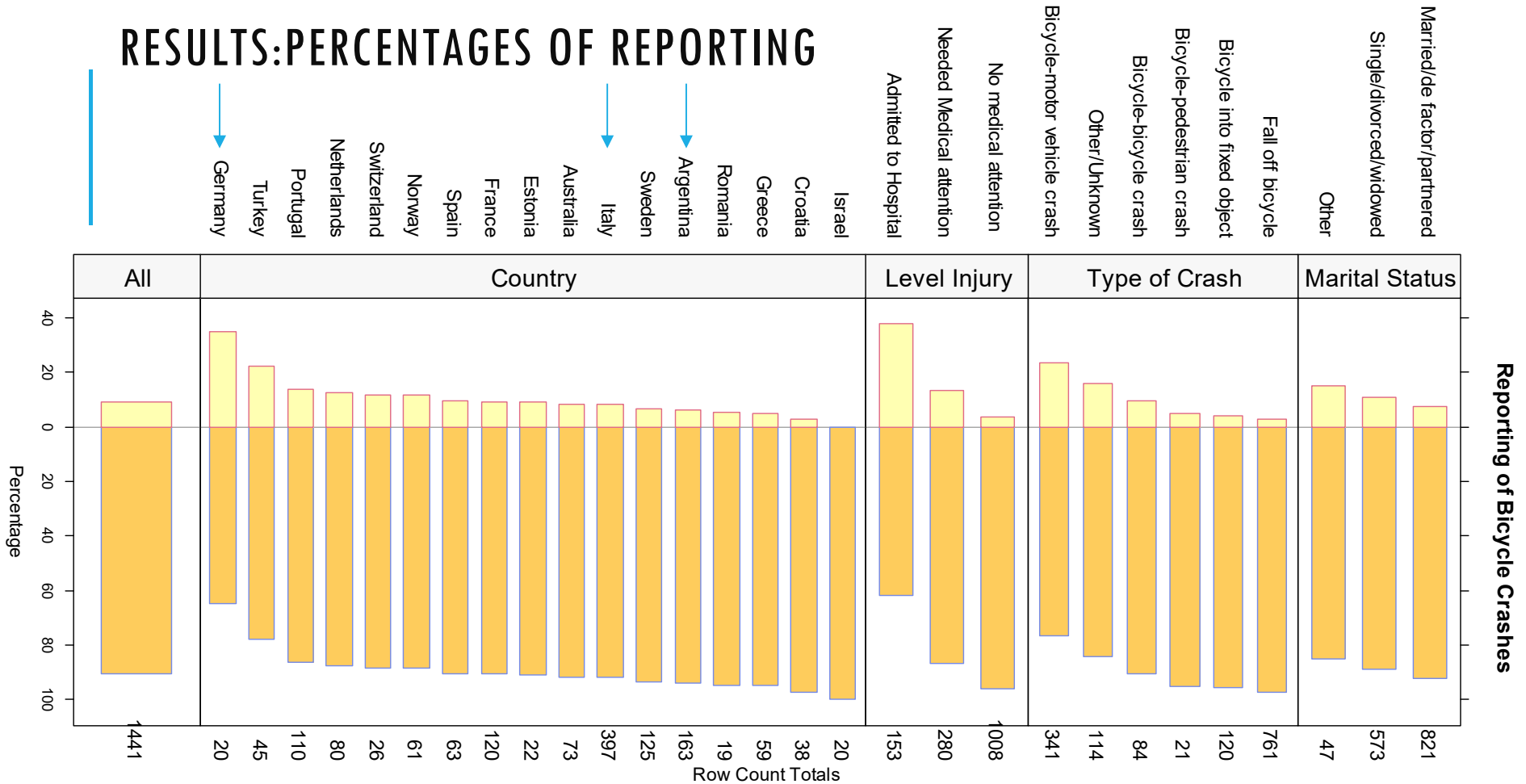
10.08%

RESULTS: FACTORS RELATED WITH REPORTING OF CRASHES TO THE POLICE

We studied factors associated with reporting of crashes to the police using the following procedure

- Crosstabulation tables (with tests of significance) of factors possibly associated with reporting to the police
- Factors that produced significant results were chosen as variables in a multivariate analysis (logistic regression) so that adjusted odds ratios could be computed
- Following this procedure four factors were identified as associated with reporting of crashes to the police, namely:
 - Country
 - Level of Injury
 - Type of Crash
 - Marital Status

