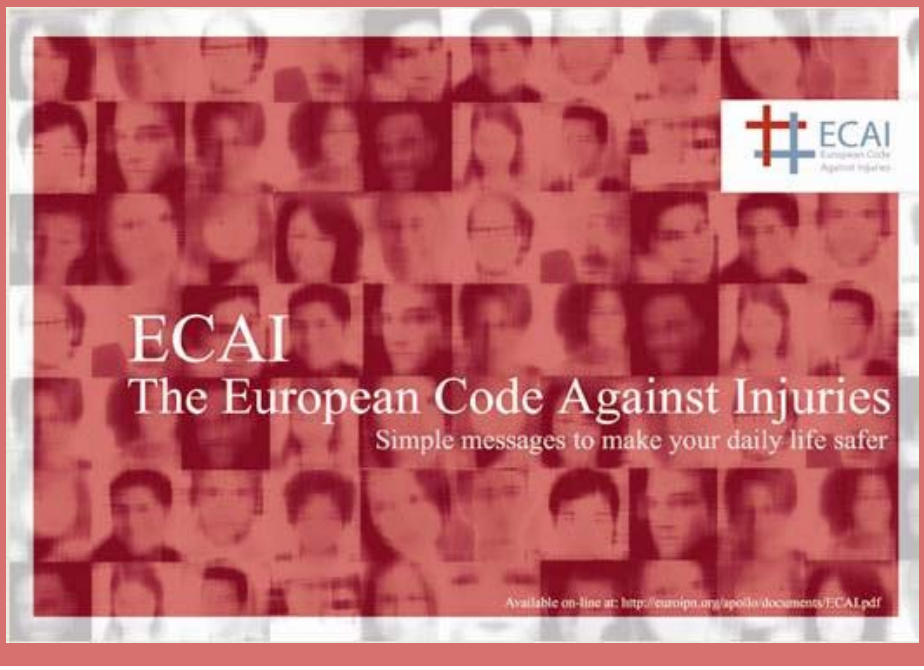
DEVELOPMENT, PILOT TESTING AND EVALUATION OF THE EUROPEAN CODE AGAINST INJURIES



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INTRODUCTION

Background

Traditionally, injury prevention has been more reliant on passive safety, with considerable research attention being paid to the identification of environmental risk factors and the development of safety technologies. Particularly in the field of road traffic safety, there is currently a cumulative body of evidence supporting the effectiveness of passive strategies in reducing injury mortality rates. Airbags, for instance, which in most regions are fitted voluntarily by car manufacturers, have shown to greatly reduce the risk of severe and fatal injuries.[1] Nevertheless, even in this case, an active approach may be required; the protective effect of airbags, for example, greatly depends on factors associated with the individual's behaviour, such as seat belt use.[2] In fact, as Gielen and Sleet have noted: "there is rarely an environmental change that does not require human adaptation".[3]

In the light of this emerging and challenging approach, the European Code Against Injuries (ECAI) was developed within the context of the European Commission co-funded project APOLLO ("Strategies and Best Practices for the Reduction of Injuries") and epitomizes a courageous attempt to bring together scientific evidence of what is known to work in the injury prevention field with effective practice. More specifically, it constitutes a systematic effort to "translate" the most effective injury preventive practices into simple, appealing to the eye, and straightforward messages, promoting injury prevention to the general population. In total, it comprises of 60 messages divided into 10 prioritized categories, each one of them targeting a different type of unintentional injury.

The 10 prioritized categories were the following:

- Road traffic injuries:
  - As a driver
  - As a road user
- Fall related injuries
- Poisoning
- Burns/ fires/ flames injuries
- Drowning
- Sport injuries
- Using dangerous products
- Occupational injuries
- Alcohol, drug and medication related injuries

[1] Segui-Gomez M. (2000)

[2] Stewart TC, *et al.* (2003)

[3] Gielen AC, Sleet D (2003)

All these messages that were aimed to be addressed to the general population, were developed in a way to have the format of simple advises and suggestions for the adoption of safe behaviours and habits in order to eliminate the injury incident from occurring (primary prevention) or to minimize the severity of injuries that occur during incidents (secondary prevention). The commandments for the injury priorities are based on the results of systematic literature reviews conducted for the 10 top prioritized categories of accidental injury, in order to locate the most effective preventive interventions. The messages that comprise the ECAI are based on current evidence, scientifically valid and transferable throughout EU Member States. The messages developed in a way to ensure that:

a. messages are relevant and reflect the needs of all age groups and

b. messages overcome known barriers and strengthen facilitators for adoption. The Code was developed with the consensus of the WP-3 team and the comments of WHO injury experts, NGO representatives, national journalists and Academics.

1. DEVELOPMENT OF THE EUROPEAN CODE AGAINST INJURIES

The Code was developed in distinct steps:

Methodology of the ECAI development

- Setting injury prevention priorities
- Systematic literature review – ranking for the identification of good practices
- Draft version of the European Code against Injuries including around 10 commandments of the 10 types of unintentional injuries
- Consensus during the 2nd Managerial Meeting and preparation of the first draft abbreviated version of the Code
- Experts opinions
- Pilot testing in Greece, Spain and Hungary
- Finalization of the Code after incorporation of all comments received
- Translation of European Code against Injuries (15 languages)
- Evaluation of the ECAI

During the preliminary phase, the two basic steps were realized:

(A) identification of top injury priorities in the EU 25 and

(B) identification and translation of the most effective prevention interventions into key preventive messages.

A. SETTING THE TEN INJURY PRIORITY AREAS

For the identification of the top injury prevention priorities in the EU, two main information sources were taken into account: the age adjusted World Health Organization (WHO) mortality data due to unintentional injuries (deaths per 100.000 people) elaborated via Injury Statistics Portal, [4] and the results of a Delphi survey conducted by Center for Research and Prevention of Injuries in the context of the "Secretariat" project. [5] In order to elaborate the results for the WHO mortality data and the Delphi survey and identify the main injury priorities of unintentional injuries a matrix of specific criteria was set and a panel of APOLLO WP-3 experts attributed to each criterion a score (from 1- least important to 5- most important) and a weight (from 1- least important to 3- most important), that signified the perceived importance. The top priorities were identified based on a final score that resulted by the multiplication the "score" * "weight" for each injury priority.

[4] Injury Statistics Portal

[5] Alexe D M, Skalkidis I, Petroulaki K, Petridou E. Delphi technique as a tool in assessing injury priorities and actions for injury prevention in the European Union African Safety Promotion: A Journal of Injury and Violence Prevention Vol. 4(1) 2006: 119-129

WHO injury mortality data analysis

The European Union (EU) member states that were included in the process of identification of top injury areas based on the WHO mortality data, were the ones from the EU-25 that had a population of more that one million citizens; thus Malta, Luxembourg and Cyprus were excluded as their small population may have introduced excessive random variation to the analysis. Injury mortality data for the 22 countries were obtained from the World Health Organisation (WHO Europe) mortality database and the death codes E800-E999 and V01-Y89 of the 9th and 10th Edition of the International Classification of Diseases (ICD9 and ICD10) respectively were utilized. This database was, at the time of data analysis, the only available reliable database; the completeness of the provided data for the 22 countries is declared to be almost 100% [6]. The annual average age-adjusted specific injury mortality rates were based on the latest three available years, and the European standard population provided by WHO. Table 1.1 presents 5 injury priorities that emerged from the abovementioned procedure for each of the age groups.

Table 1.1 Top priorities based on WHO mortality data Age Standardised Rates EU 25 (CY-MT-LU not included)

	Age groups			
Injury Categories	0-14	15-24	25-64	65+
Motor vehicle traffic	1	1	1	2
Accidental falls	3	4	2	1
Accidental drowning	2	3	4	4
Accidental poisoning	5	2	3	3
Smoke fire and flames	4	5	5	5

Results of the Delphi Survey

During the Delphi survey [7], 10 injury prevention priorities have resulted from the input of a panel of world experts and the Working Party on Accidents and Injuries (WP-AI) members. The objective of the survey was to poll injury prevention experts from the six continents of the world (panel one) and action-oriented high-level officials in governmental and non-governmental agencies responsible for injury prevention programmes within the EU (panel two). Sixty two experts were identified through a PubMed and ISI search, their participation on the Editorial Board of the Injury Prevention journal, or their role in important Injury Control and Safety Promotion Centres. Panel two was composed of all 30 members of the Working Party on Accidents and Injuries (WP-AI) of the General Division of the European Commission for Public Health of the EU.

[6] World Health Organisation. (2006)
[7] Alexe D M, et al (2006)

Selected individuals were contacted through email and invited to participate. All experts were also provided with a synoptic report on the burden of injuries in the EU. Those who accepted (32 world experts and 17 members of the WP-AI) were given a unique link (Uniform Resource Locator URL) to the survey website. Individuals of the two panels were asked to score each injury prevention key priority area according to its perceived importance (from 1=least important to 5=most important). Thirty-two replies were received from panel one and 15 from panel two. Average scores were then computed for each priority.

Table 1.2 List of priorities resulted via Delphi Survey (panel of Experts and WP-AI members)

	Category	**Experts+WP-AI**
1	*Road traffic related injuries-Drivers*	19+34=53
2	*Road traffic related injuries-Road users*	10+16=26
3	Fall related injuries	18+32=50
4	Drowning	12+20=32
5	Injuries caused by fire/ flames/ hot liquids	9+16=25
6	Poisoning	8+15=23
7	Injuries related to alcohol use	7+16=23
8	*Childhood injuries in general (safe products)*	11+6=17
9	Occupational injuries	9+7=16
10	Sports injuries	6+0=6
10	Sports injuries	6+0=6

Combining of the results

After applying the respective calculations on the indicators, the priorities formulated as follows:

- Road traffic injuries: *Drivers*
- Road traffic injuries: *Road users*
- Fall related injuries
- Poisoning
- Burns/ fires/ flames injuries
- Drowning
- Sport injuries
- Using dangerous products
- Occupational injuries
- Alcohol, drug and medication related injuries

Table 1.3. Top five injury prevention priorities per age group for EU 25

Type of Injury	**Age group**			
	0-14	**15-24**	**25-64**	**65+**
Road Traffic Injuries (including car drivers and other road users, such as pedestrians)	1	1	1	2
Drowning	2	3		
Fire/flames/burns	3			4
Falls	4		4	1
Poisoning			4	5
Occupational injuries		4	3	
Alcohol related injuries		2	2	3
Sport injuries		5		
Injuries related to non safe products	5			

B. IDENTIFICATION OF EVIDENCE-BASED EFFECTIVE UNINTENTIONAL INJURY PREVENTION MEASURES

After defining the top injury priority areas for the ECAI, the next step was to explore the available evidence concerning good practices for reducing the burden of these injuries. These good practices were the basis for the formulation of the ECAI's commandments so that the later are based on current evidence, scientifically valid and transferable throughout EU Member States. The messages were developed based upon the results of the systematic literature reviews regarding evidence based recommendations and studies that evaluated the effectiveness of practices in preventing injuries related to the top injury priority areas. The studies contained specific implementations of interventions with defined outcomes and outputs, which were evaluated through process/outcome measures. The methodology used was identical for all the reviews.

LITERATURE REVIEWS' METHODOLOGY

Description of the search strategy and the review process

The type of source that was searched for the ten injury priority areas was literature containing either *Original articles on interventions* or *Literature reviews on preventive interventions* or *grey literature*. Titles and abstracts of the search results were screened for relevance by WP3 experts by using extraction forms in an Access Database (APPENDIX 1) based on a research protocol (APPENDIX 2).

Operational definition of the term "practice"*:*

"*A specific implementation of policies/strategies with defined outcomes and outputs, which is evaluated through process/outcome measures.*"

Search strategy and selection criteria

A computerized literature search of MEDLINE, ERIC, Cochrane Library, Science Direct, SafetyLit, Wiley InterScience, NIOSHTIC, NIOSH-NORA, Injury Prevention Database, BMJ databases, Google Scholar, and the reference lists of review articles and systematic reviews was carried out. Other electronic sources were also searched, such as injury-specific websites, related organizations, networks, and international injury prevention centres etc.

Inclusion criteria

Studies were included if: (1) published between 2000-2006, (2) the population of interest was children (0-14), adolescents/young adults (15-24), adults (25-64) and elderly (65+), (3) European Language (with English abstract necessary), (4) the injury priorities were alcohol related injuries, road traffic injuries, fall-related injuries, occupational injuries, drowning, poisoning, burn injuries, sport injuries, injuries due to dangerous products, and (5) interventions had available evaluation (Outcome Evaluation, Process Evaluation Formative Evaluation, Economic evaluation).

Key words

Road traffic injuries*:* injury, accident, fatal, non-fatal, road traffic, motor vehicle, car, automobile, transportation, pedestrian, road vulnerable users, cyclists, two-wheelers AND prevention, intervention, practice, evaluation.

Fall-related injuries*:* fall(s), injury, accident, fatal, non-fatal AND children, infant OR senior citizens, elderly, old people, third age, AND prevention, intervention, practice, evaluation.

Drowning*:* injury, accident, fatal, non-fatal, drowning, submersion, water accident, water safety, pool safety, aquatic safety, bathtub, bathing area, fresh water AND prevention, intervention, practice, evaluation.

Poisoning: injury, accident, fatal, non-fatal, poisoning, food, products AND children, infant OR senior citizens, elderly, old people, third age, AND prevention, intervention, practice, evaluation.

Injuries due to burns fire and flames*:* injury, accident, fatal, non-fatal, burns, scalds, fires, flames AND prevention, intervention, practice, evaluation.

Occupational injuries*:* work, workplace, workstation, occupational, injury, accident, fatal, non-fatal, work-related, construction, industry, health care, farm, agriculture AND prevention, intervention, practice, evaluation

Sport injuries*:* injury, accident, fatal, non-fatal, sport, physical exercise, athletic activities, athletic equipment AND prevention, intervention, practice, evaluation.

Injuries related to non-safety products*:* injury, accident, fatal, non-fatal, product, standards, suffocation, children, infant AND prevention, intervention, practice, evaluation.

Alcohol related injuries*:* injury, accident, fatal, non-fatal, drinking, alcohol, abuse, binge drinking, intoxication AND prevention, intervention, practice, evaluation.

Data extraction

The data extraction was realized via a comprehensive and user-friendly constructed MS Access database (fig 1.1, APPENDIX 1).

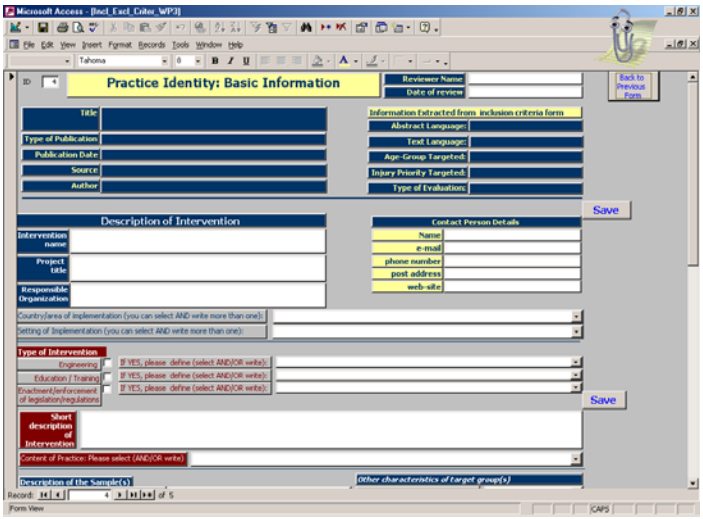

Figure 1.1 Access Database for Inclusion of potential studies

More specifically, for each study and intervention the following pieces of information were included:

-Information provided for each article: title; type of publication; publication date; website; author(s)

-Description of the intervention: intervention name and type, project title, responsible organization, contact person details.

-Evaluation and rating criteria

Evaluation and rating criteria

The included papers were thereafter retrieved in full and assessed by the researchers. The quality of each study was assessed according to evaluation and 14 additional rating criteria developed by Apollo WP3 experts and CEREPRI (table 1.4).

Evaluation criteria included: country/area of implementation, setting(s) of implementation, short description, objective(s) of the intervention, content of practice/intervention, target group(s), age group targeted, other characteristics of the target group(s) (gender, ethic origin, socioeconomic status), recruitment/selection procedures, participation rates, duration of the intervention, characteristics of the facilitator(s)/trainer(s), study design, description of the evaluation, results of evaluation.

Table 1.4: Rating criteria for the evaluation of the studies

Criteria	Rating scales
(1) Theory: The degree to which the practice's actions are based on clear and well-articulated theory and clearly stated hypotheses	1= no information about the theory or hypotheses specified 2= very little information about theory and hypothesis specified 3= adequate information about theory and hypothesis specified 4= nearly complete information about theory and hypothesis specified 5= full and complete information about theory and hypothesis specified
(2) Fidelity of intervention: The degree to which there is clear evidence regarding participation rates throughout the intervention	1= no or very weak evidence that most of the target population participated throughout the entire intervention 2= weak evidence that most of the target population participated throughout the entire intervention 3= some evidence that most of the target population participated throughout the entire intervention 4= strong evidence that most of the target population participated throughout the entire intervention 5= very strong evidence that nearly all of the target population participated throughout the entire intervention
(3) Retention: Evidence regarding participants' retention rates (follow up after completion of the intervention)	1= no data on retention 2= low retention 3= some retention 4= acceptable retention 5= high retention
(4) Sampling strategy: the quality of sampling design	1= no control group; unspecified sample size or inadequate sample size 2= inappropriate control group included or no attempt at random assignment; inadequate sample size 3= inappropriate control group included or no attempt at random assignment; adequate sample size 4= appropriate control group included; random assignment at individual or other level; inadequate sample size 5= appropriate control group included; random assignment at individual or other level; adequate sample size
(5) Measures: The quality of measures used in the evaluation and the quality of supporting evidence	1= no or insufficient information about measures 2= poor choice of measures; low quality of evidence 3= adequate choice of measures; mixed quality of evidence 4= relevant measures with good quality of evidence 5= highly relevant measures with excellent quality of evidence
(6) Analysis: The appropriateness of statistical analysis' techniques	1= no analysis reported; all analyses inappropriate or do not account for important factors 2= some but not all analyses inappropriate or left out important factors 3= mixed in terms of appropriateness and technical adequacy 4= appropriate analyses but not cutting edge techniques 5= proper, state-of-the-art-analyses conducted
(7) Replications: The exact or conceptual reproduction of both the intervention implementation and evaluation	1= no replication 2= one self-replication 3= two or more self-replications 4= one of two replications by independent evaluators 5= ≥ three replications by independent evaluators
(8) Plausible threats to validity (excluding lack of retention): The degree to which the evaluation design and implementation addresses and eliminates plausible alternative hypotheses concerning program effects.	1= high threat to validity or no ability to attribute effects to the program 2= threat to validity and difficult to attribute effects to the program 3= somewhat of threat to validity and mixed ability to attribute effects to the program 4= low threat to validity and ability to attribute effects to the program 5= no or very low threat to validity and high ability to attribute effects to the program
(9) Integrity: The overall level of confidence that the reviewer can place in project findings based on research design and implementation	1= no confidence 2= weak, at best some confidence in results 3= mixed, some weak, some strong characteristics 4= strong, fairly good confidence in results 5= high confidence in results, findings fully justifiable
(10) Dissemination capability of program materials developed (training in program implementation, technical assistance, standardized curriculum and evaluation materials, manuals, fidelity instrumentation, videos, recruitment forms, etc.)	1= materials, training and technical assistance not available or the module does not require curriculum and training/ qualified trainers and technical assistance not available 2= materials available but of low quality or very limited in scope; training/ qualified trainers and technical assistance either not available or limited 3= materials of sufficient quality with limited technical assistance and/or training/ qualified trainers 4= high quality materials, limited technical assistance and/or training/qualified trainers 5= high quality materials, technical assistance readily available and training/ qualified trainers readily available

(11) Estimation of cost for the implementation of the intervention	1= no relevant information 2= significant additional operating expense or cost to implement 3= minor additional operational expenses or cost to implement 4= some savings as a result of implementation/ capital payback in 10 years 5= significant savings form implementation/ capital payback in 3 years
(12) Cultural or/and Age Appropriateness	1= no claim of culturally or age appropriate materials targeted for specific populations 2= claim of cultural or age appropriate materials but no validation 3= age specific but not culturally appropriate or vice versa with some face validation 4= some age specific and culturally appropriate materials and validation of material presented 5= specific materials, culturally and age appropriate, developed and evaluated or validation of materials presented
(13) Ease of implementation of the Intervention	1= difficult to implement 2= some difficulty to implement 3= minor difficulty to implement 4= easy to implement 5= very easy to implement
(14) Utility: The overall usefulness of the intervention	1= the evaluation produced clear findings of null or negative effects of the intervention 2= the evaluation produced findings that were predominately null or negative, though not uniform of definitive 3= the evaluation produced ambiguous findings because of inconsistency in result or methods' weaknesses that do not provide a strong basis for the intervention's effectiveness 4= the evaluation produced positive findings that demonstrate the effectiveness of the intervention in some areas, or support the effectiveness of some components of the intervention 5= the evaluation produced clear findings supporting the effectiveness of the intervention

***METHOD USED FOR RANKING*:**

The good practices were ranked through the following steps:

1. Four criteria were excluded from the ranking process as they had more that 30% missing information. The excluded criteria from the raking process were: a. Cultural or/and Age Appropriateness, b. The quality of sampling design, c. Fidelity of intervention (the degree to which there is clear evidence regarding participation rates throughout the intervention) and d. the Retention (evidence regarding participants' retention rates - follow up after completion of the intervention,
2. Included were the practices that received a mean score above 3 at the rating scale.

IDENTIFICATION OF GOOD PRACTICES

The results of the 9 reviews were drafted in a format of a Booklet (fig 1.2), targeting the general public in which every chapter included information regarding (a) the magnitude of the problem, (b) risk factors and (c) preventive measures (APPENDIX 3a-b). In order to develop the Code, the information regarding the effective prevention measures was then tabulated per priority area in a two column tables. An example of this process is presented in the table 1.5, below.

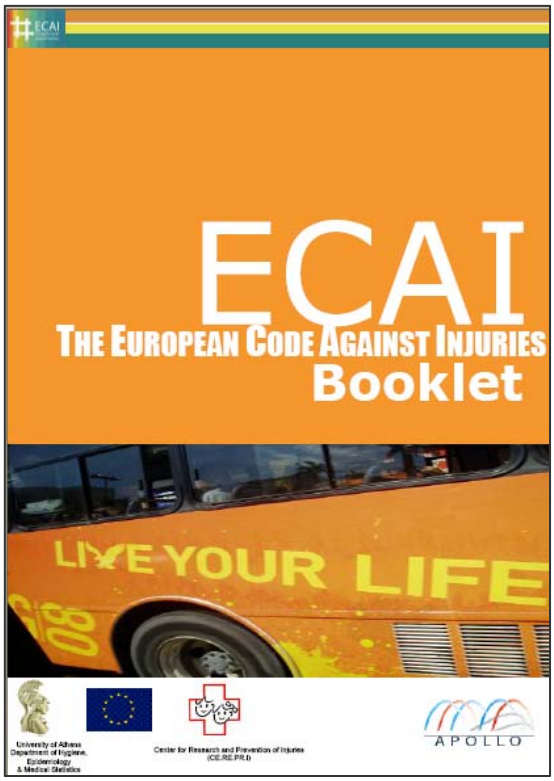

Figure 1.2 ECAI Booklet

Table 1.5: Example of tabulation process for the identification of effective prevention practices

Injury category	Evidence based Effective measures (primary /secondary prevention)
1. RTI occupant	▪ Road safety rules (Highway code): speed limits, distances between vehicles[1] (primary prevention) ▪ Safety belts[2], used combined with airbags[3] (secondary prevention) ▪ Child car restraints, child restraint loan schemes, age-appropriate restraints, belt-positioning booster seats[4] (secondary prevention) ▪ Multifaceted community based educational-informational programs to increase child restraint use, booster seat educational campaigns and seat belts use[5] ▪ Graduated driver licensing[6]

[1] Mohan D. Evidence-based interventions for road traffic injuries in South Asia. J Coll Physicians Surg Pak. 2004;14(12):746-7

[2] Dinh-Zarr TB, Sleet DA, Shults RA, Zaza S, Elder RW, Nichols JL, Thompson RS, Sosin DM, Task Force on Community Preventive Services. Reviews of evidence regarding interventions to increase use of safety belts. Am J Prev Med. 2001; 21(4 Suppl):48–65.

