

# Prevalence, patterns and reported preferences in helmet use among bicyclists in the region of Crete

Papadakaki Maria<sup>1</sup>, Tzamalouka Georgia<sup>1</sup>, Kartsonaki Helen<sup>1</sup>, Anipsitaki Marilena<sup>1</sup>, Vasilaki Efi<sup>1</sup>, Papanikolaou Maria<sup>1</sup>, Dietmar Otte<sup>2</sup>, Morandi Anna<sup>3</sup>, Chiara Orsi<sup>3</sup>, Pereira—Dias Joao Manuel<sup>4</sup>, and Chliaoutakis Joannes<sup>1</sup>

<sup>1</sup> Lab of Health & Road Safety (LaHeRS), Technological Educational Institute (TEI) of Crete

<sup>2</sup> Accident Research Unit, Medical School, University of Hannover

<sup>3</sup> Centre of Study and Research on Road Safety Statistics and Epidemiology (CIRSS), Faculty of Medicine, University of Pavia

<sup>4</sup> LAETA, IDMEC, Instituto Superior Technico, Universidade de Lisboa, Portugal

## AIM

The current study was carried out within the COST TU1101 Program action “better cycling”. It aimed to identify factors that affect the prevalence of helmet use as well as the bicyclists’ preferences in helmets’ standards. Among the factors examined were the type of bicycle, the type of helmet and the crash involvement in the past three years.

## METHODS

The study area was located in Crete, the southern region of Greece with a total population of approximately 600.000. A sample of individuals who used bicycle in everyday life was invited to complete a self-reported questionnaire through personal interviews. The cyclists were approached in public spots.

The questionnaire included 66 items including socio-demographic characteristics, frequency and patterns of cycling and helmet use, as well as information about previous crash involvement while cycling. Descriptive statistics were produced. The effect of various study variables on helmet use was examined. Pearson Chi Square Test and Student T test were performed depending on the type of variables examined. The level of statistical significance was defined at 0.05.

<i>Participants’ cycling characteristics</i>		
	N	%
<b>Type of bicycle (n=307)</b>		
City	147	48
Mountain	68	22
Racing	53	17
Other	39	13
<b>Location of cycling (n=307)</b>		
Car lane	230	75
Separate lane	77	25
<b>Helmet use while cycling (n=307)</b>		
Always	66	21
Sometimes	79	26
Never	162	53
<b>Road incident during the last three years among those using a helmet (n=145)</b>		
Yes	87	60
No	58	40
<b>Type of road incidents among those reporting an incident (n=87)</b>		
Fall from the bicycle	44	35
Crash with car	26	22
Other	55	43

## RESULTS

A total of 307 cyclists (70% men and 30% women) participated in the study with a mean age of 26.0 years (Min-Max 18-63). The majority had a higher educational status (college, university) (n= 215, 67.0%) and many of them were employees (n= 93, 30.0%). More than half of the respondents did not use a helmet while cycling (n=162, 53%) and the majority of them reported cycling in the car lane (n=230, 75.0%). The most common type of bicycle used by the respondents was the “city bike” (n=147, 48%). Responders who reported using “racing” type of bicycle used a helmet more frequently while cycling than the responders who reported using city, mountain and other types of bicycle (p=0,001). More than half of the respondents who used a helmet, reported involvement in a road incident during the past three years (n=87, 60.0%).

The large majority of the respondents who reported using a helmet, felt comfortable wearing it (n=134, 90%). “Sweating” was a factor with a statistically significant negative impact on using a helmet, as compared with other unpleasant symptoms while using a helmet (p=0.03). The respondents’ decision to use a helmet seemed to be influenced primarily by the quality and safety in helmet construction (n=240, 78%) followed by the price of the helmet (75%).

<i>Participants’ preferences in helmet’s standards (N=281)</i>								
	No		Little		High		Very High	
	n	%	n	%	n	%	n	%
User-friendliness	70	25	36	13	72	26	82	29
High quality/safety	41	14	35	12	71	24	115	42
Good price	48	17	37	13	81	29	96	34
Appropriate size	112	40	71	26	60	22	37	12
Appearance/Design	79	28	72	26	57	21	67	25

## DISCUSSION— CONCLUSIONS

Certain groups of bicycle users seem to be less likely to use helmets and should be taken into consideration road safety policies and initiatives. The type of bicycle may be a good indicator of helmet use and the explanation behind that needs further investigation.