RESULTS: PERCENTAGES OF REPORTING



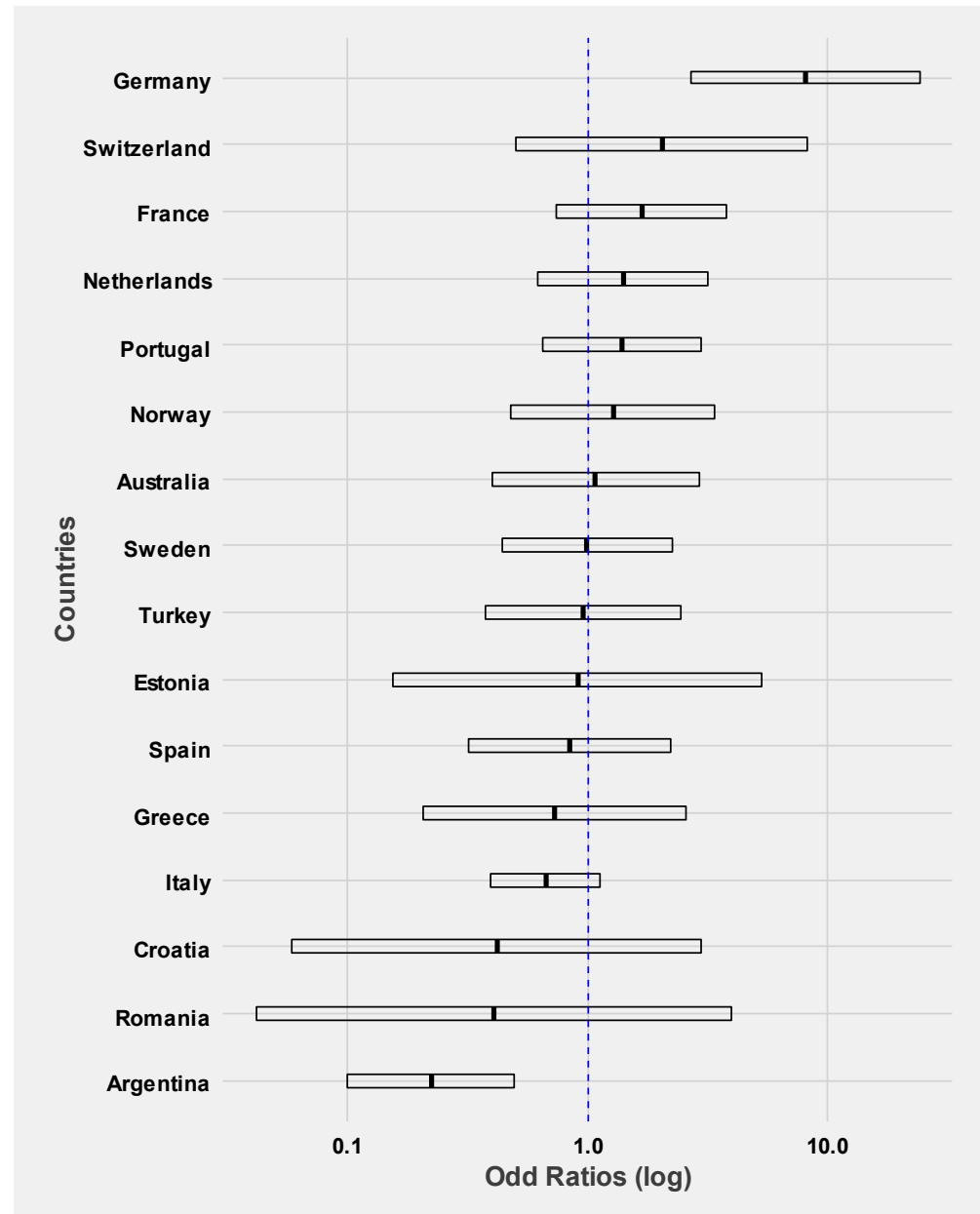
- Notice that the plot only shows respondents that filled up all the questions in the four factors (1441)
- The upper part of each column is the percent reporting and the lower part is the percent not reporting.
- Note: highest reporting (35%) is Germany. Most countries reported < 10%.