[3] Cummings P, McKnight B, Rivara FP, Grossman DC. Association of driver air bags with driver fatality: a matched cohort study. BMJ. 2002; 324(7346):1119-22.

[4] Durbin DR, Chen I, Smith R, Elliott MR, Winston FK. Effects of Seating Position and Appropriate Restraint Use on the Risk of Injury to Children in Motor Vehicle Crashes. Pediatrics. 2005; 115: 305-9

[5] Istre GR, McCoy MA, Womack KN, Fanning L, Dekat L, Stowe M. Increasing the use of child restraints in motor vehicles in a Hispanic neighborhood. Am J Public Health. 2002; 92:1096-9.

[6] Begg, DJ, Stephenson S, Alsop J, Langley JD. Impact of graduated driver licensing restrictions on crashes involving young drivers in New Zealand. Inj Prev. 2001;7: 292–296.

TRANSLATION OF IDENTIFIED INJURY PREVENTION PRACTICES INTO SAFETY MESSAGES

For the "translation" of the identified injury prevention measures to safety messages, a three step process was followed:

- First, a brainstorming among the WP3 experts took place based on the tables including the results from the reviews. Specifically, each partner was requested to suggest a draft of at least 10 commandments per injury prevention priority.

- Then, a second column was added to the tables in order to record the proposals for the safety messages per injury priority (see example in the table 1.6 and APPENDIX 4). In this way a long list including more than 100 safety messages expressing the evidence-based safety measures was developed.

Table 1.6: Example of the brainstorming process for the translation of practices to messages

Injury category	Evidence based Effective measures (primary /secondary prevention)	"Translation" of the effective measure to message for the general public
1. RTI occupant	▪ Road safety rules (Highway code): speed limits, distances between vehicles[1] (primary prevention)	▪ Keep to the highway code; keep to the speed limit; keep the distance between you and the following vehicle, take a regular break on long journeys. ▪ Speeding increases the likelihood of an accident and the severity of resulting injuries. ▪ Obey road traffic rules ▪ Always maintain the legal speed limit ▪ Heed warning signs ▪ Maintain a safe distance between you and the vehicle in front of you.
	▪ Safety belts[2], used combined with airbags[3] (secondary prevention)	▪ Wear your safety belt during every ride be sure that everyone wears a seatbelt in your car both in the front and rear seats
	▪ Child car restraints, child restraint loan schemes, age-appropriate restraints, belt-positioning booster seats[4] (secondary prevention)	▪ Make sure that children in your car use properly fitted car restraints or booster seats
	▪ Multifaceted community based educational-informational programs to increase child restraint use, booster seat educational campaigns and seat belts use[5]	▪ Watch out the warning signs at both intersections and speed limits ▪ On long journeys, take regular breaks. A 15mins break for every two hours of driving would be ideal. ▪ Be responsible and keep distractions to a minimum. While driving try to avoid: drinking, eating, smoking, adjusting the sound system, reading a map, etc. ▪ While driving avoid speaking on the cell phone ▪ Defensive driving is not only a matter of politeness; it decreases your chances of being involved in an accident. ▪ Give those walking or on bicycles the right of way.
	▪ Graduated driver licensing[6]	▪ The first time you drive take someone with you for support. Think seriously about displaying a `P' plate.

- Next, a matrix was developed including all the safety messages produced by the brainstorming process and sent to APOLLO WP3 experts in order to assess the items and components of injury safety that would be taken into account in drafting the abbreviated version of the ECAI (APPENDIX 5). Experts were asked to assess the messages with regards to (a) perceived severity of respective injury, (b) availability of prevention measure, (c) effectiveness of proposed measure and (d) the likelihood of the acceptability by EU citizen. The assessment was based on a 3-stars scale where 1 star was the min value and 3 the maximum value. Items/ messages with low scores in the abovementioned dimensions were excluded or rephrased. Proposals resulted from this process were incorporated and a first draft of the code was prepared.

C. FIRST DRAFT OF THE ECAI

Based on the results of the brainstorming process and the matrices, a first abbreviated Code was developed, which was again circulated to the WP3 experts for approval. Revisions and comments were incorporated in a consolidate text and consensus was reached during the 2nd Managerial WP3 meeting among the APOLLO WP3 team of experts. In its pre-final version the ECAI included 53 safety messages (APPENDIX 6).

Experts' reviews

The first draft of the abbreviated version of ECAI was sent out for comments and assessment of applicability to injury experts and organizations (WHO, APOLLO WP Leaders, NGO's etc.), and participants of the EURO Regional Consultation (APPENDIX 7). The response rate was 42% (table 1.7). The participation of experts from various EU settings indicated that the code clearly reflected a wide expert view and a multi-national character.

Table 1.7. Number of experts participated in the testing of the ECAI messages clarity

N of experts	Responded	
	Yes	No
Participants of the EURO Regional Consultation (WHO)	9	20
APOLLO WP Leaders and Sub-contractors	11	9
NGO representatives	3	3
EUNESE Network Members	3	1
Other experts - Academics	5	10
Total	**31**	**43**

The experts were asked to fill in a questionnaire (APPENDIX 8) that included all the selected messages of the 1rst draft of the ECAI in order to assess how relevant they considered each message in relation to the injury priority they targeted based on a 5-

point scale (1 = not at all, 5 = very much). As was expected, the experts found that the majority of the messages were highly relevant to their respective injury priority (mean score around 4.5. The messages that received mean scores lower than 4.5 were replaced, rephrased or eliminated from the code according to the experts' proposals. In addition, many experts provided additional written recommendations and rewordings that were taken into consideration.

All abovementioned changes plus the results and recommendations that arose from the pilot testing of the ECAI to the general population (see section 3) were incorporated in a unique document that constituted the final draft of the ECAI, comprising 60 safety messages (see conclusions section 3).

2. Pilot testing

As the ECAI is indented to the general population with the aim to either eliminate the injury incident from occurring (primary prevention) or to minimize the severity of injuries that occur (secondary prevention), the first draft version of ECAI was pilot tested to the general population in order to assure that these messages were comprehensive and possible to be adopted by the general public. The general aim of the ECAI pilot study was to assess whether each one of the 53 messages included in the Code were clear and relevant to the 10 injury prevention priority areas targeted. Furthermore, the pilot study aimed to test the likelihood for different population groups to adopt the messages as well as for future physicians to convey them when consulting their clients. Finally, the study aimed to identify factors that could potentially increase or decrease the population willingness to adopt the messages.

More specifically the 3 basic aims of the pilot testing in the selected European Union countries (Greece, Spain and Hungary) in different population and age groups was to assess:

a. the clarity and level of comprehension of the messages,
b. the likelihood of possible adoption or recommendation of the messages
c. factors that may increase their willingness to adopt the key-messages,
d. factors that may prevent the adoption of the key-messages.

METHODS

The pilot study consisted of a series of distinct sub-studies, namely:

1. **A focus group** study based on a specific protocol addressed to different population groups (Directors of Health Education and Health Promotion Units at Secondary Schools from different Secondary Schools, mothers of children 0-14 years, and high school students) in Greece aiming to assess
   a. participant's knowledge and awareness regarding injury prevention,
   b. barriers in the adoption of preventive measures,
   c. factors that facilitate the adoption of preventive measures, and
   d. participant willingness to change their behaviour

2. Questionnaire-based study **addressed to medical students** in different countries (GR-ES-HU) aiming to test how they assess

a. the relevance of each ECAI message to the respective type of injury targeted, and
b. the likelihood to convey the messages when they will consult their future clients

3. Questionnaire-based study **addressed to different general population groups** (mothers in maternity hospitals, elderly people, elementary and/or high school students, industrial workers, athletes, bank employees and civil servants, employees in the sectors of tourism and entertainment) and minority groups (immigrants, former drug addicts, prisoners) in different countries (GR-HU) aiming to assess
   a. the comprehensiveness of each ECAI message, and
   b. the likelihood for these different population groups to adopt the proposed messages

The subjects represent a variety of age groups and population groups. The table below describes the sample of the pilot testing study that participated in the questionnaire-based research.

Table 2.1: Sample of the questionnaire-based pilot study

N of questionnaires /target group	**Spain**	**Greece**		**Hungary**	
Medical Students N=535	**146** 6th year medical students	**262** 4th year medical students √		**127** 3rd year medical students	
Different population groups N=1203		**Total**	**576**	**Total**	**627**
		Employees	172	Employees	124
		Parents	137	Parents	154
		High-school students	50	Nurses	205
		Athletes	21	Univ stud (teachers)	52
		Elderly	23	Elderly	75
		Barmen	10	Imprisoned	17
		Immigrants	127		
		Ex-drug addicts	30		
		Imprisoned	6		

The aim of the focus groups was to collect information about different population's perceptions of the prevention of injuries and the content of the Code. A focus group protocol (see table 2.2) delivered the general outline. Inclusion criteria of the participants were as follows: participants should be Directors of Health Education and Health Promotion Unit at Secondary Schools from different Secondary Schools, mothers of children (0-14 years), and High School students. The particular conditions were chosen because of different target populations should be approached who take care of high risk group populations or the high risk population such as adolescents.

A total of 48 Directors of Health Education and Health Promotion Unit at Secondary Schools took part in 6 focus groups – that is 7 males and 29 women – and each group composed of up to 9 Directors. These focus groups took place in a quiet room and moderated by 3 different experienced researchers in injury prevention (2 female and 1 male). The aim was to stimulate a discussion about the participant's perception of facilitators and barriers for the adoption of preventive measures, the accession of new knowledge about preventive measures, willingness to change their behaviour, and their suggestions for improving the messages included in the Code.

The moderator posed direct questions and the discussions took from 60 up to 90 min. Each moderator recorded on paper the participant's statements/ answers. In accordance with the content of the statements, they were grouped to six domains and rewritten. The domains categorized a priori included general questions referring to:

- Exploration of participant's knowledge and awareness regarding the prevention of injuries;
- Barriers for adoption of preventive measures;
- Factors that facilitate the adoption of preventive measures;
- Willingness of participants to change their behaviour;
- Comments on the messages of the code (e.g. clarity of messages);
- Suggestions for improving the Code

Care was taken to ensure that all topics received equivalent emphasis. The focus groups also, were conducted anonymously.

Focus Groups Protocol for Moderators

It was a priori decided to develop six questions in order to be feasible to discuss all of them sufficiently.

Starting the session, moderators informed the participants about the aim of the discussion and why they were selected to participate in these focus groups. It was given to each participant some time to introduce themselves in front of the group [~ 5min].

22Following the introduction of participants to the aim of the discussion, the moderators gave time to participants to read the Code. Table 2.2 shows the focus group protocol for the moderators.

Table 2.2. Focus Group protocol

FOCUS GROUPS MODERATOR'S GUIDE/PROTOCOL

Introduction – 5 mins**:** Good evening and thank you for coming here today. My name is MODERATOR NAME. I am with a research firm in Center for Research and Prevention of Injuries called CEREPRI.

We will conduct six focus groups. The purpose of these groups is to provide information on your opinion regarding the draft European Code against Injuries. The Code was developed in the frame of the Apollo European Project, targets to the public and provides very briefly the key-messages for the prevention of unintentional injuries.
These groups are just the first step in the process of pilot testing the Code in order to improve it. We have asked you to here today in order to share with us your personal attitudes on the topic of the prevention of accidents, as well as on the whole Code, its content and the messages that it contains. We would like to ask you, provided that you are Directors of Health Education and Health Promotion Unit at Secondary Schools, to share with us your opinion and personal attitudes regarding the prevention of injuries as well as the Code itself and it's content.
There are no right and wrong answers here. We welcome your opinions and encourage you to speed freely.
I would like to mention that I will keep some notes during the discussion.
Note: The moderator asks from participants to briefly introduce themselves by using first names]

Now, I would like to kindly ask you to read the Code within the following 10 minutes, so as to be able to start the discussion. As there are ten categories of messages, we suggest that you keep notes on your hardcopy for things that impressed you and you may wish to comment on (e.g. things that you haven't heard before, or disagree with, or you believe that it is impossible for someone to adopt in his/her daily life, or it doesn't apply/relate to you etc.)

Topics for discussion:

Question 1: Are there information for preventive measures that you weren't aware of before reading the code? If yes, please define. [10 mins]

Question 2: According to your opinion, are there preventive measures that you believe that it is difficult for someone to adopt? Please, give specific examples. [10 mins]

Question 3: Have you adopted these preventive measures in your daily life? What are the main reasons for that? [10 mins]

Question 4: Are there measures that you intent to adopt in your daily life? [10 mins]

Question 5: What is your opinion regarding [10 mins]:

a. the comprehensiveness, clarity and the immediateness of the messages
b. the convincingness of the messages
c. the tone/style (e.g. positive, prohibitive, friendly)

Question 6: What are your suggestions for improving the Code and it's messages [10 mins]

RESULTS

A. Focus groups with Directors of Health Education and Health Promotion Unit at Secondary Schools

Reporting the findings

Individual reports were prepared to summarize the findings for each group. The six groups' reports are appended to the end of this document. The following section of this report provides an overview of the general findings from the six groups.

Summary of findings/ outcomes (see also Table 2.3)

This section summarizes the findings of the six focus groups. It is organized according to the general issues raised in the moderator's guide. For more detailed results see (APPENDIX 9).

Question 1: Is there information for preventive measures that you weren't aware of before? If yes, please define.

Participants stated that they acquired new information related to that it is suggested to

- taking care of physical fitness by participating in exercise programs for bone and muscle strength
- put handrails in the bathroom
- ask from a professional to make a home safety assessment and changes
- inform children about safe products
- smoke detectors should be installed not only to public places but also to private houses
- use a fire blanket in the kitchen
- swimming pools fencing
- use changing tables and safety straps
- wear fluorescent and reflective clothing, especially for pedestrians

Some participants (5 people) stated that they were aware of all the preventive measures before reading the code, but they also stated that it is good to see them consolidated. One participant stated also that it is not a common knowledge if it is mandatory to wear seat belts on the rear seats, which shows that public might not be aware of the legislation in Greece.

Question 2: According to your opinion, are there any preventive measures that you believe it is difficult for someone to adopt? Please, give specific examples.

Participants stated that there are many preventive measures that it is difficult for someone to adopt, such as:

- The suggestion to the drivers about staying calm and not be provoked by other road users
- The suggestion to pedestrians to walk on the side of the road facing oncoming traffic, and to wear fluorescent and reflective clothing
- The suggestion to parents to put the children on the rear seat of the car
- The installment of smoke detectors (even in public places)
- Using fire blankets
- Stop speaking on the mobile phone while driving
- Follow the speed limits
- Pool fencing
- Teach children to play safely together
- Wear seatbelts on short journeys
- Safety measures in workplaces
- The recommendation of locking in closets household cleaners and other potentially dangerous products
- The recommendation on having a home safety assessment by a professional.

Participants explained also why they believe that it is difficult for someone to adopt these measures. The most predominant reasons were *lack of enforcement* and *inspection* of the *laws, paucity of police involvement*, *lack of awareness* about the issue of injury prevention and the legislation, Greek people's *mentality* and *temperament*, low *perceived severity of the injury* and the *possibility* that accidents can happen to anyone and everywhere. A remarkable thing is that Greek people seem to overestimate their abilities and be careless. Many people, especially the young ones don't wear helmets because it is inconvenient (the same applies to seatbelts).

It was also stated that, there is no a systematic effort to pass the preventive messages to the public and to convince them. When also there are efforts of prevention, most of the times there is no follow up. Only very few participants stated that it is no to adopt the recommended messages. Some suggestions from participants to improve the current situation in Greece were to implement injury prevention education programs in schools, to post in every place the preventive measures that should be followed and keep public informed constantly.

Question 3: Have you ever adopted these preventive practices in your daily life? What are the main reasons for that?

Participants referred to the preventive practices that they apply to their daily life, such as:

- Wear seat belt
- Never speak to mobile phone while driving
- Use of fire extinguisher in the house

The main factors that facilitated and convinced them to adopt the practices in daily life were:

- Self protection against injuries
- Fear of penalties/punishment from the police
- Health education programs at schools
- The social context (citizens sensitized and interested in the prevention of injuries)
- Specific education to promote the prevention of injuries (health education and promotion) / Special education of people that have the responsibility to advise and convince the others.
- The individual characteristics.
- Awareness of the danger
- Previous experience of an accident (mainly personal or person that you know very well).
- As soon as somebody becomes a parent then he/she is more careful.
- Children imitate their parents and peers (models)
- How someone has been brought up
- Respect of the others

Participants expressed the opinion that Greek people would easily accept to use a fire extinguisher in the house, protective practices targeted to the children and work safety. On the one hand, they also believe that the messages that are written in the Code should be written more positively, on the other hand they believe that most people get convinced to adopt preventive practices when they are exposed to the consequences that an accident may have.

They proposed to encourage more efforts to convey the messages through mass media (television, radio, etc.), as it seems that it is effective. Furthermore, they believe that what is really necessary for the promotion of the issue of the prevention of injuries is political willingness as well as funding efforts and interventions for citizen's sensitization and awareness raising for the prevention of accidents.

One participant believes that the Code would facilitate these efforts.

Question 4: Are there any measures that you intent to adopt in your daily life, from now on?

Participants, after reading the Code, intent to adopt the practices that they mainly weren't aware before, such as:

- Messages related to the safety of children
- Measures related to the prevention of fires (smoke detectors in home, fire extinguisher)

- Stop speaking to mobile phones while driving
- Home safety assessment (mainly to protect the children).
- Wear fluorescent and reflective clothing.
- Measures related to the safety of children, especially those that refer to the prevention of falls (safety gates and the window locks).

Question 5: What is your opinion regarding:

a. the comprehensiveness, clarity and the immediateness of the messages

Almost all participants stated that, in general, the messages are clear, simple, explicit and easily understandable, but the whole code needs to be shorter and briefer, as it is very extended.

b. the convincingness of the messages

Some participants stated that some messages are informative and it seems like they try just to inform someone and not to convince.

c. the tone/style (e.g. positive, prohibitive, friendly)

The style seemed unemotional/formal and neutral to participants. It was very imperative and austere. They believe that it should be more positive and friendly.

Question 6: What are your suggestions for improving the Code and it's messages.

Almost all discussants felt that images and pictures should be added in the code in order to be more attractive and eye-catching. They also proposed to give the code to local municipalities and authorities who can easily disseminate it to the public. Other proposed forms of communication were to develop the code as poster, not only as leaflet, and to use mass media (TV advertisements) for enhancement of the dissemination of messages. Finally, participant's misunderstandings about some points that weren't clear to them helped us to make these points clearer and add messages that they though as necessary to be mentioned.

Overview and recommendations

The aim of pilot testing the Code through focus groups was to assess more intensively the comprehensiveness of the messages, factors that may increase their willingness to adopt the key-messages, factors that may prevent the adoption of the key-messages and suggestions for improving the Code. As summarized in the previous section, the participants in these six groups were generally very positive in their views regarding the most of the messages. They typically:

- Were provided with clear information about the injury prevention measures;
- Expressed that they are not familiar with some of the preventive measures but all of them are highly important and appropriate;

- Expressed their views on the improvement of the Code (communication methods, more positive tone, shorter messages, etc.)

Table 2.3 Summary of common participant answers

Question	Common answers/ issues	Injury category
1. Receive new knowledge	Exercise programs for bone and muscle strength, handrails in the bathroom, home safety assessment and changes by professionals, inform children about safe products, smoke detectors, fire blanket, fencing swimming pools, use changing table and safety straps, wear fluorescent and reflective clothing.	Falls, Safe products, Fires/burns, Drowning, Road traffic injuries,
2. Barriers	Lack of enforcement and inspection of the laws, lack of awareness about the issue of injury prevention and the legislation, Greek people's mentality and temperament, low perceived severity of the injury and of the possibility that accidents can happen to anyone and everywhere.	Road traffic injuries, Fires/burns, Drowning, Safe products, Occupational injuries, Poisoning, Falls.
3. Facilitators	Self protection against injuries, Fear of penalties/punishment from the police, Health education programs at schools, political willingness, funding for interventions, The social context (citizens sensitized and interested in the prevention of injuries), Specific education for the prevention of injuries (health education and promotion), Individual characteristics, Awareness of the danger, Previous experience of an accident, Parents are more careful, Children imitate their parents and peers, How someone has been brought up, Respect of the others	Road traffic injuries, Fires/burns
4. Adoption of measures	Safety gates, window locks, smoke detectors, fire extinguisher, avoid using mobile phone while driving, home safety assessment, fluorescent and reflective clothing	Falls, Fires/ burns, Road traffic injuries.

Participants had no difficulty in understanding the aims of the Code and how the focus groups could contribute to its improvement. There was little or no difficulty to understand the context and meaning of the messages, however, most found the messages related to the prevention of injuries targeted to children more important.

The focus groups provided valuable information on the improvement and the effect of the European Code against Injuries. It is recognized that this cohort may represent only a small percentage of the target population. Despite this limitation, the responses of these groups and the issues raised provide a valuable insight on the appropriateness and further improvement of the messages.

I. QUESTIONNAIRE TARGETING MEDICAL STUDENTS

The questionnaire that was developed in order to pilot test the European Code against Injuries, targeting Medical Students (see APPENDIX 10) consisted of all the key messages that were so far included in the code and aimed to assess:

a. the relevance of each key message of the Code to the respective type of injury targeted,
b. the likelihood of medical students to convey the messages when they consult their clients

The response format was a frequency-related 5-point Likert scale ranging from *none* to *very much*. In addition, two open-ended questions were added at the end of the questionnaire:

Question 1: *How comfortable you feel to convey these injury prevention messages to your patients (regarding the time needed, the attitudes of your patients towards the injury prevention measures, how comprehensive would consider that the messages are etc.)?*

Question 2: *Any further comments?*

Information about socio-demographic status (e.g. gender, age, academic year, place of residence, etc.) was also obtained. The pilot testing targeting Medical Students was conducted in Greece, Spain and Hungary.

Analysis

Data analysis for the pilot test was carried out using the Statistical Product and Service Solutions (SPSS) (Version 14; Windows). If participants didn't choose one answer they were recoded as missing values (2%). The entire sample of participants was described in terms of socioeconomic status. The descriptive item statistics that were used were: percentages, means and standard deviations.