RESULTS: MULTIVARIATE ANALYSIS

- We calculated a multiple logistic regression using the four factors previously identified with reporting of crashes to the police as dependent variable
- We tested a number of alternative models but significant results were found only for the simple effects: no interactions and not other factors were found to have significant relations with reporting
- Following slides display the odds ratios for the categories of the independent variables as calculated by the logistic regression

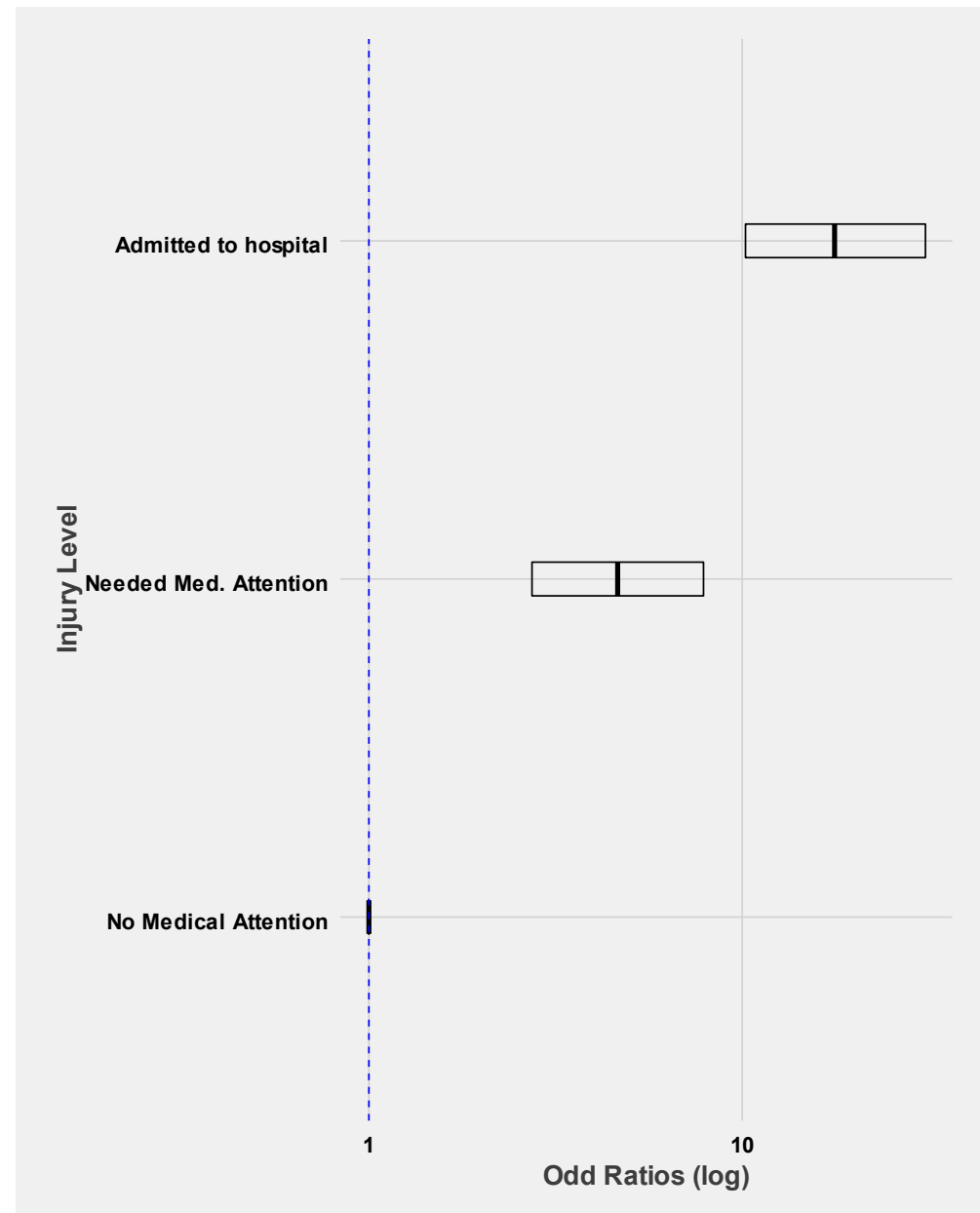
RESULTS: ODDS RATIOS BY COUNTRY

- These odds are calculated using the average as base (blue line)
 - Bar length shows the confidence interval
 - Bars crossing the blue line are not significantly different from the average
- Only two countries are significantly different from the average: Germany (above) and Argentina (below)
 - Israel is not in the plot due to zero reporting
- Notice the order of the countries:
 - Approx. more developed to less developed
 - The order is different from the one based on raw percentages only (with Turkey in the middle)