Results

Results were available from the piloting in Spain to 6th year Medical Students (n=142), in Greece to 4th year medical students (n=261) and in Hungary to 3nd year medical students (n=128) (see table 2.4).

Table 2.4: Demographic data of medical students/ physicians

	Greece	Hungary	Spain
N	261	128	142
Gender (%)			
Male	41%	30%	38%
Female	59%	70%	62%
Mean age (SD)	22.3(2.06)	21.9(2.09)	22.1(2.06)
Place of residence			
City>100.000 habitants	79%	34%	64%
City 15.000-100.000 habitants	15%	32%	20%
Town/Village <15.000	6%	34%	16%

A. Relevance of the messages to the respective type of injury

The perceived relevance of each one of the messages to the respective type of injury targeted was measured via a question which was the same for each one of the messages. Participants answered this question on the basis of a 5-point scale, where 1 represented the inexistence of relevance (“none”) and 5 the maximum value of relevance (“very much”). In table 2.5 and the figure 1 below , which illustrates the percentage of answers, the 2 first and the 2 last points of the scale are aggregated in order the results to be more easily understandable. Table 2.5 includes the ratings per country while Figure 2.1 presents the rated relevance of all the participants in all three countries (total scores).

Table 2.5: Percentages of medical students' ratings for the relevance of each one of the messages to the respective type of injury, per country of pilot testing implementation

Level of relevance	Greece			Spain			Hungary		
	None - little	Moderately	Enough – very much	None - little	Moderately	Enough – very much	None - little	Moderately	Enough – very much
Message 1	7.0	15.8	77.2	0	1	99.3	4.4	12.3	83.3
Message 2	19.4	27.8	52.8	2.1	10	90.8	13.5	21.4	65.1
Message 3	6.7	10.9	82.4	0	1	99.3	4.0	7.8	88.2
Message 4	8.1	13.4	78.5	0	7	95.1	5.1	11.2	83.7
Message 5	6.4	13.1	80.6	5.6	33	71.1	7.8	20.2	72
Message 6	15.4	22.8	61.8	4.2	22	80.3	3.1	19.5	77.3
Message 7	4.9	14.8	80.2	0	5	96.5	3.1	10.9	85.9
Message 8	5.2	3.1	91.6	0	0	100	6.3	6.3	87.5
Message 9	4.6	3.9	91.5	0	0	100	2.8	3.8	93.4
Message 10	5.6	8.1	86.3	0	2	98.6	24.2	36.7	39.1
Message 11	27.8	27.1	45.1	0	9	93.7	13.3	16.4	70.3
Message 12	10.4	17.0	72.6	0.7	6	95.1	8.6	15.6	75.8
Message 13	10.1	17.0	72.9	4.9	23	78.9	0.8	17.2	82
Message 14	17.0	27.4	55.6	2.1	12	89.4	11.7	29.7	58.6
Message 15	32.4	31.3	36.3	10.6	28	69.7	26	26	48
Message 16	10.8	14.6	74.6	1.4	6	94.4	11.8	25.2	63
Message 17	6.0	10.5	83.5	0.7	17	87.3	6.3	18.1	75.6
Message 18	7.7	9.4	82.9	0	1	99.3	3.1	8.6	88.3
Message 19	7.0	11.9	81.1	3.5	20	82.4	8.6	18.8	72.7
Message 20	18.7	17.2	64.2	4.2	20	81.7	11.8	12.6	75.6
Message 21	10.5	17.5	72.3	4.9	24	78.2	35.2	33.6	31.3
Message 22	33.0	30.2	37.2	13.4	45	54.9	34	29.4	35.7
Message 23	7.0	14.0	79.4	3.5	5	93.0	4.7	9.4	85.9
Message 24	21.1	20.8	58.1	8.5	25	73.9	17.2	36.7	46.1
Message 25	21.3	19.2	59.8	7.0	20	76.8	9.4	10.2	80.3
Message 26	11.5	16.8	71.7	2.1	14	88.0	3.9	7.0	89.1
Message 27	12.2	13.3	74.8	0.7	5	95.1	15	18.9	66.1
Message 28	17.7	24.7	57.6	4.2	14	85.9	32.8	26.6	40.6
Message 29	7.1	6.4	86.4	0.7	3	97.2	5.5	11.7	82.8
Message 30	12.6	18.5	68.9	7.7	19	78.9	17.2	25	57.8
Message 31	5.9	6.9	87.2	1.4	7	93.7	3.2	10.3	86.5
Message 32	13.5	19.1	67.4	9.2	35	66.2	11.7	25	63.3
Message 33	10.4	22.2	67.4	2.1	8	92.3	8.6	14.1	77.3
Message 34	9.4	13.9	76.7	0.7	3	96.5	7.8	10.9	81.3
Message 35	11.2	17.9	70.9	4.2	9	89.4	17.2	24.2	58.6
Message 36	11.3	15.8	72.9	2.8	12	88.7	6.3	21.1	72.7
Message 37	7.7	17.1	75.5	2.1	10	90.8	10.2	28.9	60.9
Message 38	11.6	19.6	68.8	1.4	18	85.9	10.2	33.1	56.7
Message 39	5.2	12.2	82.6	0	3	97.9	9.4	11.7	78.9
Message 40	8.0	12.6	79.4	3.5	18	83.8	14.1	14.1	71.9
Message 41	9.4	17.5	73.1	2.8	21	82.4	13.3	22.7	64.1
Message 42	6.0	10.2	83.9	0	7	95.1	3.9	11.8	84.3
*Message 42b**	7.8	12.0	80.2	-	-	-	5.5	14.2	80.3
Message 43	6.3	17.9	75.8	0	4	97.2	10.2	18.1	71.7
Message 44	6.7	19.6	73.7	1.4	4	95.8	11.3	25.8	62.9
Message 45	8.5	15.2	76.3	0	2	98.6	7.1	21.3	71.7
Message 46	4.6	10.2	85.2	0	0	100	6.3	10.2	83.5
Message 47	12.0	22.9	65.1	2.1	39	70.4	11.8	24.4	63.8
Message 48	6.7	13.1	80.1	0	5	96.5	7.9	19.7	72.4
Message 49	4.9	9.1	86.0	0	8	94.4	6.3	16.5	77.2
Message 50	3.5	10.5	86.0	0	1	98.6	1.6	7.1	91.3
Message 51	5.7	9.2	85.2	1.4	4	95.8	2.4	8.7	89
Message 52	4.2	7.7	88.0	0	1	98.6	6.3	11	82.7
Message 53	6.7	14.7	78.6	2.1	5	93.7	7.9	14.3	77.8

* This question wasn't included in the Spanish questionnaire. by mistake.

The diagram below (figure 2.1) shows the average percentages of the answers in all three countries. The red color represents the 'not at all-a little' answers, the pink color the 'moderately relevant messages' and the yellow 'the very much relevant messages'. In general it is obvious that the messages are ranked as very much relevant (yellow color). Nevertheless, there are some messages that are less relevant or clear to the medical students of all countries. More specifically some messages were rated from

more than 15% of the participants as not at all relevant or little relevant. Examples of these messages were:

- message 22: “Install smoke detectors, test them and change batteries regularly” - FIRE
- message 15: “Wear shoes with firm non-slip soles and avoid loose-fitting footwear that could cause you to trip” - FALLS
- message 24: “get a fire extinguisher and a fire blanket for the kitchen, learn how to use them and make sure they are checked regularly. Tackle only the smallest fires yourself: your first thought should always be to call the fire brigade out” - FIRE
- message 28: “Be aware that drowning can also happen in shallow water, e.g. ponds, bathtubs, buckets and toilet bowls” - WATER
- message 11: “make sure that you are visible. Wear light coloured, fluorescent and reflective clothing. Use your lights to be seen as well as to see” – RTI

The greatest relevance was attributed to messages 9 (93.4%) and 8 (92.8%). These messages had to do with road safety (e.g. recommended to put the children in the rear seat on an age and size-appropriate car restraint or booster seat and advised the drivers to use their seatbelts and to make sure that everyone wears seatbelt in the car.)

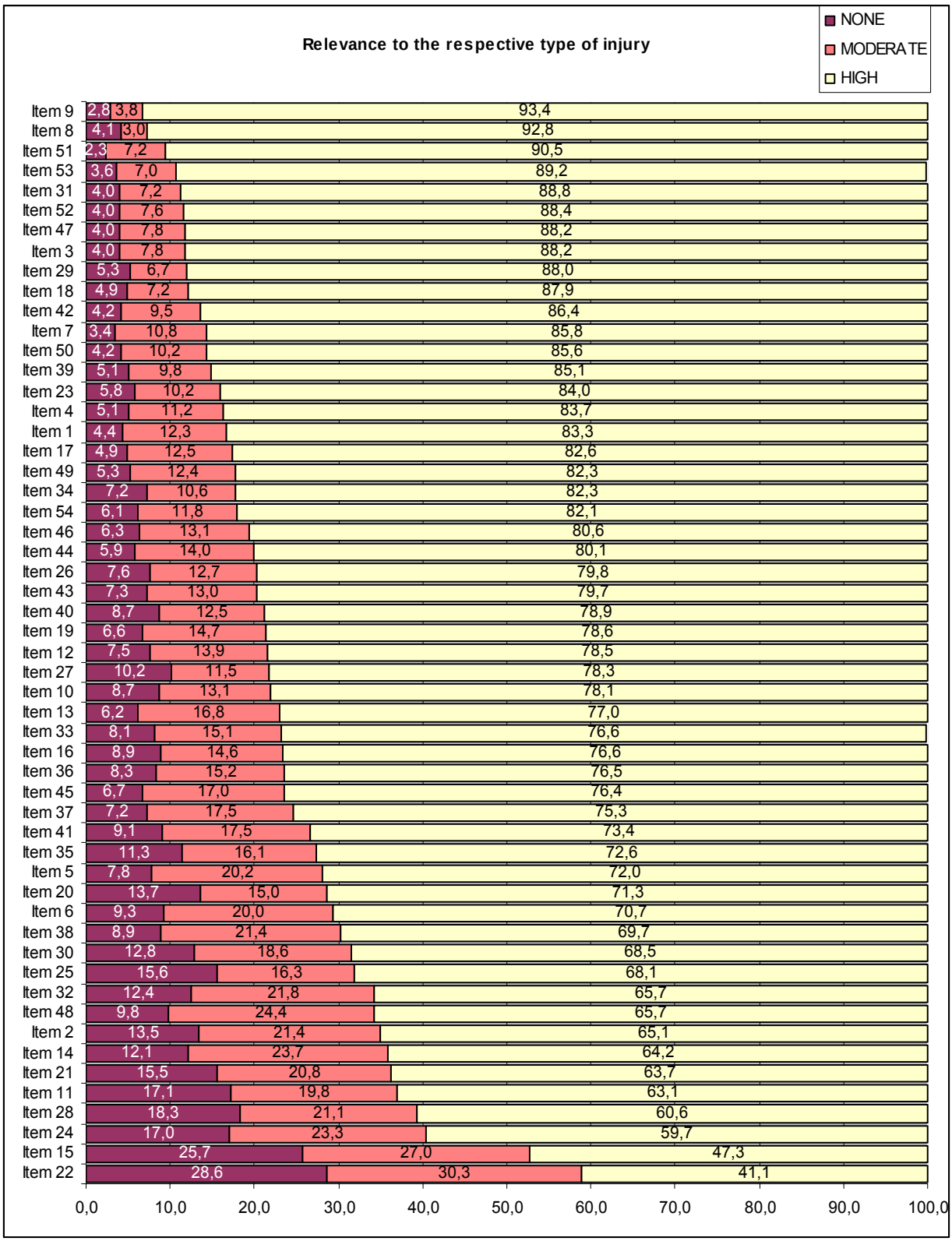

Figure2.1. The relevance of each message to the respective type of injury, in all countries (Greece, Hungary and Spain)

Figure 2.2 shows a diagram with the mean scores of all participants per injury category in the question 'how relevant is each message of the code to the respective type of injury targeted". The messages for almost all categories received a mean score above 4 which means that students perceived the messages as 'enough and very much' relevant. The two categories which had the highest mean scores were for the prevention of alcohol related injuries and for the prevention of Road traffic injuries. The two categories that had a mean score below 4 were the messages for burn injuries and fall related injuries.

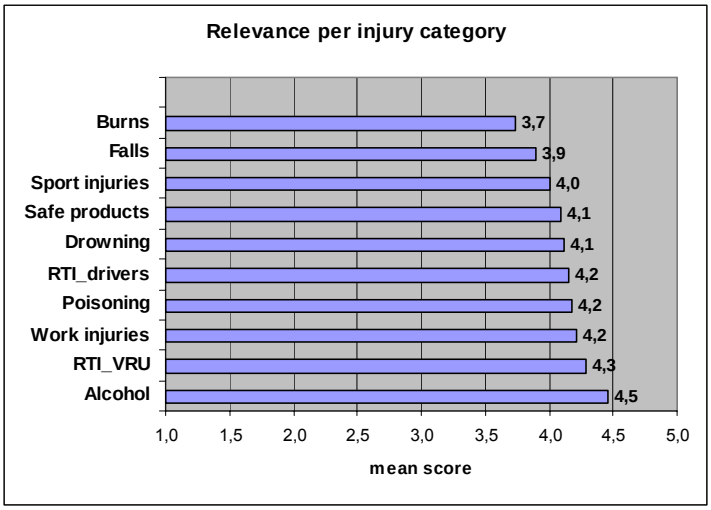

Figure 2.2. Mean scores per injury category of all participants: relevance of messages

B. Possibility to pass advices on prevention when consulting clients of health services or patients

The perceived possibility to pass the advices on prevention when consulting clients of health services or patients was measured via a question, which was the same for all the messages. Participants answered this question on the basis of a 5-point scale, where 1 represented the inexistence of that possibility ("under no circumstances") and 5 the maximum value of possibility ("I would tell it to almost all patients"). Table and the figure below (table 13, and figure 3), illustrate the percentage of answers, arithmetically and graphically respectively. The 2 first and the 2 last points of the scale were aggregated in order the results to be more easily understandable. Table 2.6 includes the ratings per country and the ratings of all participants in the survey. Figure 2.3 presents the rated possibility expressed by the participants in all three countries.

Table 2.6: Percentage of medical students' ratings per country for the perceived possibility to pass advices on prevention when consulting clients of health services or patients

Level of relevance	Greece			Spain			Hungary		
	Under no cirrcumstances or only if I have time left	Only in very specific patients	I would tell it to almost all or all patients	Under no cirrcumstances - Only if I have time left	Only in very specific patients	I would tell it to almost all or all patients	Under no cirrcumstances - Only if I have time left	Only in very specific patients	I would tell it to almost all or all patients
Message 1	10.1	22.7	67.1	9.9	15.6	74.5	21.3	28.3	50.4
Message 2	23.5	28.1	48.4	16.2	22.5	61.3	27.6	30.7	41.7
Message 3	7.7	14.7	77.5	16.9	22.5	60.6	36.9	26.9	20.7
Message 4	13.4	16.2	70.4	17.6	29.6	52.8	22.8	24.4	52.8
Message 5	14.6	14.6	70.7	31.7	39.4	28.9	31.7	26.2	42.1
Message 6	19.8	20.1	60.1	28.2	35.2	36.6	23	22.2	54.8
Message 7	13.1	18.8	68.1	29.8	18.4	51.8	23.6	17.3	59.1
Message 8	4.2	6.7	89.1	7.0	10.6	82.4	15.7	18.1	66.1
Message 9	3.8	10.1	86.0	4.9	9.9	85.2	12.6	15.7	71.7
Message 10	6.7	9.1	84.2	8.5	12.7	78.9	35.4	37.8	26.8
Message 11	37.5	29.5	33.0	25.4	20.4	54.2	28.3	18.1	53.5
Message 12	12.7	15.1	72.2	25.4	18.3	56.3	17.9	19.7	63
Message 13	7.7	17.2	75.1	6.3	20.4	73.2	12.6	22.8	64.6
Message 14	22.1	22.1	55.8	8.5	27.5	64.1	27	34.1	38.9
Message 15	41.1	24.2	34.7	28.9	33.1	38.0	39.2	24.8	36
Message 16	9.5	19.6	70.9	7.0	15.5	77.5	24.4	22	53.5
Message 17	8.4	10.1	81.8	7.7	17.6	74.6	17.3	25.2	57.5
Message 18	8.1	11.2	80.7	7.7	17.6	74.6	8.7	15.7	75.6
Message 19	10.1	15.4	74.5	19.7	26.8	53.5	18.9	25.2	55.9
Message 20	16.2	22.1	61.8	21.8	23.9	54.2	21.6	19.2	59.2
Message 21	18.2	20.0	61.8	35.9	26.1	38.0	46.5	34.6	18.9
Message 22	43.6	25.5	30.9	50.4	26.2	23.4	50.8	25	24.2
Message 23	8.1	13.4	78.5	19.7	16.9	63.4	15	13.4	71.7
Message 24	28.3	21.3	50.3	27.5	32.4	40.1	36.2	33.9	29.9
Message 25	25.7	20.8	53.5	20.4	26.8	52.8	15.7	19.7	64.6
Message 26	12.6	19.2	68.2	17.6	20.4	62.0	10.2	13.4	76.4
Message 27	11.3	17.6	71.1	15.6	28.4	56.0	24.4	22.8	52.8
Message 28	25.3	20.7	54.0	17.6	25.4	57.0	44.1	25.2	30.7
Message 29	6.7	9.6	83.7	14.2	22.0	63.8	16.5	19.7	63.8
Message 30	16.5	19.0	64.4	25.4	25.4	49.3	31.5	24.4	44.1
Message 31	7.4	14.7	77.9	16.2	26.1	57.7	14.4	12.8	72.8
Message 32	17.5	25.6	56.8	32.6	34.8	32.6	26	27.6	46.5
Message 33	13.3	22.5	64.2	7.0	25.4	67.6	20.5	18.9	60.6
Message 34	9.8	16.8	73.3	8.5	14.8	76.8	18.9	17.3	63.8
Message 35	13.6	20.9	65.5	23.2	21.8	54.9	29.1	26.8	44.1
Message 36	10.5	19.3	70.2	14.1	26.1	59.9	16.5	28.3	55.1
Message 37	12.3	18.6	69.1	24.1	22.0	53.9	24.4	28.3	47.2
Message 38	14.4	21.1	64.4	19.0	23.2	57.7	26.5	30.2	43.7
Message 39	5.3	15.5	79.2	12.0	10.6	77.5	18.1	15.7	66.1
Message 40	11.6	18.0	70.4	20.6	31.2	48.2	20.5	24.4	55.1
Message 41	13.4	19.0	67.6	26.1	25.4	48.6	24.4	25.2	50.4
Message 42	8.5	14.9	76.6	15.5	26.1	58.5	12.7	23	64.3
*Message 42b**	11.3	12.3	76.4	-	-	-	15.1	15.9	69
Message 43	11.3	19.1	69.6	14.2	23.4	62.4	18.3	25.4	56.3
Message 44	10.6	19.1	70.3	12.7	20.4	66.9	20.8	26.4	52.8
Message 45	9.9	20.2	69.9	12.7	17.6	69.7	17.5	25.4	57.1
Message 46	5.6	12.0	82.4	10.6	16.9	72.5	15.9	14.3	69.8
Message 47	18.4	25.9	55.7	28.4	29.1	42.6	25.8	26.6	47.6
Message 48	10.5	14.0	75.4	17.6	22.5	59.9	17.5	20.6	61.9
Message 49	4.9	8.1	86.9	1.4	12.7	85.9	15.9	21.4	62.7
Message 50	4.2	7.1	88.7	0.7	4.9	94.4	6.3	15.9	77.8
Message 51	6.3	8.1	85.6	5.0	8.5	86.5	12.7	13.5	73.8
Message 52	5.3	9.2	85.5	0.7	4.3	95.0	10.3	17.5	72.2
Message 53	8.2	18.9	73.0	4.5	11.9	83.6	17.5	18.3	64.3

* This question wasn't included in the Spanish questionnaire. by mistake.

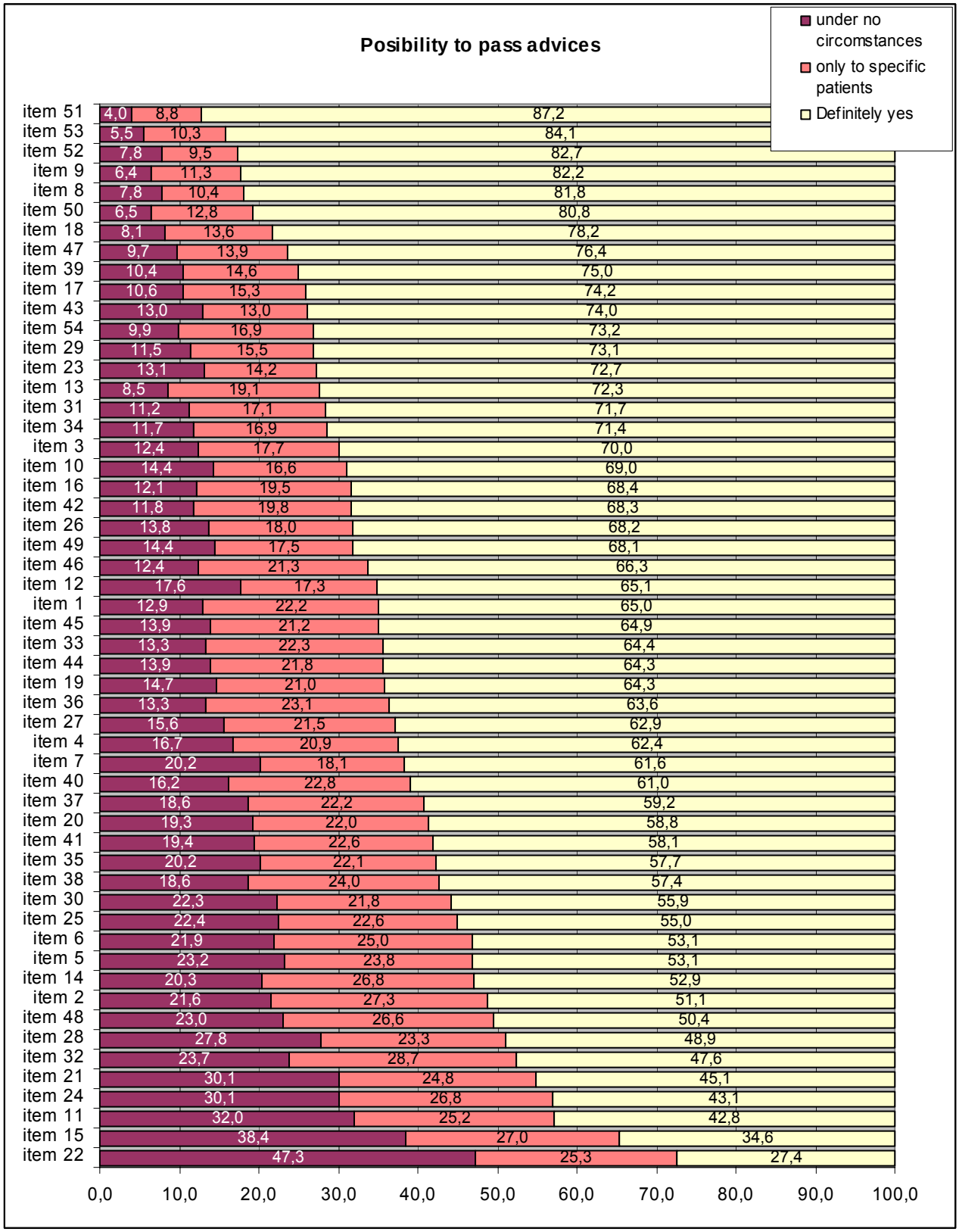

Figure 2.3. Medical students rated possibility to pass advices on prevention when consulting their clients of health services or patients in all countries

The participants, overall, reported high possibility to pass the advices/messages/ suggestions on prevention when consulting their clients of health services or patients (Figure 2.3 - yellow color). Nevertheless, compared to the answers of the first question, it seems that the students are more skeptical when it comes to future action behaviours. More specifically, in this question more than 30% of students give a negative answer (impossible or almost impossible to pass the advices) to three preventive messages:

- message 22 ("Install smoke detectors, test them and change batteries regularly")
- message 15 ("Wear shoes with firm non-slip soles and avoid loose-fitting footwear that could cause you to trip")
- message 11 ("make sure that you are visible. Wear light coloured, fluorescent and reflective clothing. Use your lights to be seen as well as to see")

A possible explanation might be that these particular measures were found – for their perception – not very relevant to injury prevention, especially in medical terms. Therefore, it is shown that the messages that were ranked the least relevant were also ranked as least possible to be communicated.