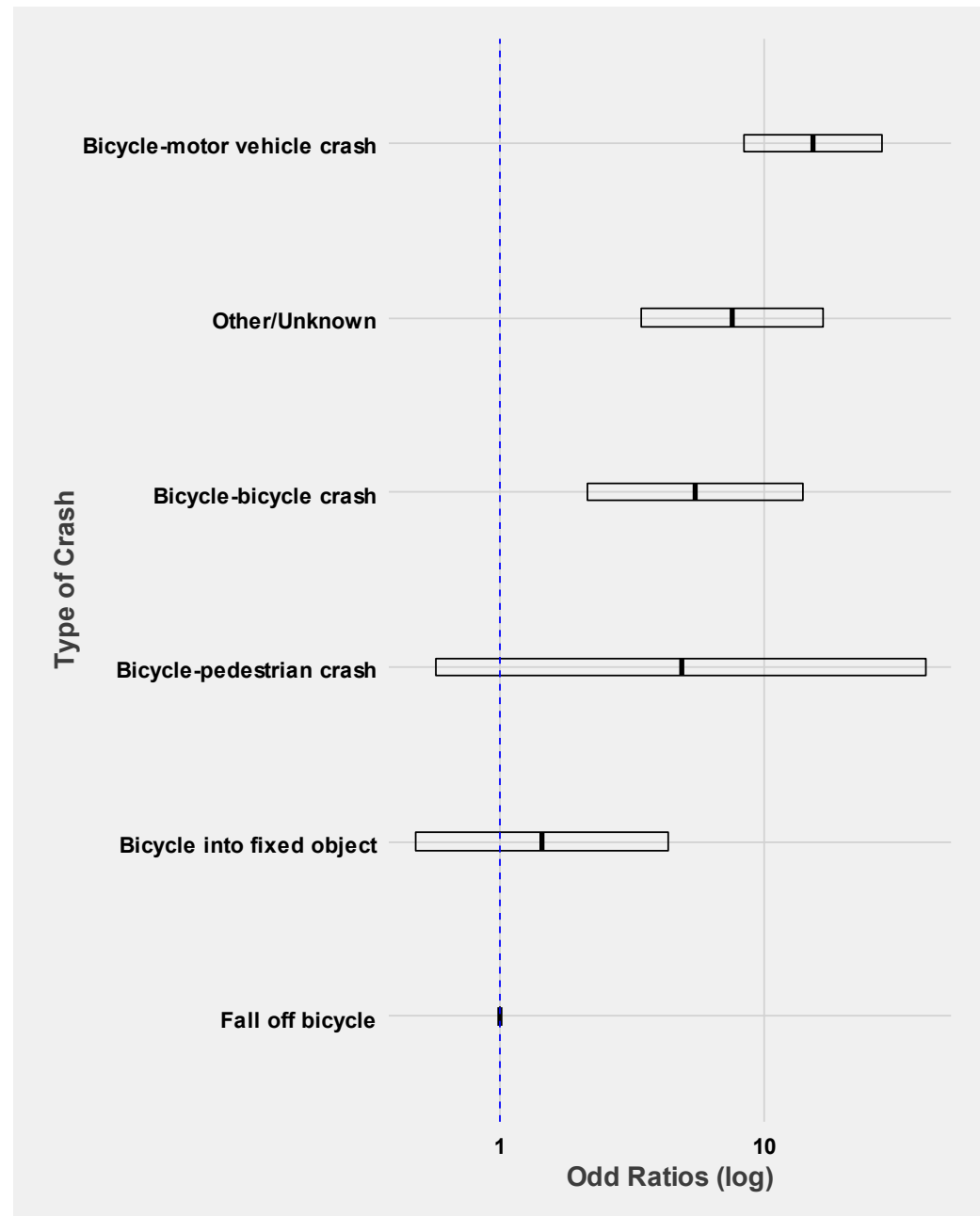
RESULTS: ODDS FOR LEVEL OF INJURY

- The odds are calculated using the level with the lowest level of reporting as base (No medical Attention)
- The odds of reporting if Admitted to hospital are 17 and if needed medical Attention the odds are 4.5 greater than when the most severe crash needs no medical attention.