The greatest possibility to pass the advices was attributed to message 51 (87.2%) which recommends the use of public transport or the planning of a non-drinking driver when going out. The next set of messages that participants expressed that it is highly possible to pass them to their patients were messages 53 (alcohol consequences on the reflections), 52 (mix alcohol with medication), 8 (seatbelt use) and 9 (child car restraints).

The diagram below (figure 2.4) shows the mean scores of all participants per injury category in the question 'how likely is that you will convey each message to your future patients'. The answers were ranging from 1 (under no circumstances) to 5 (would definitely recommend). Again the highest scores were attributed to alcohol and Road Traffic injuries and the lowest to burns and falls. Nevertheless, the mean scores in this question were lower than in the first one (almost all mean scores below 4).

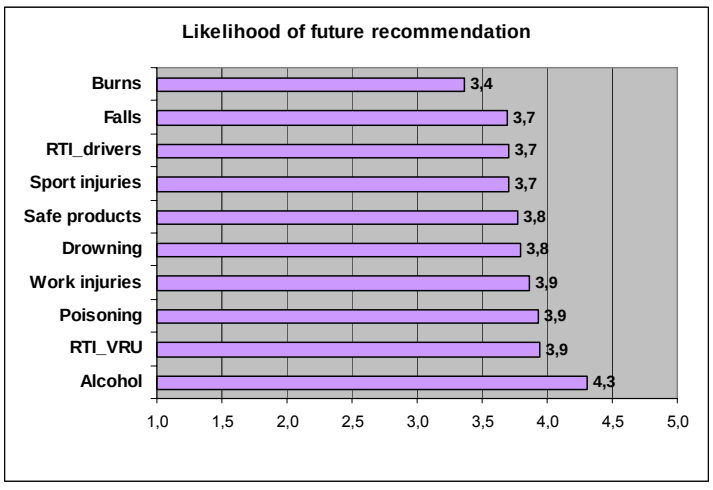

Figure 2.4. Mean scores per injury category of all participants: likelihood to convey messages

Comparison of the response patterns of the three participating countries

In order to test the different response patterns of the medical students in the three participating countries, the mean scores of the "relevance of messages" question and the "likelihood to convey messages" question were investigated for each country respectively. Figure 2.5 presents the graphic results of this comparison in relation to question 1 and 2. It has been revealed that Spanish students reported higher mean scores compared to the Greek and Hungarian medical students in regards to the relevance of the messages [F=16,42 (df=2), *p*<.000]. This means that in comparison to Greek and Hungarian students, Spanish medical students perceived the messages of the Code more relevant to injury prevention. Nevertheless, Greece and Hungary reported also high (above the average mean) and similar response patters (without statistical difference).

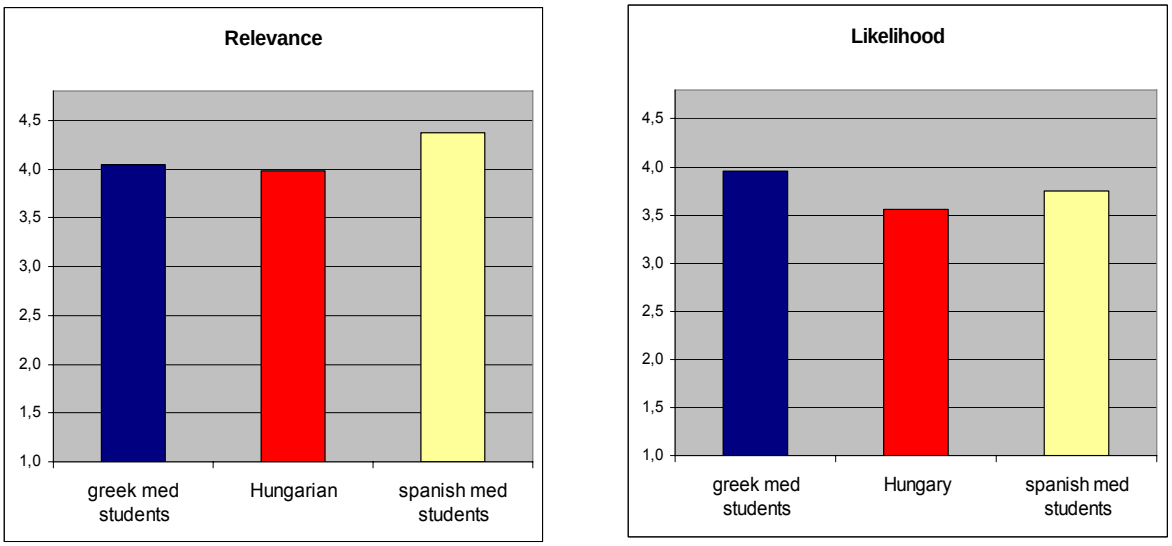

Figure 2.5 Mean scores of the 'relevance' and 'likelihood' scores in the three EU countries

Regarding the likelihood to convey the messages, Greek medical students were found to have the higher mean scores and Hungarian students the lowest, and this difference was significant [F=10.25, (df=2), *p*<.000]. Finally, it has been also revealed that the Greek medical students had rather stable answers in both questions (mean score around 4), while the Spanish students noted a significant decrease of the reported mean scores in relation to question 1 and 2 (mean score 4.4 vs 3.7).

Comparison of the 2 questions:

The graph below (figure 2.6) shows the actual difference between the mean scores of the two different questions, namely about relevance and likelihood to recommend the messages. In order to test this difference in statistical terms, an independent sample t-test was conducted[8]. The results showed that there was a significant difference between the total mean score of 'relevance' answers and 'likelihood' answers [t=13.2 (df 529), p<.000]. This means that although medical students find the messages of ECAI highly relevant with injury prevention, they seem to have some hesitations in regards to future recommendation to their patients.

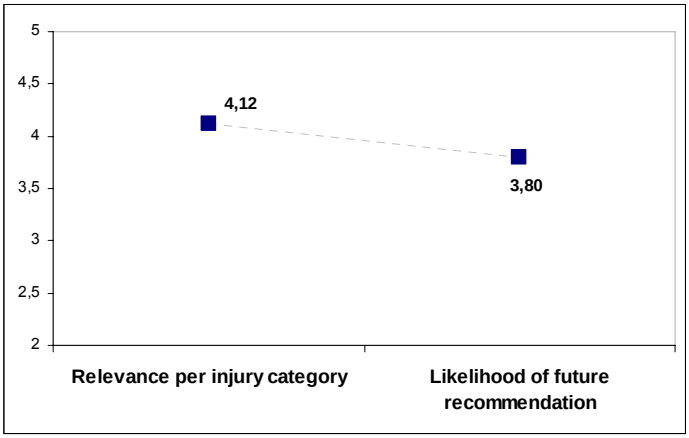

Figure 2.6. The difference in the mean scores of the two questions

C. Open ended questions

Study in Greece:

Participants were asked at the end of the questionnaire to express how comfortable would they feel to convey these injury prevention messages to their patients (regarding the time needed. the attitudes of your patients towards the injury prevention measures. how comprehensive would consider that the messages are etc.). The 61.6% of the participants expressed their point of view. The 51.6% replied that they would feel very or almost very comfortable to convey these injury prevention messages to their patients. The 20.9% replied that they would feel moderately comfortable and the 26.9% replied that would feel less or no comfortable to pass the advices to their patients.

The majority of them expressed that they feel that it is feasible to convey the messages to their patients and that messages are comprehensive and easily understandable but there are some barriers that should be overcome in order their patients to accept and adopt the recommended injury preventive measures. On one

[8] The t-test assesses whether the means of two groups are *statistically* different from each other. It is a statistic used to compare means of two sets of scores, each set collected from a different set of people or collected about a different set of stimuli.

hand, many of them stated that they believe that the messages that recommend mainly the prevention of children injuries would be easily accepted and adopted from their patients. as parents are more sensible on this issue. Respondents themselves would be more willing to convey such messages as well as measures related to road safety, falls and occupational injury prevention.

On the other hand, some stated that it is less possible to try to convey preventive measures related to fire prevention, wearing of protective clothes, learning how to resuscitate a victim of drowning, avoiding smoking in the bedroom and recommendations related to alcohol because they believe that people won't understand their usefulness, will underestimate their effectiveness and won't be willing to change their habits. Participants also referred to their patient's negative attitudes regarding admonitions, because they believe that they know better than others to protect themselves.

Furthermore they expressed that the messages are too many and the time that a doctor has in his availability for the patient is limited. Most of the times, doctors work under hectic paces and they try to focus on recommending only what is really necessary. Some recommended that the code describe more briefly the messages, more synoptically and pinpoint from 5 to 15 main points. Some of them referred that it is difficult enough to convey the messages due to the limited time during the examination of the patient (e.g. Hospital settings. Social Insurance Institute). It is more possible to pass these messages at a private consulting-room because the doctor has more available time. Awareness of patients is very limited regarding the issue of the prevention of unintentional injuries and it is necessary for the doctor to have patience and time in order to convince their clients.

The questionnaire offered to participants a free space to write any other possible comments that they might have. Respondents stressed the need to implement educational programs on injury prevention that should target both parents and children, starting from a very early age. They also mentioned the importance of the use of mass media (TV, radio spots) in order to disseminate the information on primary prevention. They also proposed to mandate the education of school age children on first aid. By this way, primary prevention will be part of citizens' lifestyle. Finally, some recommended that it would be easier to convey the messages through informational leaflets and by exerting political pressure. As far as the traffic code and road safety is concerned, respondents stressed the need to increase the penalties for offenders in order to increase their compliance to the laws. Participants expressed also their point of view on some messages. According to them, the message "be aware that drowning can also happen in shallow water. e.g. ponds, bathtubs, buckets and toilet bowls" seemed to

them as extravagant. However, they highlighted that specific emphasis should be placed on the prevention of work related injuries and on special training on ergotherapy during the recovery stage.

Study in Spain:

Almost all students think that the prevention of injuries is a relevant subject nowadays and the information provided in the Code is clear and easy to understand. no matter what the level of education a patient has. Very few students think that their patients would have problems in understanding the message or would show a negative attitude towards being informed of injury prevention by their doctor. Students interviewed make a clear distinction between primary care doctors and specialists, regarding the feasibility of using the questionnaire in their consultation. Primary care doctors see their patients regularly and know their habits and past medical history, so they can address the recommendations according to their needs and injury risks.

Around 90 % of the subjects interviewed consider the lack of time as the main problem for a primary care physician to pass these recommendations onto their patients. In the Spanish National Health System, the average consultation time is 7-8 minutes, so they think it is not time enough to talk about something other than the patient's disease itself. However, some think that an effort could be made. by highlighting the most relevant items from the questionnaire (e.g. alcohol and drugs) and talk about them in different patient's consultations. Others think that, as the questionnaire is too long and some ideas are "common sense". the code could be redesigned by age group or population risk group.

Alternative solutions to the lack of time are suggested. Among them, the development of information booklets, posters for the doctor's waiting rooms, talks aimed at different groups of patients depending on their age and pathology. etc. Together with the issue of lack of time, it can be concluded that many of these students suggest that it is not the doctor's responsibility to advise his patients on prevention matters. Most think it should be a priority of the Government or other state institutions; others that the best way to reach the population is via the media (television campaigns. act); and finally another group of students think that schools should take active part in informing children or teenagers on injury prevention.

Finally, those few students who think it would be feasible for them to pass the questionnaire to their patients emphasize the high level of confidence that exists between patients and doctors and the benefit of "wasting" physician's time giving recommendations on how to prevent injuries, as "a minute wasted for prevention can save a life". The argument for the actual feasibly of introducing the code in primary health care system is reinforced by the experience of some of these students who have seen how these measures are implemented successfully, especially in pediatrics.

Most of the comments submitted by students (around 20-25% did not answer this question) are related to the belief that doctors are not responsible for informing their patients on the subject of injury prevention, especially regarding road safety and safety at work or at home. They think national institutions should do it, as the impact on society would be higher (e.g. media campaigns. courses or talks in schools. etc.). Some say both doctors and the Government should work together. Although the majority of students consider that it is difficult to pass this message onto patients individually and agree on approaching the problem collectively, others tell of their experience in paediatric consultations proving the feasibility of individual advice.

The prevention of motor vehicle injuries is also a matter of discussion. Most students agree that this kind of information should be given by institutions such as the DGT[9], as it is not the doctor's responsibility. Some suggest that the solution to car accidents is not prevention, but implementing the right measures (e. g. limiting cars' speed limit. promoting the use of public transport. etc.). Regarding the Code itself, some students think it should include information on diet and sexual education; others would add advice on road speed to the item "stay safe on the road"; a few comments suggest the need for redesigning the Code by age group. Finally, few students found the questionnaire repetitive in some cases and too obvious in others. Table 2.7 summarizes the main outcomes of the open questions in both countries.

Table 2.7**:** Perceived barriers to convey the messages to the patients and methods to overcome them

Barriers	**Methods to overcome the barriers**
Lack of physicians' time and patience	*Repeated and consistent efforts by the physicians*
Workload	*Devotion of more time by the physicians*
Patients are more interested to their treatment and not to the prevention	*Adaptation of the recommendations based on the characteristics of each patient (e.g. age. gender. lifestyle. educational level. economic level. mental health etc.)*
Lack of peoples' interest on prevention issues	*Raise peoples' awareness on injury prevention issues (e.g. through mass media campaigns. educational programs)* *Distribution of informational leaflets by the physicians to their patients*
People believe that there is no or very low possibility to experience an accident	
Low level of awareness about the injury prevention	
Low educational level	
Personality issues	*Good relationship and confidence between the physician and the patient*
Some may consider some of the recommendations as extravagant	
It is difficult to change peoples' habits and risk behaviours	*National strategy and coordinated efforts are needed by the community and the health sector as well as enforcement of laws (e.g. increase of penalties)* *Physicians' communication skills*

[9] Spanish Traffic General Directorate

Depends on target groups' age and accident experience	
Low financial status	
High cost of some measures (e.g. periodic eye tests)	

II. QUESTIONNAIRE TARGETING DIFFERENT POPULATION GROUPS

The same questionnaire has been adapted in order to be pilot tested on the general population (APPENDIX 11).

A. General population groups:

1. Mothers in maternity hospitals
2. Elderly
3. Elementary and/or High school students
4. Industrial workers
5. Athletes
6. Employees in banks and in the public sector in general
7. Employees in the sections of tourism. entertainment etc.

B. Minority groups:

1. Immigrants
2. Former drug addicts
3. Imprisoned

This questionnaire consisted of all the key messages of the code and aimed to assess:

a. The clarity of each key message of the Code and
b. The likelihood of different population groups to adopt the proposed messages

The response format was a frequency-related 5-point Likert scale ranging from *none* to *very much*. In addition, two open-ended questions were added at the end of the questionnaire:

Question 1: *If you have answered that you would not adopt one or more of the proposed measure, please write the main reasons for your choice*?

Question 2: *Any further comments?*

These questionnaires obtained also information about socio-demographic status (gender. age. educational level and occupation. place of residence. economic status and history of injuries). Pilot testing targeting different population groups was conducted in Greece for both population groups (A and B) and Hungary (only for general population groups).

Analysis

Data analysis was conducted via the Statistical Product and Service Solutions (SPSS) version 14 for Windows. The aims of the analyses were (a) to describe the sample in terms of demographic characteristics, (b) to determine how much clear were the messages to the participants and (c) to determine the extent to which the participants were willing to adopt these practices to their everyday lives. Moreover, reliability analyses were carried out in order to assess the consistency of each category scale (Cronbach's alpha). Finally, because the sample consisted of different group populations (see below) we examined the answering pattern of each population group in order to draw some conclusions. The descriptive statistics that were used were means, standard deviations and frequency percentages.

RESULTS

A. Sample description

The sample consisted of 1.203 participants, 576 Greek and 627 Hungarian with a mean age of 35.9 (SD=15.03) and an age range 13 to 89 years old. In total, 31% of the sample was men and 69% women. The majority of the sample was living in big cities (74%) and the rest were living in cities up to 15.000 habitants, towns or villages. Concerning the level of education 14% completed primary or secondary education, 34% went to high school or received technical education and 46% attended the higher education. (table 2.8a & 2.8b)

Table 2.8a Demographic data of the different population groups in Hungary

	N	**Mean age (SD)**	**Gender**	
Population groups			**male**	**female**
Employees	124	30,9 (9,5)	29%	71%
Parents	154	36,3 (8,3)	19%	81%
Nurses	205	41,2 (11,7)	0%	100%
Univ stud (teachers)	52	23,4 (2,9)	52%	48%
Elderly	75	72,0 (5,1)	24%	76%
Imprisoned	17	35,8 (9,8)	100%	0%
Total	**627**	**40,3 (16,3)**	**20%**	**80%**

Table 2.8b Demographic data of the different population groups in Greece

	N	Mean age (SD)	Gender	
General population			**male**	**female**
Employees	172	44,1 (10,3)	41%	59%
Parents	137	30,4 (5,7)	0%	100%
High-school students	50	16,5 (1,9)	52%	48%
Athletes	21	34,2 (8,9)	76%	24%
Elderly	23	67,7 (10,1)	57%	43%
Barmen	10	23,7 (4,6)	60%	40%
Immigrants	127	35,0 (10,2)	66%	34%
Ex-drug addicts	30	29,2 (5,7)	80%	20%
Imprisoned	6	32,8 (11,1)	33%	67%
Total	**576**	**35,8 (13,4)**	**42%**	**58%**

Concerning the prevalence of injuries amongst the participants, it found that 42.5% of the participants had had at least once in their lives a serious accident. From those that had an accident, 26% were hospitalized for at least one day. Figure 2.7 shows that the most frequently reported types of injuries were the road-traffic injuries with (14.4 frequency occurrence), fall injuries (9.9% frequency occurrence) and sport injuries (6.1% frequency occurrence).

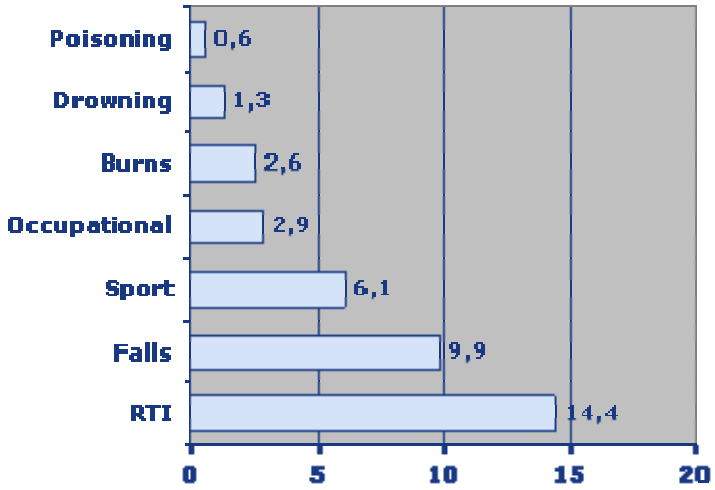

Figure 2.7. Frequency of the reported injuries per type

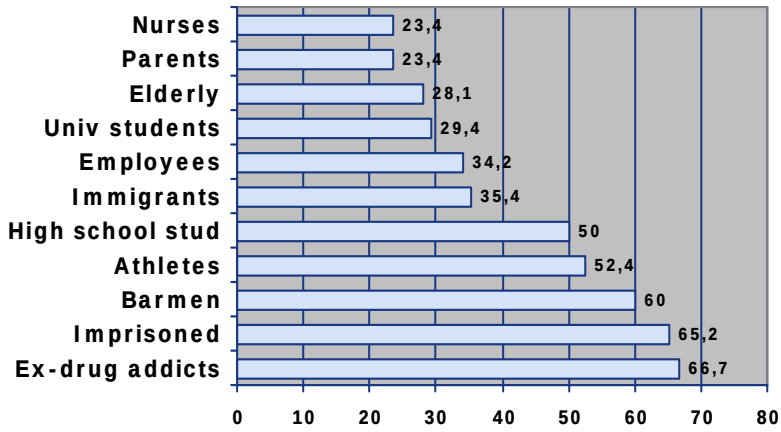

Figure 2.8. Frequency of the reported injuries per population group

The nurses and the parents of the present sample reported the lower percentages of injuries, in comparison to the rest population categories whereas the highest were reported by the former drug addicts the imprisoned and the bar-tenders (people working at night) (figure 2.8). The barmen and the athletes reported the highest numbers of road traffic injuries (50% and 42.9% respectively). Concerning the fall injuries, not surprisingly the elderly reported the most frequent occurrence of falls (39%) followed by ex-drug addicts (23%), while the barmen and the athletes didn't reported any. Regarding the sport injuries, the groups that had the highest rates were the high school students and the athletes (20% and 14.3%). Similarly, students had the highest rates in injuries related to swimming-drowning.

Finally, although the prevalence rates for the rest of injury categories were low (1%-3.5%), some interesting outcomes were found. For example, the most prevalent injuries among immigrants were the work-related injuries (7.9%). Moreover, the immigrants, along with the public workers and the parents, reported most of the poisoning incidences, burns and drowning related injuries.

ECAI messages and Injury categories

In order to determine the reliability of the questionnaire, the internal consistency of the scales, pertaining the injury categories, was assessed. The reliability analyses revealed that all the category scales were reliable as the alphas were above .70[1], meaning that each scale was referring to the concept that it was supposed to measure. More importantly however it was found that the internal consistency of all items of the questionnaire (n=54) was α = .97 which proves that the present questionnaire is indeed designed to assess a broader category, that is, injury prevention practices.

Table 2.9: Internal consistency of the questionnaire

Scale categories	Cronbach's Alpha
All Items	.97
Road traffic injuries	.88
Falls	.81
Poisoning	.70
Fire related injuries	.78
Water related injuries	.85
Sport related injuries	.89
Using products safely	.86
Work related injuries	.90
Alcohol related injuries	.86

B. Clarity of the messages

The participants were asked to rate each message in a 5-point lickert scale with the 1 indicating the inexistence of comprehension (none) and 5 which indicated the maximum level of comprehension (very much). Figure 2.9 illustrates the percentages of the answers of all the participants for each message of the questionnaire. The first two (none, a little) and the last two points (enough, very much) of the scale were aggregated in one in order the results to be more understandable.

According to this figure, it has been revealed that the majority of the messages were very clear and familiar to people. Some people though, found specific messages less familiar or clear. These messages were:

- message 22 ("Install smoke detectors - test them and change batteries regularly")
- message 11 ("make sure that you are visible. Wear light colored, fluorescent and reflective clothing. Use your lights to be seen as well as to see")
- message 15 ("Wear shoes with firm non-slip soles and avoid loose-fitting footwear that could cause you to trip")
- message 28 ("Be aware that drowning can also happen in shallow water, e.g. ponds. Bathtubs, buckets and toilet bowls)
- message 20 ("Make sure you have the emergency number next to the telephone")
- message 24 ("get a fire extinguisher and a fire blanket for the kitchen, learn how to use them and make sure they are checked regularly. Tackle only the smallest fires yourself: your first thought should always be to call the fire brigade out")

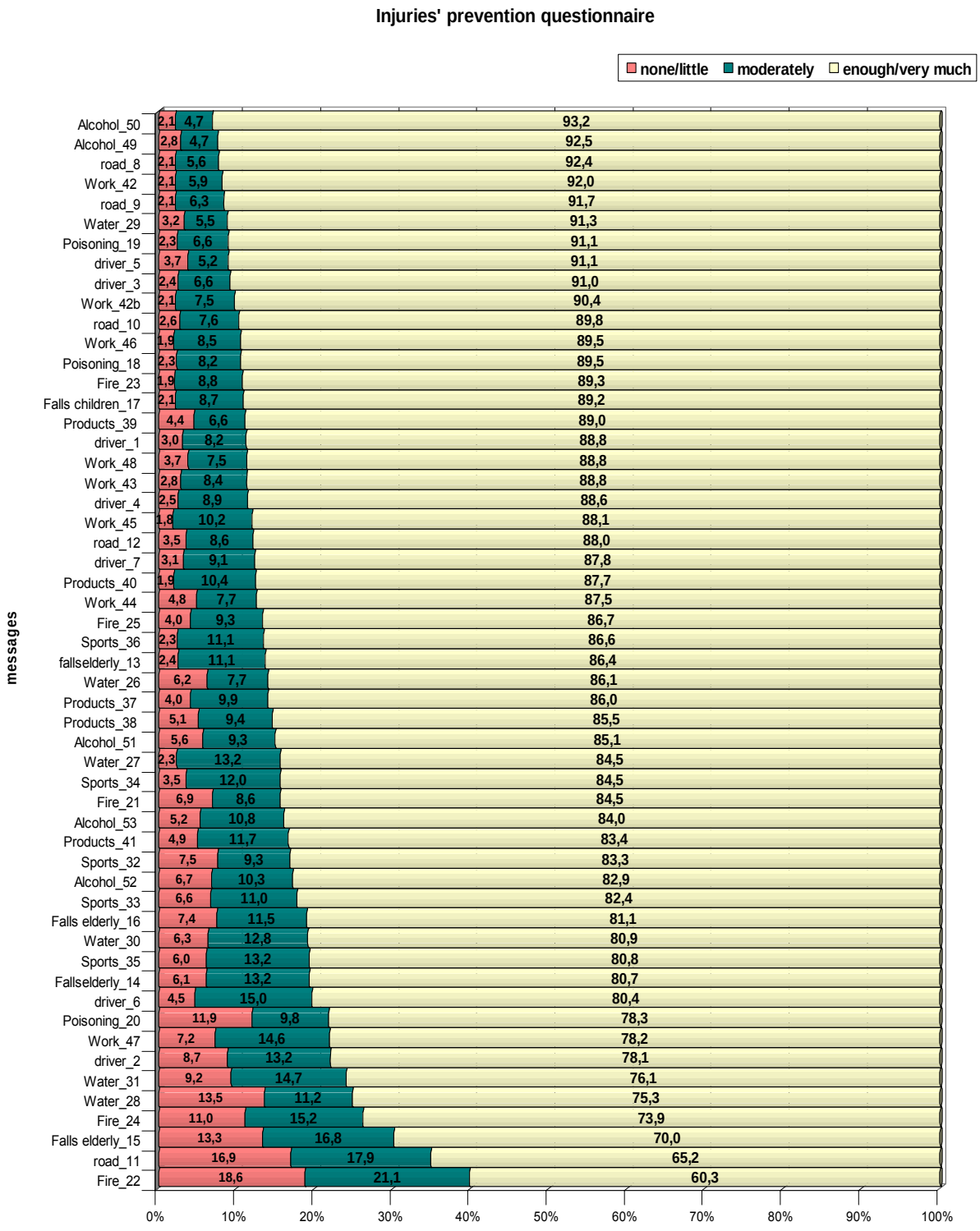

Figure 2.9: Level of clarity/comprehension per intervention message

The most clear messages (more than 92% of people rated as very much clear) were alcohol related messages (message 49 and 50) and the message that were referring to work safety (message 42) and seat belt use (message 8).

Clarity per country and population group

As the sample was not homogeneous, it was important to inspect the answering patterns of each country and population group in order to understand further why and from who some messages were less clear than others. For example, when looking at the cross-tabulation of the message 15 ('wear non-slippery shoes') in respect to the different groups, it was found that the groups with a higher mean age (eg. public workers, elderly) scored higher, thus were more familiar with this particular message (83% & 96% respectively) than younger groups like the imprisoned or the barmen (33% and 60% respectively). With the above it might be the case that some injury prevention practices are age or status related.

The figures below (2.10a & 2.10b) illustrate the different response patterns of each country and group population for all the messages of the ECAI. For Hungary it was found that the group of older people scored very low in the questions regarding the clarity of messages, in comparison with the rest groups of the groups (mean score <3). Older people in Hungary had also very low response rates (38,7 %), indicating that they might have had troubles in completing-understanding the questionnaire. A possible reason for that might be attributed to the fact that the 80% of the participating older people had received lower or mid education (figure 2.10a).

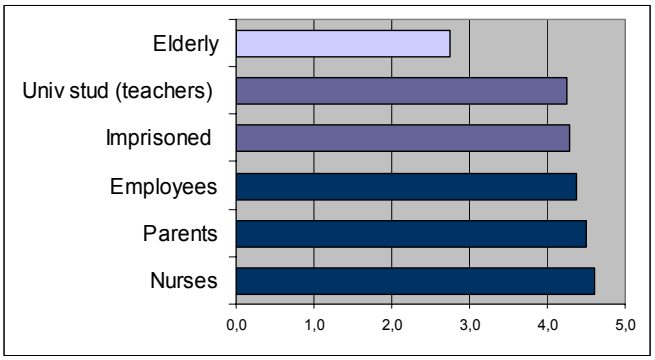

Figure 2.10a Mean scores on clarity of ECAI messages per population group for all messages: Hungary

For Greece the group with the lowest scores was the group of immigrants. This can be explained by the fact that some of them might have had unknown words while reading the Code. The group of imprisoned, barmen and ex-drug addicts had also statistically significant lower scores from the parents. Surprisingly, high school students - in contrast to Hungary- scored very high in this question (mean score 4,62).

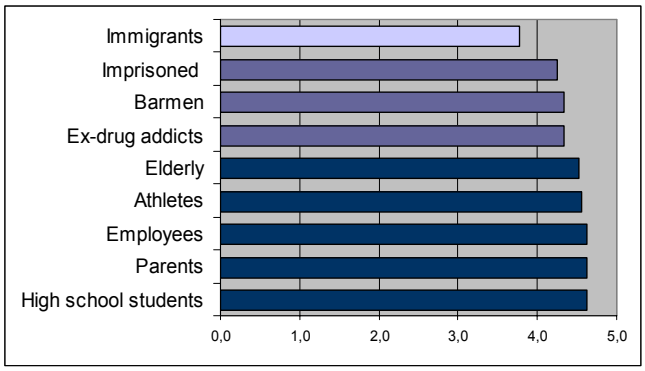

Figure 2.10b Mean scores on clarity of ECAI messages per population group for all messages: Greece

C. Possibility of implementation of the suggested measures

The perceived possibility to adopt the advices of prevention was measured with the question "*How likely it is that you will adopt the proposed measures*". The participants answered on a basis of a five-point Lickert scale where 1 represented the lowest possibility of implementation (none) and 5 the highest possibility (very much). Figure 2.11 illustrates the percentages of the answers for each message for the two countries separately. Although the perceived likelihood to adopt the messages was high for the majority of the participants, there were some messages in which many participants claimed that it was less possible to implement them. Interestingly, for both countries, the messages that were the least familiar were also those that had the smaller chances to be adopted and vice versa. For example, it has been shown that for the Greek groups of immigrants, ex-drug addicts and for the barmen, the chances of implementation were low for the same preventive messages that were not very clear – familiar (e.g. road traffic injuries, falls, poisoning). Moreover, the intentions of elderly to implement the water and sport related measures were very low in comparison to the intentions of the mothers and adolescents who noted the highest implementation possibilities for almost all messages. However, although the message regarding smoke detectors installation was reported in both countries as one of the practices with the lowest chances to be adopted, the Greek 'refusal' was more obvious that the Hungarian (60% negative answers vs 30%).

Hungary **Greece**

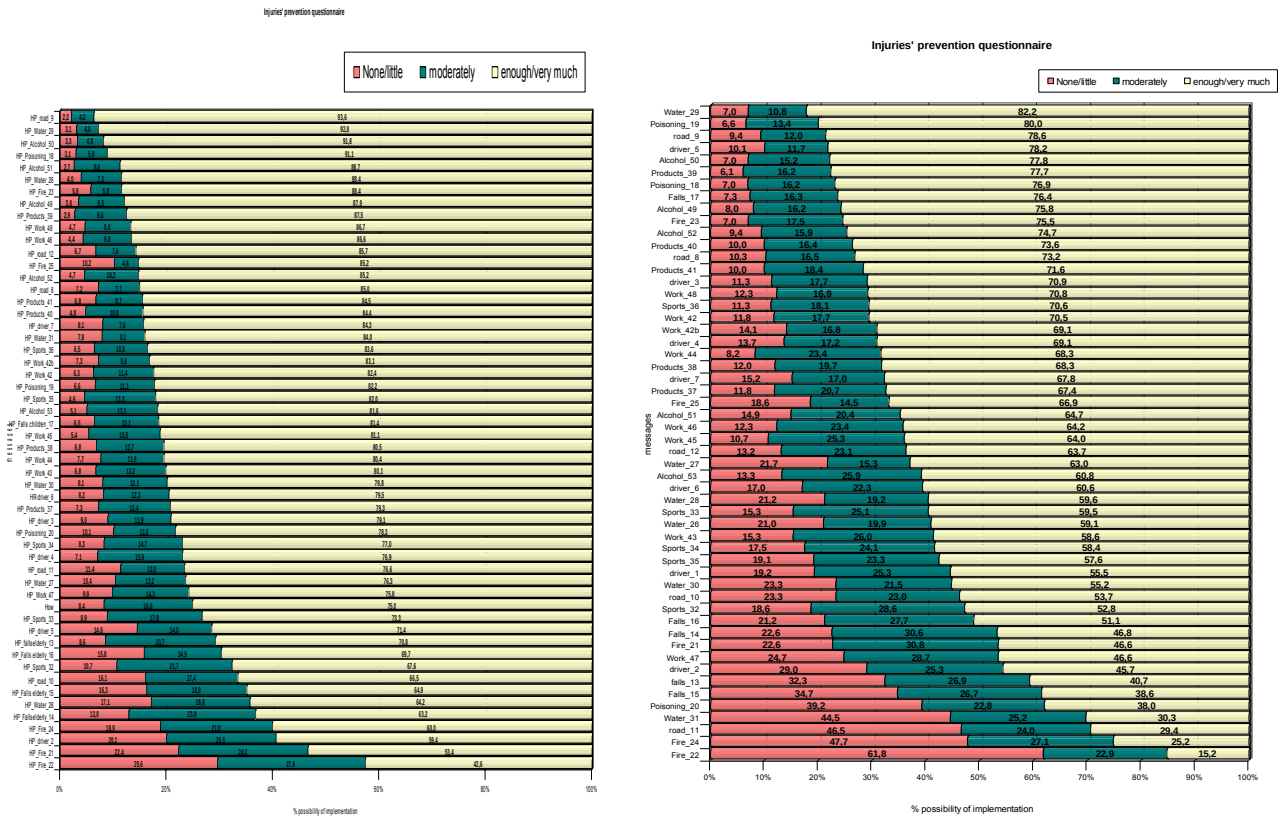

Figure 2.11. Percentages of the possibility to implement ECAI messages in Hungary (left) and Greece (right)

The above figures show that Hungarian people were more willing to adopt safety behaviors than the Greeks. Indeed, the statistical analyses showed that although Greek people were significantly more familiar with the prevention practices than the Hungarian people [t= -3.1 (df=1201), *p*<.001], Hungarian people were significantly more willing to adopt safety measures that the Greek people [t=5.7 (df=1201), *p*<.000]. This means that there is a high potential to implement the ECAI in Hungary.

Comparison of the two questions

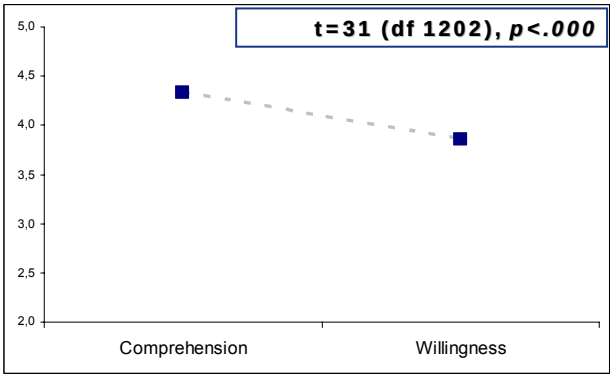

Figure 2.12. Mean scores for Questions assessing comprehension and willingness to adopt messages

Like in the case of medical students who rated higher the relevance vs the likelihood to recommend the messages, the results suggest again that people are more sceptical when it comes to active involvement, that is, adoption of messages (figure 2.12). These findings further highlight the differences and gabs between knowledge and behaviour.

CONCLUSIONS

In general, the similar response patterns found among the three countries (e.g. smoke detectors, non-slippery shoes) are pointing to the same direction: there is a need of further awareness raising of the population at large on injury prevention measures. Moreover, from the qualitative analysis of the results (focus groups) as well as the quantitative results (questionnaires), it was suggested that future professionals expected to be involved in injury prevention as well as those at high risk (elderly, minority groups) have knowledge gaps in simple, yet effective, safety measures. Especially evident was the knowledge gabs regarding measures to reduce burns, falls and road traffic injuries.

In addition it has been found that the less understandable the preventive measure, the less the intensions for implementation. Thus, an effort to raise public awareness could have positive effects by encouraging wider use of preventive measures. Moreover, without having the intension to stigmatize any of the groups it is apparent that for certain population groups there are a similar response and behavioral tendency. For example, the fact that the road-traffic injuries were the most frequently occurred accidents among the barmen and the athletes, could be explained by the young age and possibly the risky behaviours. This show that certain groups may adopt different behaviors thus the need of different approaches is indispensable in order the prevention practices to be effective for everybody (see APOLLO WP5: Interventions tailored to children and adolescents).

As far as the clarity of messages is concerned, researchers took into consideration comments of the respondents relating to the length of some messages, or the complication that some messages provoked due to the provision of too much information. To this end some messages were eliminated, other rephrased while some others were split into two or more messages. This resulted into the new and final version of the ECAI which consisted of 60 prevention messages (fig 3.13 APPENDIX 12a) This version has been translated into 15 different languages (APPENDIX 12b). In addition, the scientific justification of the ECAI has been developed with the contribution of 19 experts and it has been published in the Archives of Hellenic Medicine (APPENDIX 12c).

Finally, in order to facilitate the dissemination of the ECAI, a poster has been developed aiming to sensitize European citizens about the number of lives that could have been saved (APPENDIX 12d).

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Figure 2.13 The European Code Against Injuries: Final Version

3. EVALUATION OF THE ECAI

The impact of the ECAI on University students' Knowledge, Attitudes and Behaviour towards injury prevention

Given that unintentional injury prevention can be realized by actively involving people to adopt safety behaviours, the ECAI aims to become a tool that will raise awareness on injury prevention and safety promotion among European citizens. One way to achieve this is through the presentation of a series of 60 simple, comprehensive and evidence based messages regarding preventive measures of the main injury categories that have been proven to be effective in reducing the incidence of unintentional injuries.

The aim of the ECAI evaluation study was to assess the impact of ECAI on University students knowledge, attitudes and behaviour towards injury prevention following attendance at a brief presentation. To this end, the evaluation focused on three different components: (a) knowledge, (b) attitudes and (c) self-reported behaviour towards unintentional injury prevention. The base line level of knowledge, attitudes and self-reported behaviour of the participants was initially assessed. After the ECAI presentation the same components were measured and an estimation of changes in knowledge and students' willingness to change attitudes and to adopt safety behaviours in the future was realized. The contribution of four EU countries in the same evaluation process aimed to reveal potential cultural-related or other differences that could potentially guide the adaptation of the code in order to become a useful and effective tool. The results of these measures are indented to give a comprehensive view of the impact of the Code.

METHODS AND MATERIALS

Sample

Given that injuries are one of the leading causes of death among the group of 1-24 years old and considering that adolescents and young adults are more likely to be injured due to the adoption of risk behaviours, the evaluation study of the ECAI targeted mainly young adults, and more specifically university students. The sample consisted of 683 students from medical, paramedical and other faculties from 4 European countries, namely Greece, Italy, Spain and Hungary. The students were recruited in the study by the APOLLO WP3 partners and the implementation of the short intervention was conducted in the context of their course in the University (e.g. as part of the module for the preventive medicine). The ECAI evaluation process started in September 2007 and was completed in March 2008.

In the table below the main characteristics of the participants are presented for each of the countries participated. Almost 80% of the students derived from medical/ paramedical areas and 75% of them were females. Furthermore, ~65% of them were 21 or less years old and the almost half of them (53%) lived in places with more than 100,000 habitants.

Table 3.1. Sample characteristics

		GR (N)	HU (N)	IT (N)	ES (N)	*(%)*
	Male(%)	21	8	32	33	*25*
Gender	Female(%)	79	92	68	67	*75*
	≥ 21 (%)	64	91	64	52	*65*
Age	≤ 22 (%)	36	9	36	48	*35*
	Medical (%)	-	-	38	100	*44*
	Paramedical (%)	59	100	-	-	*35*
Faculty	Other (%)	41	-	62	-	*21*
	> 100000 (%)	64	20	21	77	*53*
Place of	15000-100000 (%)	19	26	36	10	*20*
residence	< 15000 (%)	16	55	42	13	*27*

It should be noted that for ethical but also for methodological reasons it was decided that students would complete anonymously the questionnaires. However, as it was necessary to match the pre- and post-questionnaires, a code was invented. Thus, each student had to develop her/his own 6-digit personal code, which consisted of very familiar data for the person (in order to be easy to remember) but that wouldn't allow

anyone to match students with their codes. An example of this code is presented in the following table:

Table 3.2 Code used by participants in the evaluation study

Suggested CODE: a = 2nd letter of father's name, b = 3rd letter of mother's name, cc = month of birth (01-12) dd = 2 last digits of phone number. So if name of father is Paul, name of Mother is Margarita, month of birth May and tel. Number 22578 then the code should be: AR0778					
a.	**b**	**c**	**c**	**d**	**d**
A	R	0	5	7	8

However, due to the matching procedure a total of ~15% of the completed questionnaires were not included in the study as it was not possible to match them. Some reasons for that were: missing codes, incorrect codes or non participation in the post- evaluation. Totally, from the 804 questionnaires that were distributed 683 were matched. Those questionnaires that failed to be matched were excluded from the study (Table 3.3).

Table 3.3. N of questionnaires distributed and N of matched questionnaires for intervention and non intervention group per country finally included in the study

	Distributed Questionnaires (N)	Matched Questionnaires (N)	% Matched Questionnaires
Greece			
Intervention group	140	119	85.0
Non-intervention group	60	52	86.7
Hungary			
Intervention group	124	107	86.3
Non-intervention group	35	31	88.6
Italy			
Intervention group	94	64	68.1
Non-intervention group	69	57	82.6
Spain			
Intervention group	140	118	84.3
Non-intervention group	142	135	95.1
Total	804	683	85.0%

Evaluation tool:

For the purpose of this study two questionnaires were developed (APPENDIX 13a-b). The pre-questionnaire (questionnaire distributed prior to the intervention) consisted of two parts. In the first part, information relating to socio-demographic variables was requested (i.e. age, gender, faculty, place of residence, previous education on unintentional injury prevention) and in the second part a set of statements were

presented for which the participants were asked to agree or disagree in a 5-point scale. The first set of statements aimed to assess knowledge of injury prevention measures, which were basically from the ECAI, the second one to investigate attitudes towards these measures and the last to assess willingness to adopt safety behaviors.

The post-questionnaire (questionnaire distributed after the intervention) consisted of the same statements, as the pre-questionnaire, in order to test whether participants' responses were affected and possibly modified due to the ECAI intervention. Each item was developed to assess selected messages from the 10 prioritized injury prevention areas, as included in the ECAI, namely road traffic injury prevention as driver and as vulnerable road user, prevention of fall injuries, burns, drowning, poisoning, sport injuries, work-related injuries, alcohol-related injuries and prevention of injuries related to safety products. The items included in the questionnaire addressed injury prevention issues for all age groups (ie children, adults and elderly). Participants answered, all 30 questions based on a 5-point scale (1=totally disagree to 5=totally agree) plus the option "do not know". The questionnaires were initially developed in English and then translated into the four languages of the participating countries.

Evaluation Design:

To evaluate the impact of the European Code Against Injuries a mixed factorial design (2X2X4) was used: intervention vs non-intervention group (Between-subjects), pre-test vs post-test (Within-subjects factor), 4 EU countries: ES-GR-HU-IT (among countries). The design was actually a between and within factor analysis, that it was tested the impact of the ECAI comparing the intervention with a control group. To this end the sample in all 4 countries was randomly assigned to control or intervention group and all participants completed the same questionnaire in the same time intervals. Specifically, students filled in a questionnaire before and after the short presentation of the ECAI (see procedure). The pre questionnaires were distributed just before the presentation, while the post questionnaires were distributed one month after the implementation of the short intervention. The control group consisted of students who did not attend the presentation and filled in the same questionnaire twice, at the same time intervals as the intervention groups in the four countries. The results of the pre-questionnaire was considered as a baseline measure to be compared with the scores of the post-questionnaire assessing the participants' attitudes, knowledge, and willingness to adopt safety behaviors. Participants of the non-intervention group who filled in the two questionnaires the same period as the intervention group served as the comparison group in each country in order to identify eventual changes due to external factors other than the ECAI intervention, if any.

Procedure:

The intervention consisted of a 30-minute oral presentation in the participating universities by professionals working in the field of injury prevention (APPENDIX 14). The presentation started with the description of the burden of injuries in the EU and the participating country respectively, followed by the key messages of the 10 prioritized injury categories of ECAI. It was a rather friendly presentation with pictures and funny graphics trying to convince attendees with a positive way.