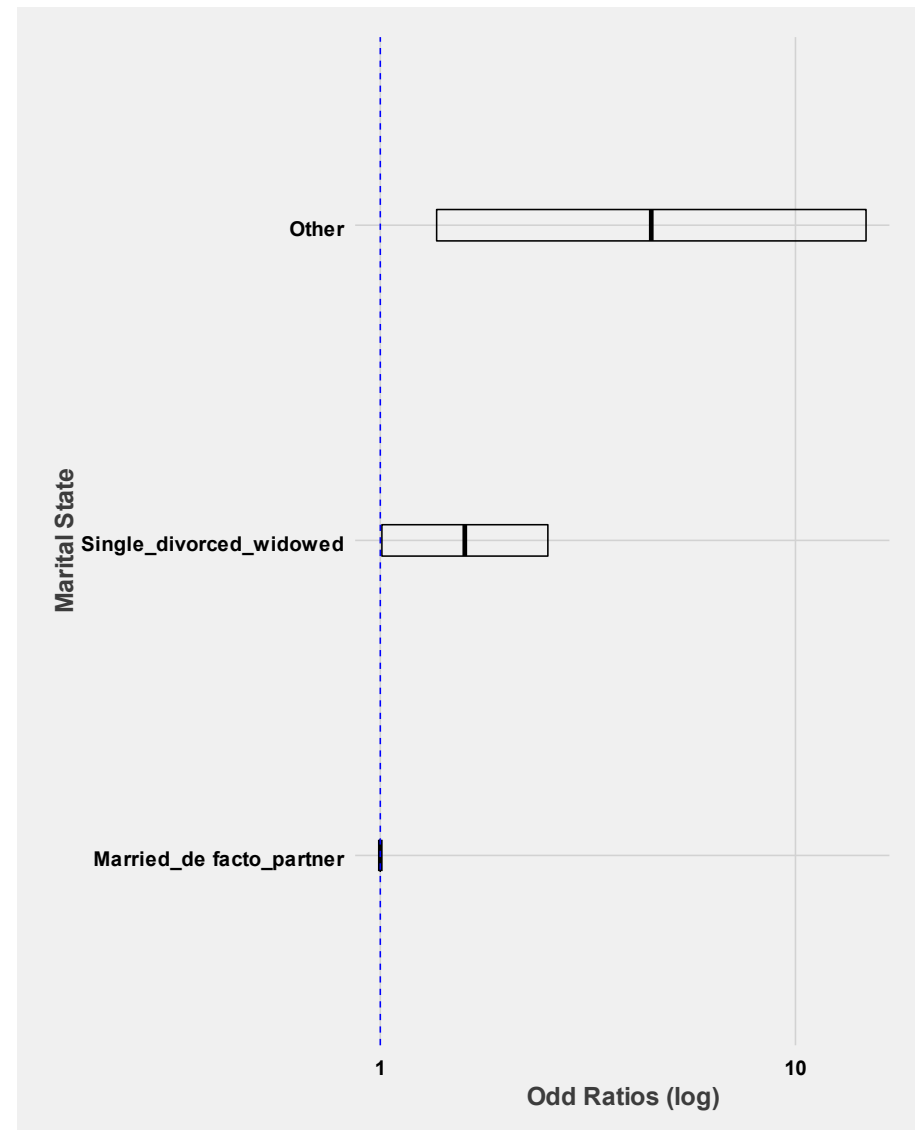
RESULTS: ODDS FOR TYPE OF CRASH

- Type of Crash refers to the object or element present in the Crash
- The odds are calculated using Fall off bicycle (the most common type) as base
 - Odds of crashes against motor vehicle being reported are 15
 - Odds of Other being reported are 7.5 and Odds of bicycle are 5.5
- The order is also interesting and suggests involving/no involving of others in the accident (or property damages?)



RESULTS: ODDS FOR MARITAL STATUS

- We found significant differences in the level of reporting between single people and those living with a partner, but they are not large
- The category other is significant (but only 47 people fell in it)
- A possible explanation is that people living alone may resort to authorities more than those living with a significant other
- We suggest that future studies examine this result to see if it is strong and reliable



CONCLUSIONS

- Greater harmonization among countries in crash definitions are necessary, especially for the inclusion of bicycle crashes
- The most commonly reported crash type *and also* the least likely to be reported to the police is "falling off the bike"
 - The general exclusion of these crashes may hide problems with infrastructure and cycling patterns that might be worth knowing for crash prevention
 - Social networks and other self-report venues could provide a good way of gathering this missing information
- Severity of the crash is clearly related to the likelihood of reporting the crash to the police or being admitted to a hospital
 - Minor injury crashes are massively underreported
 - Simply repeating the same procedures already in place for motor-vehicle crashes is probably not appropriate
 - Again, social networks might be a good option (that we are considering for an EU proposal)