Identity of the intervention

- **Tool:** 30-slides' standardized lecture
- **Presenters:** Experts in Injury Prevention
- **Settings:** University
- **Duration of the presentation:** 30'

Evaluation tool: Questionnaire including

- Demographics
- 30-item assessing students'
  - knowledge on injury prevention
  - attitudes towards injury prevention
  - willingness to change risk behaviors

Statistical analysis

At first, descriptive statistics such as the frequency distributions of the demographic and socioeconomic variables of the four participating countries were calculated. The difference in the mean values between pre and post questionnaires were examined through the Paired and Independent samples t-tests for each country separately. Subsequently, the t-test statistic was used to examine the differences in the mean scores between students who attended the intervention and those that belonged to the non-intervention group. Finally the data were modeled through multiple linear regression analysis using the score as the dependent variable and age, gender, faculty, place of residence as independent variables. The SPSS V.13 statistical package was used in all analyses.

RESULTS

The results are presented in three discrete sections describing the three respective factors, namely, knowledge, attitudes and safety behaviours. The differences in pre- and post- measures for intervention and non intervention groups per country are presented in the figures below.

It should be noted that the base line measures in all cases were similar (non statistical significant) among the intervention and non-intervention groups. Furthermore, variables such as the age, specific faculty and place of residence did not seem to affect the differences regarding the impact of the ECAI.

KNOWLEDGE

Figure 3.1 demonstrates the baseline scores for both intervention and non intervention groups for each participating country as well as the scores achieved in the second measure (a month after the intervention for the intervention group). The baseline scores of both groups did not differ significantly in the four countries. Given that the cut-off point is 3, this graph implies that students had already increased knowledge before the intervention. This however was to be expected given that ECAI aimed to provide simple but evidence based effective measures.

As for the non-intervention groups, GR and ES knowledge scores were almost identical between the two measures, as expected. Italian non-intervention group had a decrease in knowledge score in the second measure while the respective score for the Hungarian non-intervention group increased but not statistically significant.

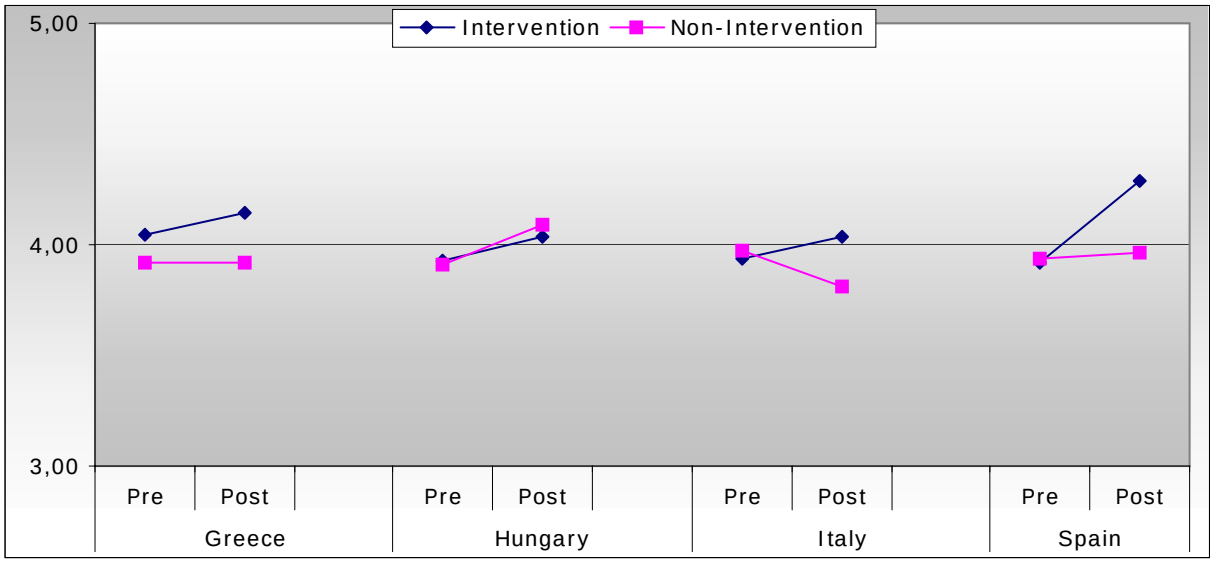

Figure 3.1 Differences between Pre- and Post- mean scores in the 4 Countries

The statistically significant differences in the post measures (after the ECAI intervention) between the intervention and non-intervention groups in GR, IT and ES indicate significant gains in knowledge of the participants regarding injury prevention measures (Table 3.3).

Table 3.3. Post scores differences between Intervention and Non-Intervention Group in the 4 EU countries

	Intervention Group		Non-Intervention Group		t-test (df)	p-value
	Mean scores (%)	*SD*	Mean scores(%)	*SD*		
Greece	4.14	*.37*	3.91	*.34*	3.718 (169)	<.001
Italy	4.04	*.45*	3.80	*.47*	2.778 (119)	<.001
Hungary	4.03	*.29*	4.08	*.33*	-.795 (136)	.062
Spain	4.29	*.43*	3.96	*.42*	6.000 (251)	<.001

Evaluation of the impact of the ECAI on students' knowledge: Example items

The abovementioned results are based on the total mean score of the ten items comprising the factor "knowledge". In the examples below, we present the mean score differences of two single items. The gain in the students' knowledge is presented for one statement related to burden of falls for people >65 years old (Figure 3.2) and to the importance that toys should meet the safety standards (Figure 3.3). In both cases, students in all four countries had an actual gain in knowledge, as after the intervention their mean scores were significantly higher.

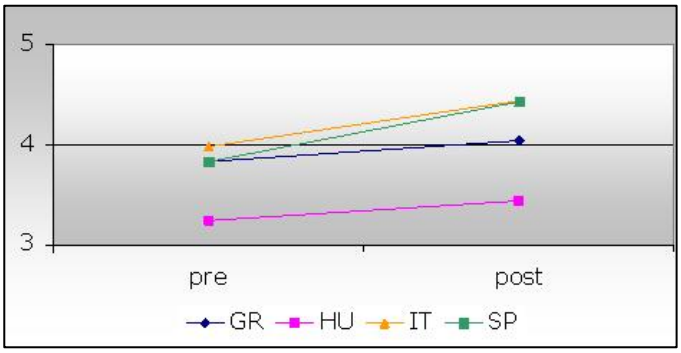

Figure 3.2. Intervention groups: Impact on knowledge "*Falls occur mainly outdoors.*"

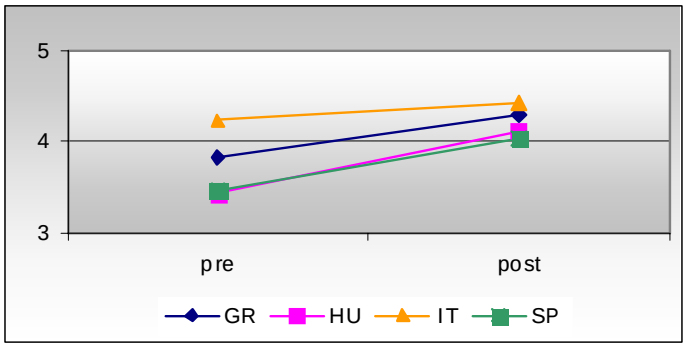

Figure 3.3. Intervention groups: Impact on knowledge "*The certification that a toy meets the safety standards is valid also below the recommended age for which the toy is meant*"

Impact of the ECAI in knowledge by Gender (intervention group)

As regards to the impact of the ECAI in knowledge in regards to gender, it was found that males in Italy and Greece did not report significant gains in contrast to Spanish and Hungarian male students (fig 3.4). On the other side, the female gender seems to be more receptive to new knowledge as in all countries women showed a significant gain in the correctness of their responses on the items related to knowledge regarding unintentional injury prevention.

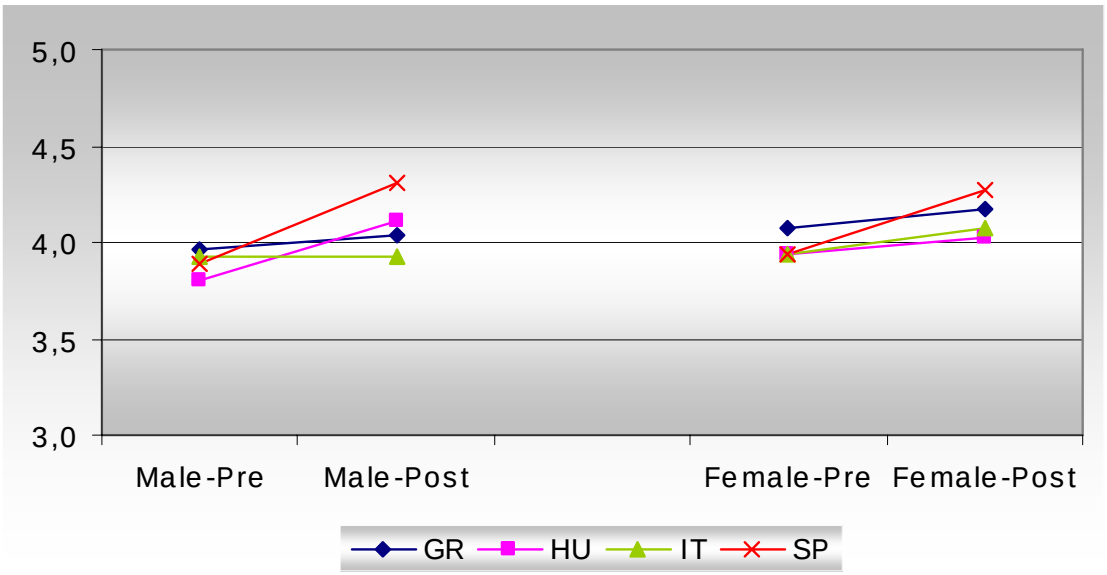

Figure 3.4. Intervention groups: Impact of the ECAI in knowledge by gender

The pattern of answers related to the change of students' attitudes towards the adoption of injury prevention is similar to that of knowledge but with more obvious effects. For once more students' baseline mean scores were high enough in all four countries (~4 out of 5). These very positive attitudes towards injury prevention become even higher for the intervention groups after attending the ECAI presentation in GR, IT and ES. Regarding the attitudes of Hungarian participants although relatively high, for once more the pattern of their responses is not similar with the rest of the countries, as no differentiation is observed between intervention and non intervention groups (Figure 3.5).

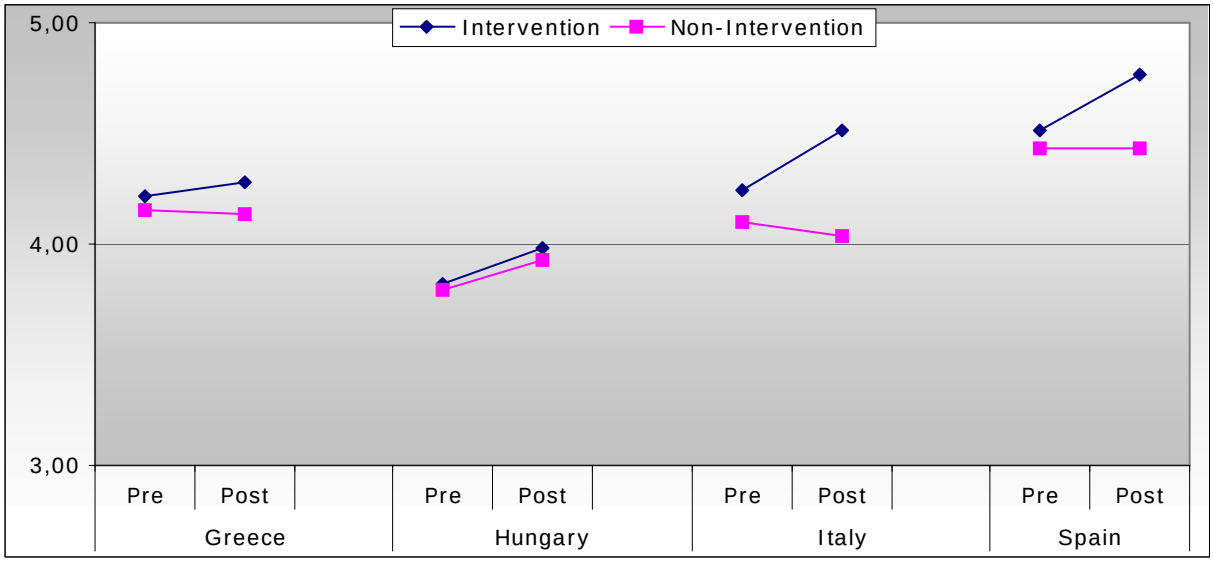

Figure 3.5 Differences between Pre- and Post- mean scores in the 4 Countries

In the Table 3.4 the mean scores and statistical differences of the intervention and non intervention groups regarding statements aimed to assess the attitudes of students toward injury prevention are presented. Intervention groups in GR, IT and ES improved their attitudes in comparison to their scores in baseline measures in contrast to the non-intervention groups. This improvement for these three countries was statistically significant and therefore the change could be attributed to the impact of the ECAI presentation.

Table 3.4. Post scores differences between Intervention and Non-Intervention Group in the 4 EU countries

	Intervention Group		Non-Intervention Group		t-test (df)	p-value
	Mean scores (%)	*SD*	Mean scores(%)	*SD*		
Greece	4.28	.45	4.13	.42	2.026 (169)	<.05
Italy	4.51	.42	4.03	.68	4.650 (119)	<.001
Hungary	3.98	.43	3.93	.35	.567 (136)	.572
Spain	4.77	.44	4.43	.50	5.485 (251)	<.001

Evaluation of the impact of the ECAI on students' attitudes: Example items

Figure 3.6 presents the change of the intervention group's attitude in relation to a specific preventive measure related to swimming pools, namely the existence of climb-resistant fence with a self-closing and locking gate. Students' attitude towards this important and effective measure was improved (except for the case of Italy).

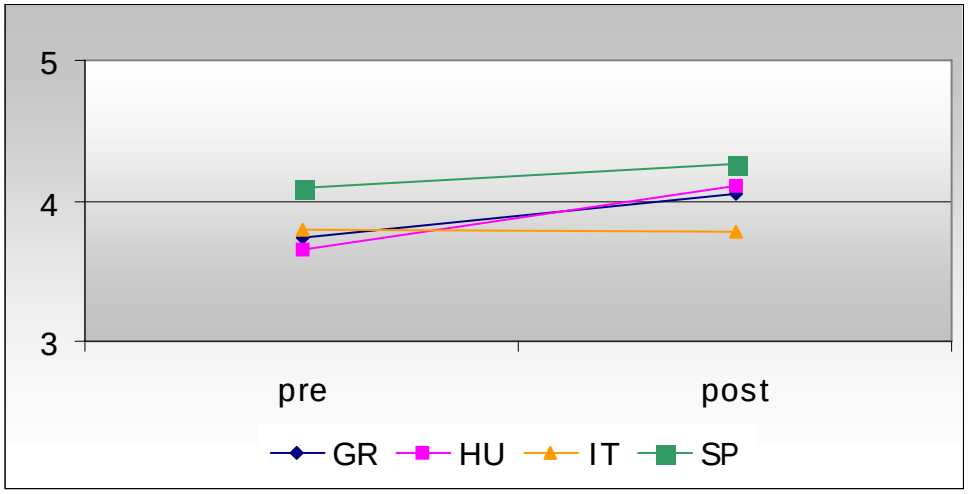

Figure 3.6. Intervention groups: Impact on attitudes *"How important it is that parents to check if the swimming pool meets the safety standards, before encouraging children to go there?"*

Impact of the ECAI in attitudes by gender (intervention group)

Males in all countries except for Greece reported higher (thus more positive) attitude towards injury prevention practices, after the attendance of the intervention. The same was found for the female students of all countries. Spanish students, both males and females had the most positive attitude towards unintentional injury prevention while Hungarian students the lowest.

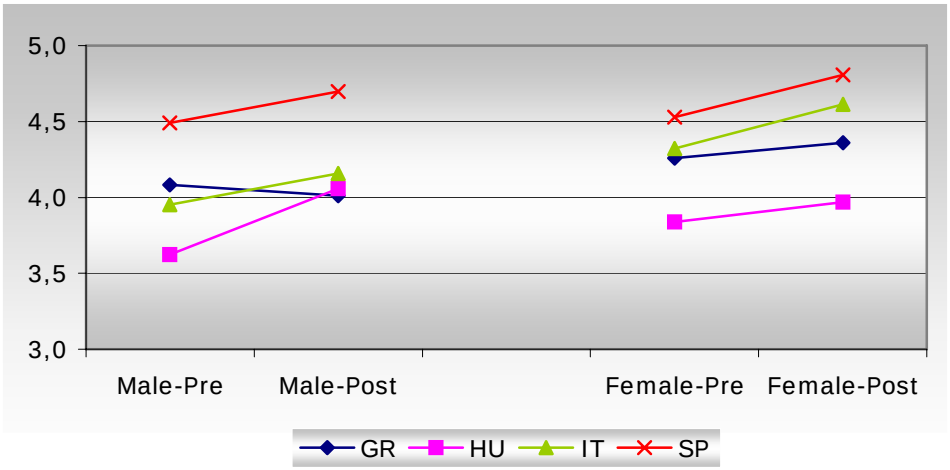

Figure 3.7. Intervention groups: Impact of the ECAI in attitude by gender

Interestingly, the self reported *willingness to adopt safety behaviours* had the lowest baseline scores in comparison to the answers given for *knowledge* and *attitudes*, indicating that when it comes to behaviour, the intention to adopt safe behaviours among this specific age group drops substantially. However, from figure 3.8 it is obvious that the intervention groups in Greece, Italy and Spain reported the most significant gains after the ECAI presentation (in comparison to the answers referring to the impact on Knowledge and Attitude).

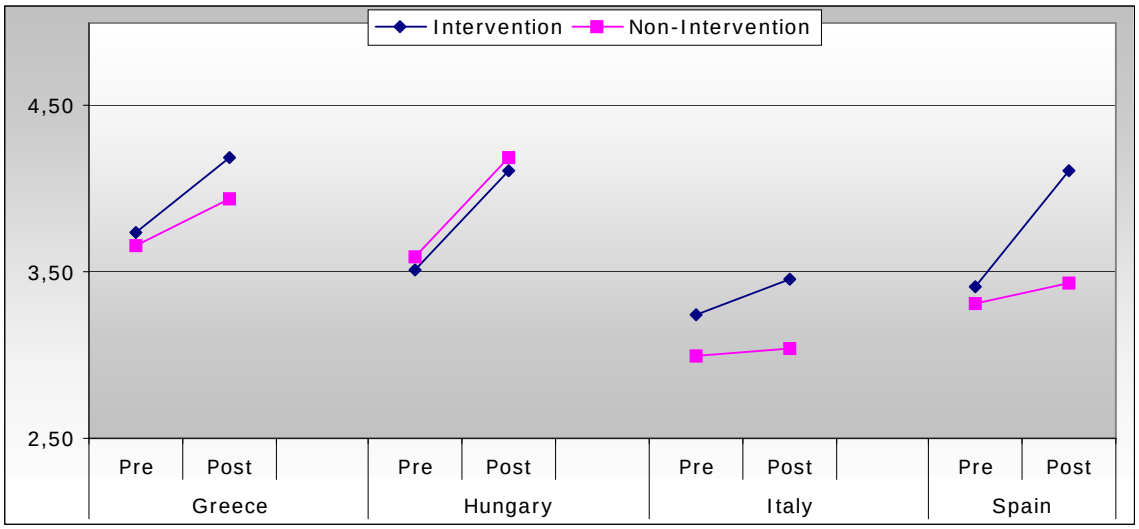

Figure 3.8 Differences between Pre- and Post- mean scores in the 4 Countries

For the Hungarian sample, although the intervention and non intervention groups did not differ significantly – the pre and post measures in both groups were statistically significant. A possible reason might be that because the sample of Hungary consisted mainly of women, the procedure of just completing the questionnaire itself, had an impact on their willingness to adopt safe behaviours. Another reason might have been an unforeseen event such as a related course on injury prevention in both groups that have been unrecorded.

Table 3.5. Post scores differences between Intervention and Non-Intervention Group in the 4 EU countries

	Intervention Group		Non-Intervention Group		t-test (df)	p-value
	Mean scores (%)	*SD*	Mean scores(%)	*SD*		
Greece	4.19	.52	3.94	.32	3.211 (169)	<.001
Italy	3.46	.62	3.03	.67	3.574 (119)	<.001
Hungary	4.10	.52	4.18	.46	-.775 (136)	.440
Spain	4.10	.78	3.44	.54	8.019 (251)	<.001

Results: Willingness Example items

As regards to single items aiming to assess changes in the 'intention' of students to adopt safe behaviours in the future, an example is presented below. Fig 3.9 shows the mean score differences of the pre and post measures of the intervention group in all four countries for the item related to prevention of falls among elderly. Interestingly, the Hungarian student reported the higher intention for 'change' in comparison to the rest three countries.

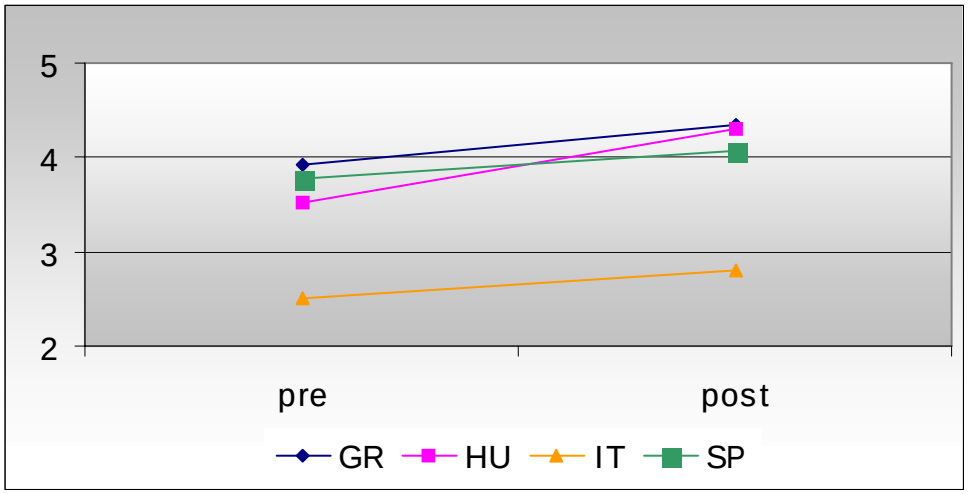

Figure 3.9 Intervention groups: Impact on willingness: "*I will suggest to elderly people to keep fit and participate in exercise programs.*"

Figure 3.10 shows the results of pre and post measures of the intervention groups by gender. It is apparent that for both genders the self-reported willingness to adopt safe behaviours had increased after attending the ECAI presentation. These results are encouraging because even if we speak about the intention to adopt safety bahaviours in the future, the impact has been significant and high for both genders.

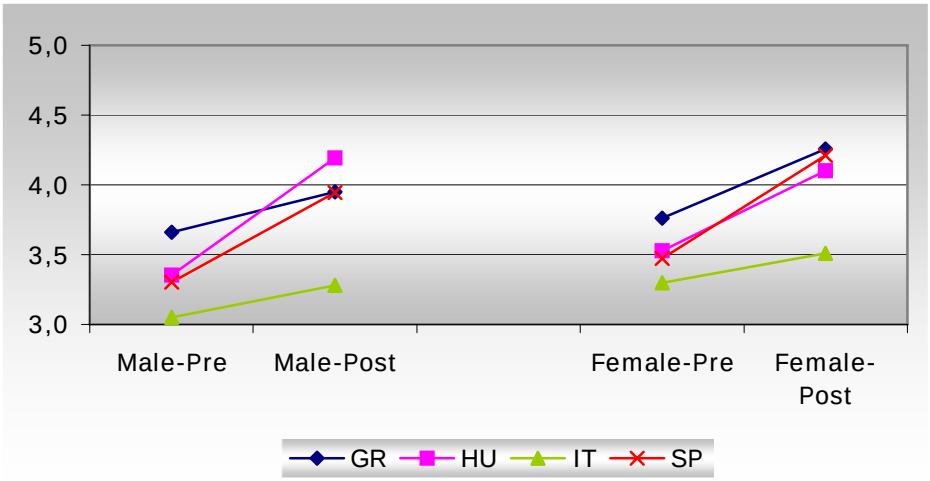

Figure 3.10 Intervention group: results: Impact on Willingness by gender

CONCLUSIONS

From the above it has been shown that even the simplest intervention, that is, a brief presentation providing information about the burden of injuries and effective safety practices, can have a significant impact in raising young peoples' awareness on effective injury prevention practices. More over, a positive impact was observed in relation to participants' self-reported attitudes towards injury prevention and self-reported willingness to adopt proposed safety behaviours.

Although it was found that University students reported in overall moderately to high scores prior the intervention, results suggest that there is still room for improvement in people's perceptions about injury prevention. Interestingly, the messages reported as least familiar and relevant to injury prevention during the pilot-testing phase had the highest impact/improvement during evaluation phase (e.g. prevention messages against fall injuries or drowning). This permits the speculation that ECAI could be used as a tool that could potentially fill knowledge gaps concerning unfamiliar but yet effective prevention practices. Thus, it is suggested that any effort to raise public awareness by encouraging wider use of preventive measures, could have positive effects, even among the age groups that are proven from the literature to be more resistant to change.

Regarding the different results of the Hungarian sample it might be the case that the intervention and the control groups have had the same background in injury prevention. Thus both groups reported gains in all parameters (effect of the questionnaire in the pre-stage completion on the control group).

From both the pilot and evaluation study two major conclusions could be drawn in relation to the role of ECAI:

- in highly sensitized population groups (e.g. University students), ECAI could be used as a tool to further improve or close knowledge-gaps among potential health professionals who could use this information either to protect themselves or to communicate those practices to their future patients
- in high risk groups (e.g. elderly & children), ECAI could be used as a tool to inform people about effective injury prevention practices with the aim to decrease injury morbidity and mortality

It should be kept in mind that ECAI aims to be a dynamic tool that will be periodically revised on the basis of latest injury prevention priorities and state-of-the-art effective measures.

Although it may seem utopian to claim that adoption of safer behaviors could be accomplished only by raising individuals' awareness, experience with the European Code Against Cancer, which, like ECAI, was introduced as a series of simple and comprehensive recommendations, is encouraging; its contribution to the impact of the Europe Against Cancer program in reducing cancer mortality and creating within the member states an environment where cancer control activities could flourish has been substantial.[10] [11] Realistic and tangible changes can be expected when the dissemination of ECAI includes a systematic and consistent activity plan.

Recent injury mortality statistics show that strong socio-economic and cultural differentials persist in the EU. These might be diminished through incorporation of awareness-raising activities along with passive prevention measures. Indeed, experience gained in ECAI development confirms the existence of wide knowledge gaps regarding easy-to-adopt prevention measures. This creates a great public health challenge for injury researchers, practitioners, and policy makers. Expression of interest from countries, such as South Africa or Turkey, to customize and evaluate ECAI in their own settings, suggests that the messages have potential worldwide relevance. The main problem of implementing injury prevention, in every society, remains the translation of evidence into effective practice.[12]

[10] Boyle et al (2003)
[11] Petridou et al (1990)
[12] Petridou & Germeni (2008)

References:

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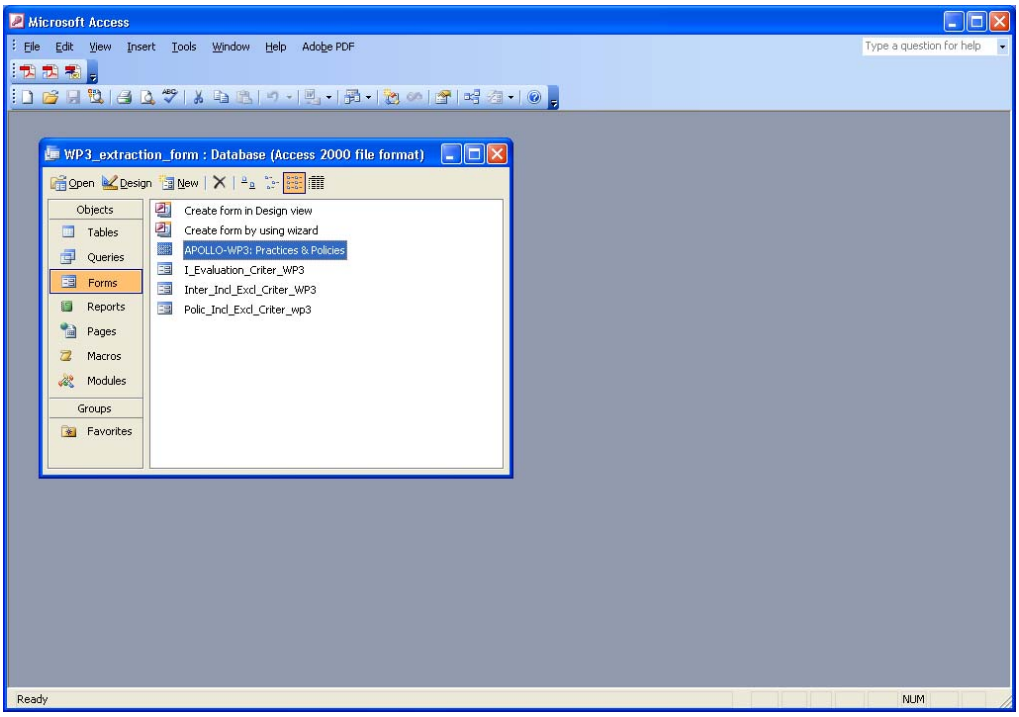
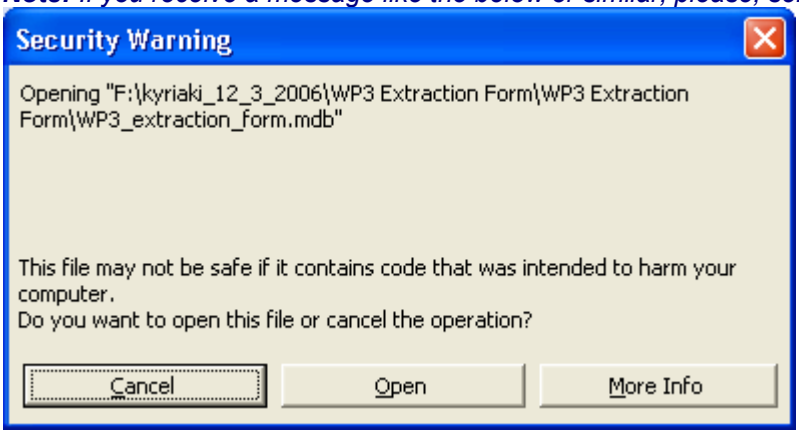
Instructions for using Extraction Forms

Save the “WP3 Extraction Form.zip” in your desktop. Then open the file with a zip program and “extract” it to the location you wish. When you unzip the file named “WP3_extraction_forms.zip”, you will see the following file: “WP3_extraction_forms.mdb”. Please, open this file with right click and “Open” option or by double clicking. Then, the following dialog box will be open.



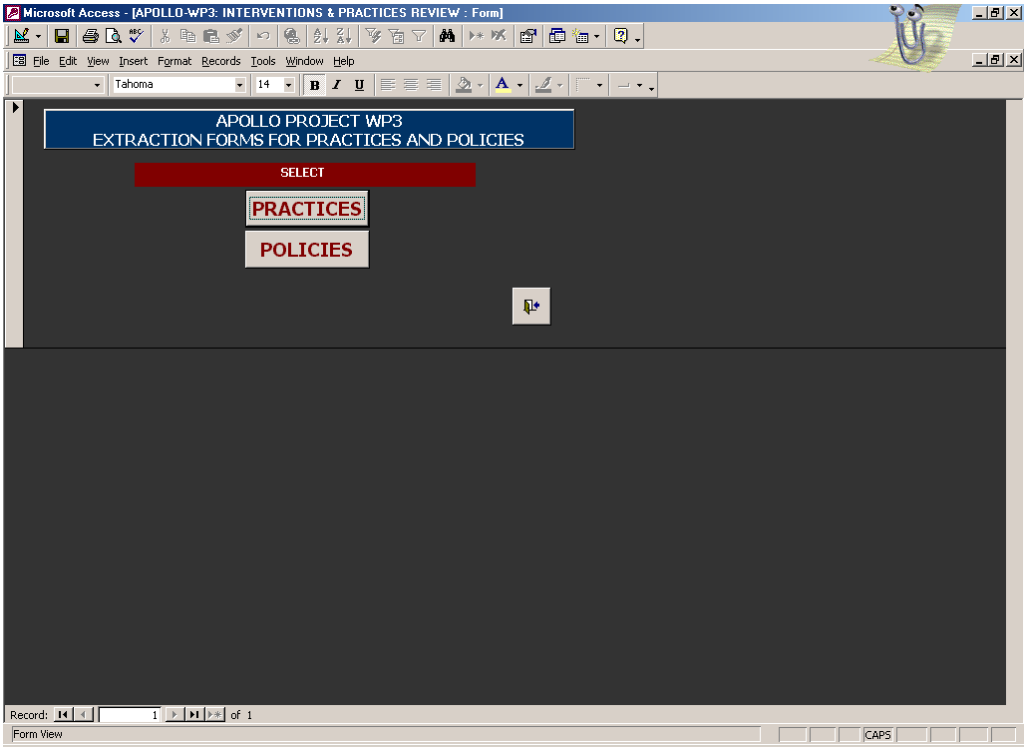
Note: *If you receive a message like the below or similar, please, select “Open”*



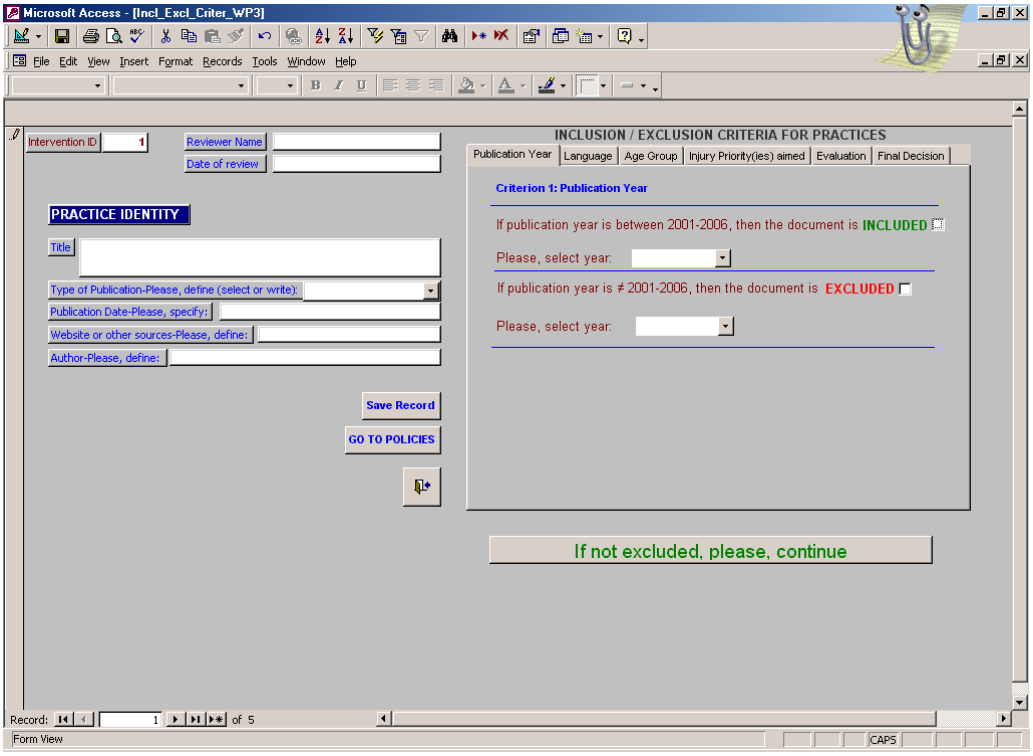
Note: If the MS Access doesn’t open the file, please, inform us about the message you receive from Access as well as check the version of your MS Access .

From the menu (that figured in the first image) please select the form named “APOLLO-WG3: Practices & Policies” from the menu “Forms”.

Then, the following dialog box will be open. From here you can select Practices Extraction Forms or Policies Extraction Forms.



Please, press the "Practices" button, to open the respective form.



General Instructions:

The ID number is entered automatically (please, don't enter any data)

***TIP**: You could use the "tab" key in order to move from field to field, or by mouse.*

When you complete the part of the form entitled "PRACTICE IDENTITY", please, go to the menu on the right hand side of the screen, entitled "INCLUSION / EXCLUSION CRITERIA FOR PRACTICES"

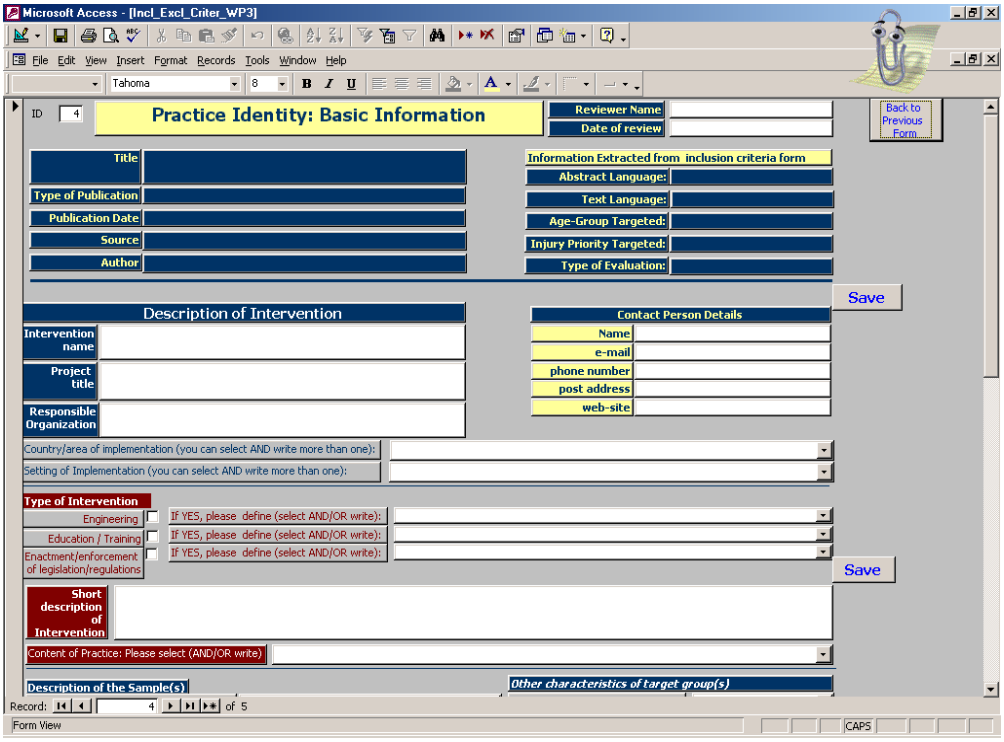
***TIP**: In all of the forms, when you see a "combo box" (a drop-down menu), you will be able to select a default option (answer) BUT you can also COMPLETE your answer by writing after the default option (answer) (by first clicking in the field after the given answer in order to deselect it –alternatively you may delete it).*

After finishing all of the six (6) sheets, depending on the "FINAL DECISION", if the document will be excluded, you will stop at this point. If however, the document is included OR is identified as "promising", please, press the button "If not excluded, please, continue".

***TIP**: There are some navigational buttons in all of the forms that facilitate you in passing from one form to another or for exiting from a form.*

***TIP**: In order to move to the next record, you can use the respective buttons located in all of the forms or you can use the MS Access default navigation bar, but you first have to "maximize" the form window in order to locate the bar.*

When you push the button "If not excluded, please, continue", the following form will be open:



***Note**: The first part of this form, entitled "PRACTICE IDENTITY: BASIC INFORMATION" will already be completed based on the data that you have previously entered. (The aim of this "brief description" is to have available at a glance, all of the critical information for the document)*

You should continue to complete the form up to the last field named "Notes", where you could write any comment regarding the document or information that has not been included in some of the above fields.

***TIP**: Please, save the records using the "Save" option from the File menu or the respective buttons located in the forms (please, keep in mind that the first one way is the safest).*

After finishing one or more records, you can easily extract the data by "File" menu, "Export" and then select "Excel" file.

***Note**: In a later phase, "Reports" will be incorporated in the Extraction Form db for a uniform and convenient data presentation.*

Center for Research and Prevention of Injuries

National and Kapodistrian University of Athens Medical School

APOLLO WP3 - Search Protocol

Subject: Location and gathering of Interventions and Policies (as well as the respective organizations [resources]) addressing Road Traffic, Alcohol Related, and Occupational Injuries prevention for people aged 15-64 years old

Search strategy

Table 1: Proposed Keywords per priority addressing and per document type

Priority:	Road Traffic Injuries	Alcohol-Related Injuries	Occupational Injuries
Interventions	"injury"; "accident"; "fatal"; "non-fatal"; "road traffic"; "motor vehicle"; "car"; "automobile"; "transportation"; "pedestrian"; "vulnerable road users"; "cyclists"; "two-wheelers" AND "Prevention"; "intervention"; "practice"; "strategy" , "evaluation" "effectiveness"	"injury"; "accident"; "fatal"; "non-fatal"; "alcohol"; "alcohol-related"; "alcohol-use"; "alcohol-abuse"; "drink" AND "Prevention"; "intervention"; "practice"; "strategy", "evaluation" "effectiveness"	"injury"; "accident"; "fatal"; "non-fatal"; "occupational"; "work-related"; "job-related"; "industrial"; "professional"; AND "Prevention"; "intervention"; "practice"; "strategy", "evaluation" "effectiveness"
	Fall-related injuries	**Drowning**:	**Poisoning:**
	"injury", "accident", "fatal", "non-fatal", "fall(s)", "balance", "frailty", "fracture", AND "children", "infant" OR "senior citizens", "elderly", "old people", "third age", AND "prevention", "intervention", "practice", "strategy", "evaluation" "effectiveness"	"injury", "accident", "fatal", "non-fatal", "drowning", "submersion", "water accident", "water safety", "pool safety", "aquatic safety", "bathtub", "bathing area", "fresh water" AND "prevention", "intervention", "practice", "strategy", "evaluation" "effectiveness"	"injury", "accident", "fatal", "non-fatal", "poisoning", "food", "products" AND "children", "infant" OR "senior citizens", "elderly", "old people", "third age", AND "prevention", "intervention", "practice", "strategy", "evaluation" "effectiveness"
	Injuries due to burns fire and flames	**Sport injuries**	**Injuries related to non-safety products**
	"injury", "accident", "fatal", "non-fatal", "burns", "scalds", "fires", "flames" AND "children", "infant" OR "senior citizens", "elderly", "old people" AND "prevention", "intervention", "practice", "strategy", "evaluation" "effectiveness"	"injury", "accident", "fatal", "non-fatal", "fracture", "sport", "physical exercise", "athletic activities", "athletic equipment" AND "prevention", "protection", "intervention", "practice", "strategy", "evaluation" "effectiveness"	"injury", "accident", "fatal", "non-fatal", "product", "standards", "suffocation", "children", "infant" AND "prevention", "protection", "intervention", "practice", "strategy", "evaluation" "effectiveness"

Priority:	**Road Traffic Injuries**	**Alcohol-Related Injuries**	**Occupational Injuries**
Policies	"injury"; "accident"; "fatal"; "non-fatal"; "road traffic"; "motor vehicle"; "car"; "automobile"; "transportation"; "pedestrian"; "road vulnerable users"; "cyclists"; "two-wheelers" AND "Prevention"; "policy"; "recommendation"; "standard"; "legislation"; "guideline"; "rule"; "strategy"; "plan"; "procedure"	"injury"; "accident"; "fatal"; "non-fatal"; "alcohol"; "alcohol-related"; "alcohol-use"; "alcohol-abuse"; "drink" AND "Prevention"; "policy"; "recommendation"; "standard"; "legislation"; "guideline"; "rule"; "strategy"; "plan"; "procedure"	"injury"; "accident"; "fatal"; "non-fatal"; "occupational"; "work-related"; "job-related"; "industrial"; "professional"; AND "Prevention"; "policy"; "recommendation"; "standard"; "legislation"; "guideline"; "rule"; "strategy"; "plan"; "procedure"
	Drowning		
	"injury"; "accident"; "fatal"; "non-fatal"; "drowning", "submersion", "water" "accident", "water safety", "pool safety", "aquatic safety", "bathtub", "bathing area", "fresh water" AND "Prevention"; "policy"; "recommendation"; "standard"; "legislation"; "guideline"; "rule"; "strategy"; "plan"; "procedure"		

Sources will be searched

Electronic search (Internet) - Electronic Databases

ID	Data base	Online accessibility
a.	AMED: Allied and Complementary Medicine (The British Library) http://www.bl.uk/search.html	Free download
b.	CINAHL Nursing & Allied Health http://www.cinahl.com/	CINAHLdirect® online service Annual Membership $20.00
c.	Cochrane Library –Interscience (Wiley Version) http://www.mrw.interscience.wiley.com/cochrane/cochrane_clabout_contents_fs.html	24-Hour Online Access to article US$ 25.00 * *Sales tax will be applied in Canada
d.	CRD: Center of Review and Dissemination Databases	Free

	http://www.york.ac.uk/inst/crd/crddatabases.htm i. DARE: Database of Assessment of Reviews of Effectiveness http://www.york.ac.uk/inst/crd/darehp.htm ii. NHS EED: NHS Economic Evaluation Database http://www.york.ac.uk/inst/crd/nhsdhp.htm iii. HTA: Health Technology Assessment database http://www.york.ac.uk/inst/crd/htahp.htm	
e.	EBM Journal: Evidence Based Medicine Reviews http://www.ebm-journal.presse.fr/search?SearchableText=prevention+occupational+injuries	Subscription
f.	EconLit: American Economic Association's electronic bibliography of economic literature http://www.econlit.org/index.html (The most recent 10 years of ***EconLit*** on a CD-ROM including SilverPlatter®'s SPIRS®, WINSPIRS®, or MACSPIRS® search and retrieval software 85$)	Subscription
g.	EMBASE: The Excerpta Medica database for biomedical and pharmacological information http://www.embase.com/search	Registration
h.	ERIC: Education Resources Information Center http://www.eric.ed.gov/ also http://searcheric.org/	Free (where available full text)
i.	Eurobarometer http://www.esds.ac.uk/International/access/eurobarometer.asp	Free
j.	Harrison's Principles of Internal Medicine http://www.accessmedicine.com/home.aspx 30day free- https://store.accessmedicine.com/login.aspx?user=0&type=1	Subscription
k.	Health Information Research Unit http://hiru.mcmaster.ca/	Free
l.	HealthWeb - Evidence Based Health Care http://healthweb.org/index.cfm	Free
m.	HEED: Health Economic Evaluations Database http://www.ohe-heed.com/about.htm (For demo access: user name: demo, password: visitor) http://clarinet-nt.clarinet.co.uk/OHE/CnIsapi.dll?nuni=28108&usr=0&alias=OHE&uni=1&fld=X&Jump=password	Annual Subscription
n.	Infotrieve: FreeMedline search year wise with full-text document delivery http://www3.infotrieve.com/medline/infotrieve	Free abstracts
o.	National Guidelines Clearinghouse http://www.guidelines.gov/about/about.aspx	Free
p.	LILACS: Latin American and Caribbean Health Sciences Literature http://bases.bireme.br/cgi-bin/wxislind.exe/iah/online/?IsisScript=iah/iah.xis&base=LILACS&lang=i	Free abstracts
q.	MEDLINE http://medline.cos.com/	Subscription (Individual: US $175/year)
r.	Primary Care- Clinical Practice Guidelines http://medicine.ucsf.edu/resources/guidelines/guide.html	Free
s.	PsycINFO (APA): comprehensive international bibliographic database of psychology http://www.apa.org/psycinfo/about/questions.html	Subscription
t.	PsycLit: Literature Reference for Psychology	Subscription
u.	PubMed: U.S. National Library of Medicine http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?DB=pubmed	Free abstracts
v.	SafetyLit: Injury Research and Prevention Literature http://www.safetylit.org/	Subscription
w.	Science Citation Index: Journal List Options http://www.hshsl.umaryland.edu/resources/databases/sci.html	Free

x.	SSCI: Social Science Citation Index and Social SkiSearch: access to current & retrospective bibliographic information http://scientific.thomson.com/products/ssci/	Subscription
y.	SPECTR: Social, Psychological, Educational and Criminological Trials Registered http://www.campbellcollaboration.org/ http://geb9101.gse.upenn.edu:81/rmwp	Free abstracts
z.	TRANSPORT database http://w3.unece.org/stat/transport.asp	Free
aa.	US National Guideline Clearinghouse http://www.guideline.gov/	Free
bb.	WebSPIRS: SilverPlatter's Information Retrieval System for the World Wide Web http://web5.silverplatter.com/webspirs/start.ws	Subscription
cc.	WHOLIS: WHO database & e-resources on the Internet http://www.loc.gov/rr/ElectronicResources/full_description.php?MainID=897	
dd.	CDC reports-publications http://www.cdc.gov/Publications/	Free
ee.	WHO reports-publications http://www.who.int/publications/en/	Free
ff.	EC reports-publications http://ec.europa.eu/publications/index_en.htm	Free
ff.	Other Electronic sources (related to the topic sites, from related organizations, networks, etc.)	

B. Manual Search (Libraries) - Range of sources

a.	Hand searching of references of published articles (mainly for identifying grey literature) of relevant journals and Correspondence with identified authors (experts) aiming to search for additional relevant studies, new or ongoing studies of relevance and to enquire about relevant grey literature
b.	[Key people and professional organizations may also be contacted to identify missed papers, unpublished or in-progress research]
c.	Using existing reviews of the literature (where possible)
d.	Identification of direct relevance references from the reference lists of known papers and books
e.	Associated literature and references attached to a single reference
f.	Search using author names
g.	Search in particular journals publishing large numbers of articles in the area

Inclusion and Exclusion criteria *(Included into Extraction Forms database)*

	Inclusion and Exclusion criteria for INTERVENTIONS		Inclusion and Exclusion criteria for POLICIES
1	Published between 2001-2006 (previous years excluded)	1	Published between 1996-2006 (previous years excluded)
2	Age groups included 0-14 15-24 25-44 45-64 65+ (only for falls/injuries related to poisoning)	2	Age groups included 0-14 15-24 25-44 45-64 (65+ excluded)
3	Priorities Included Road Traffic Injuries Alcohol Related Injuries Occupational Injuries Drowning Fire/flames/burns	3	Priorities Included Road Traffic Injuries Alcohol Related Injuries Occupational Injuries Drowning related Injuries Any combination

	Falls Poisoning Safe Products Sport Injuries Any combination Excluded Misadventures med.care Other		Excluded Fire/flames/burns Falls Poisoning Misadventures med.care Other
4	Language (abstract) Danish English Finnish French German Greek Italian Norwegian Polish Swedish (other languages are excluded)	4	Language (abstract) Danish English Finnish French German Greek Italian Norwegian Polish Swedish (other languages are excluded)
5	Evaluation Outcome Evaluation Available Process Evaluation Available Formative evaluation Cost minimization analysis Cost effectiveness analysis Cost benefit analysis Cost utility analysis Economic evaluation Outcome Evaluation will be conducted Process Evaluation will be conducted If there is no any type of evaluation (or future evaluation) the document is excluded	5	Source o European agency o Governmental agency o Local authority If the Source is unknown or none of the above, the document is excluded

Evaluation Criteria for documents that are included
(Included into Extraction Forms database)

Evaluation Criteria for INTERVENTIONS		Evaluation Criteria for POLICIES	
1	**Description of Intervention** Intervention Name Project Title Responsible Organization Country /Area of Implementation EU wide EU Region (please, define) EU Country County/region Community Organization Other Setting of Implementation Home School Work Leisure Road Health and Social care Community Public place Other	1	**Current Status** Active: From (date) Inactive Currently inactive but it was active (dates) Currently inactive but it will be active on (date) Is there an agent that is monitoring/inspecting the enforcement of the policy? No Yes (Name)
2	**Contact Person Details** Name E-Mail Phone number Postal Address Website	2	**Character of Policy** Mandatory Optional Incentive-based Other
3	**Type of Intervention** Engineering	3	**Target Group(s)** General population

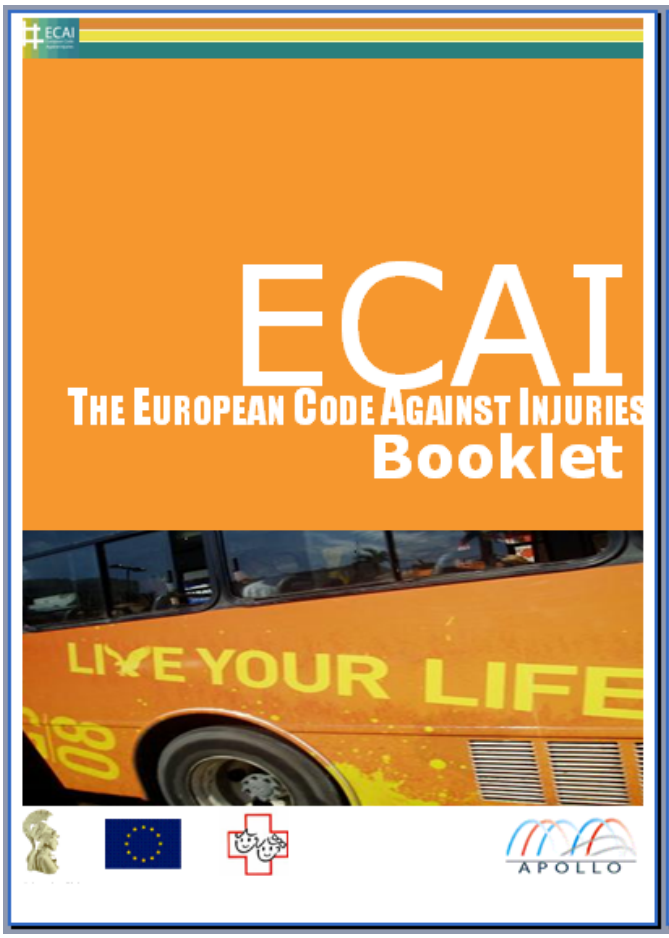
	Environmental modification Product modification Other Education /Training Promotion/awareness raising Capacity building Other Enactment /Enforcement legislation/regulation Material monitoring/inspection Low enforcement monitoring Other Economic Other Content of practice Campaign – Media Raising awareness material Training Educational/Training material Site visits Safety devices Construction/physical material Monitoring Checklists Other Short description of the Intervention		Groups at risk Professionals Other
4	**Description of the Sample(s)** Target groups General Population Professionals Other Age-group targeted Gender targeted Male Female Both Ethnic Origin targeted Socioeconomic status targeted	4	**Type of Policy** General Principles Recommendation Legislation Standards Code of practice Health Plan (national/ local) Other type
5	**Description of Procedures, Participation Rates, Duration and Objectives** Recruitment /Selection Procedures Participation Rates Duration of the Intervention Objectives of the Intervention	5	**Setting(s) covered** Home Work School Leisure Road Health and Social care Community Public place Other
6	**Characteristics of the Facilitator(s)** Number of facilitators Facilitator(s)' specialty(ies) Facilitator(s)' gender	6	**Short Description of Policy**
7	**Description of Evaluation** Type of measurement Quantitative Qualitative Other Study design RCT (Randomized Control Trial) Case-Control (between subject design) Case-Crossover (within subject design) Cross Sectional (correlational study) Cohort Study Descriptive (observational study) Case study Other	7	**Level of Implementation** International EU wide EU region Country County/region Community Organization Other
8	**Results of Evaluation**	8	**Aims of Policy**

	Process Evaluation (by Author, if exists, and Reviewer) 1-Effective 2-Fairly Effective 3-Partially Effective (in some of groups) 4-Fairly Ineffective 5-Ineffective 6-Harmful 7-Unclear Outcome effectiveness (by Author, if exists, and Reviewer) 1-Effective 2-Fairly Effective 3-Partially Effective (in some of groups) 4-Fairly Ineffective 5-Ineffective 6-Harmful 7-Unclear Cost effectiveness (Author, if exists, and Reviewer) Findings description		Description of Primary aim of Policy Secondary aim(s) of Policy Engineering Environmental modification Product modification Other Education /Training Promotion/awareness raising Capacity building Other Enactment /Enforcement legislation/regulation Material monitoring/inspection Low enforcement monitoring Other Other
9	**Comments**	9	**Notes**

Rating Criteria *(Will be included into Extraction Forms database)*

	RATING CRITERIA FOR SELECTED INTERVENTIONS		RATING CRITERIA FOR SELECTED POLICIES
1	Theory:The degree to which the practice's actions are based on clear and well-articulated theory and clearly stated hypotheses	1	The correct problem is identified
2	Fidelity of intervention: The degree to which there is clear evidence regarding participation rates throughout the intervention	2	The problem is properly defined
3	Retention: Evidence regarding participants' retention rates (follow up after completion of the intervention)	3	All important aspects are taken into account
4	Sampling strategy: The quality of sampling design	4	Policy's Objectives /Goals are clearly defined
5	Measures: The quality of measures used in the evaluation and the quality of supporting evidence	5	Policy's Content /Procedures are clearly defined
6	Analysis: The appropriateness of statistical analysis' techniques	6	Evidence of Policy Effectiveness is clear
7	Replications: The exact or conceptual reproduction of both the intervention implementation and evaluation	7	Feasibility-The adoption of the proposed policy is feasible
8	Plausible threats to validity (excluding lack of retention): The degree to which the evaluation design and implementation addresses and eliminates plausible alternative hypotheses concerning program effects.	8	Feasibility-The implementation of the proposed policy is feasible
9	Integrity: The overall level of confidence that the reviewer can place in project findings based on research design and implementation	9	Policy's objectives regarding the needs of society for the set priorities are appropriate
10	Dissemination capability of program materials developed (training in program implementation, technical assistance, standardized curriculum and evaluation materials, manuals, fidelity instrumentation, videos, recruitment forms, etc.)	10	Efficiency-The ratio of the obtained results is commensurate with the amount of the resources used
11	Estimation of cost for the implementation of the intervention	11	Effectiveness-Objectives have been met or are being met
12	Cultural or/and Age Appropriateness	12	Transferability-The policy is transferable for other target groups
13	Ease of implementation of the Intervention	13	Transferability-The policy is transferable for other settings
14	Utility: The overall usefulness of the intervention. This rating is based on the quality of the evaluation's results	14	Sustainability-The sustainability of the policy's effects is evident
		15	Innovativeness-Policy uses an innovative/ original manner to achieve its goals
		16	Adaptive ness-Policy needs modifications in order to be reused
		17	Validity-Policy's actions are suitable for the achievement of the main goals

APPENDIX 3a: ECAI Booklet. Also available at: www.euroipn.org/apollo/wp3 (see attachment)

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European Code Against Injuries (ECAI)
Developed in the context of the APOLLO "Strategies and Best Practices For The Reduction of Injuries" Project, Working Package 3
Under the auspices of DG-SANCO in the frame of the EC Public Health Program

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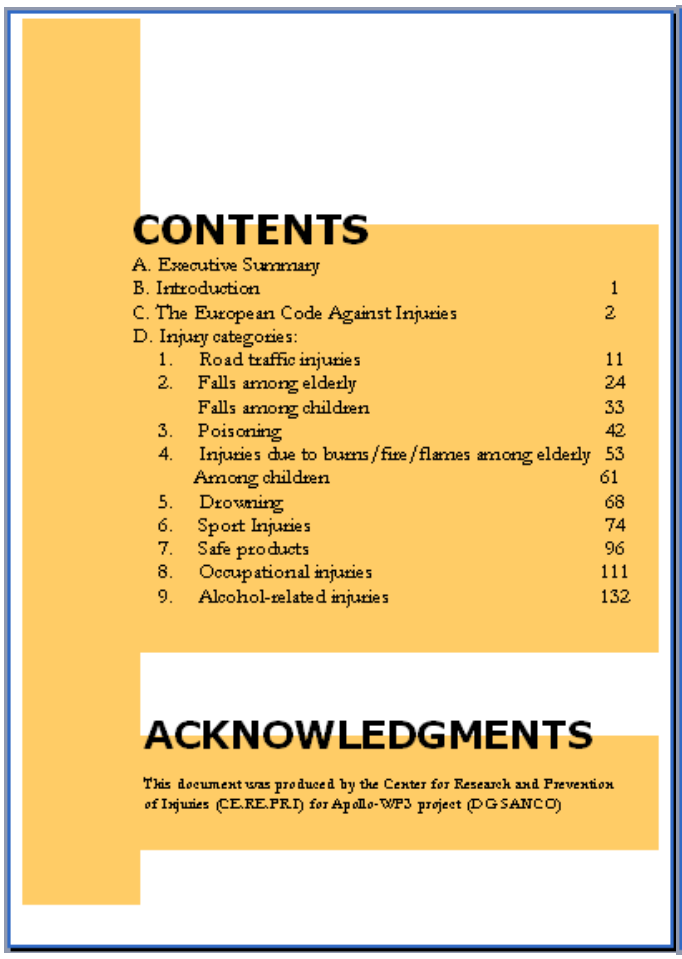
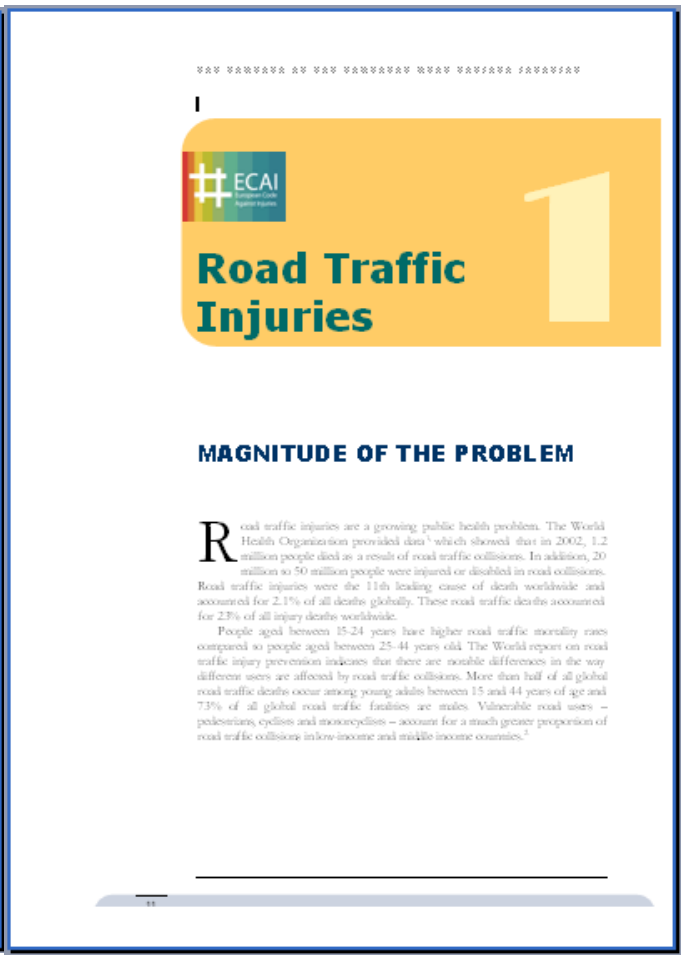


CONTENTS

ACKNOWLEDGMENTS

This document was produced by the Center for Research and Prevention of Injuries (CE.RE.PRI) for Apollo-WP3 project (DG SANCO)



APPENDIX 4: brainstorming process for developing ECAI messages (see attachment)

Brainstorming process for the development of the
European Code against Injuries (ECaI)

The aim is to develop 10 key messages that will promote the prevention of prioritized unintentional injuries amongst the general population. More specifically, ECaI is an effort to "translate" the most effective preventive interventions based on current evidence to simple, appealing to the eye, convincing, and straightforward prevention messages aimed at reducing injuries throughout the general population.

As these messages will be addressed to general population should be scientifically valid but have the format of simple advises and suggestions for the adoption of safe behaviours and habits in order to eliminate the injury incident from occurring (primary prevention) or to minimize the severity of injuries that occur during incidents (secondary prevention).

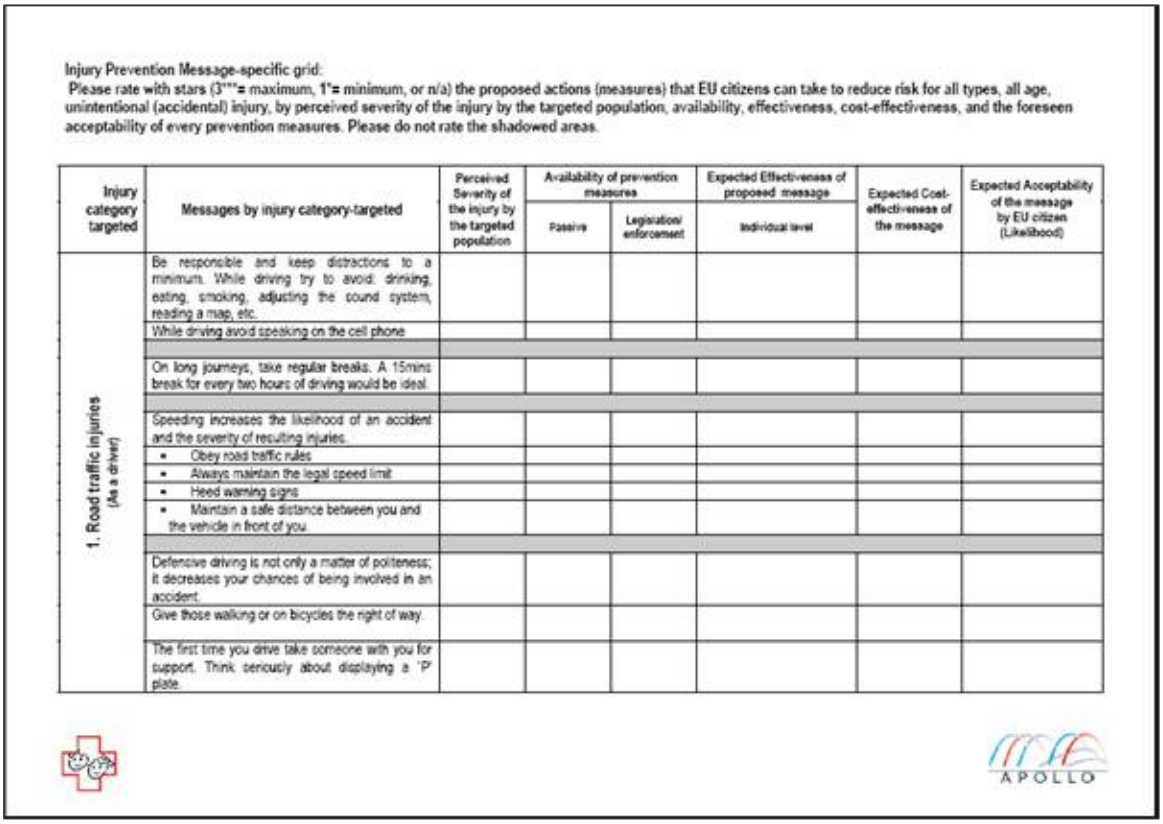
While the abbreviated version of Ecal will be comprised by ten main prioritized categories, in a preliminary phase the focus will be drawn to the development of messages (no more than 10 messages based on a brainstorming process) for the 5 top prioritized categories. Thus the commandments for the injury categories listed below are based on the results of systematic literature reviews conducted on the 5 top prioritized categories of accidental injury have been contacted in APOLLO WP3 in order to locate the most effective preventive interventions. The injury categories included are: road traffic injuries (including vehicle occupants, two-wheelers and pedestrians), alcohol related injuries, work-related injuries, drowning and falls among elderly people.

Next, a matrix including all the potential messages will be developed and sent to experts in order to assess which items and components of injury safety will be taken into account in drafting the abbreviated version of ECal. Experts will be asked to assess the messages as regard the perceived severity of respective injury, the availability of prevention measure, the effectiveness of proposed measure and the likelihood of the acceptability by EU citizen. Proposals resulted from this process will be incorporated and the code will be drafted. A second distribution to WP3 partners will precede the finalization of the draft.

Pilot testing of ECal in three EU countries (Greece, Italy and Poland) will be conducted in order to evaluate face validity of messages and locate factors that increase one's willingness to adopt the messages and factors hinder the adoption of the messages

Based on the results the Code will be modified accordingly (if needed)
Finalization of Ecal

APPENDIX 5: Matrix to rate ECAI messages (see attachment)



Injury Prevention Message-specific grid:
Please rate with stars (3"*= maximum, 1*= minimum, or n/a) the proposed actions (measures) that EU citizens can take to reduce risk for all types, all age, unintentional (accidental) injury, by perceived severity of the injury by the targeted population, availability, effectiveness, cost-effectiveness, and the foreseen acceptability of every prevention measures. Please do not rate the shadowed areas.

Injury category targeted	Messages by injury category-targeted	Perceived Severity of the injury by the targeted population	Availability of prevention measures		Expected Effectiveness of proposed message	Expected Cost-effectiveness of the message	Expected Acceptability of the message by EU citizen (Likelihood)
			Passive	Legislation/ enforcement	Individual level		
1. Road traffic injuries (As a driver)	Be responsible and keep distractions to a minimum. While driving try to avoid: drinking, eating, smoking, adjusting the sound system, reading a map, etc.						
	While driving avoid speaking on the cell phone						
	On long journeys, take regular breaks. A 15mins break for every two hours of driving would be ideal.						
	Speeding increases the likelihood of an accident and the severity of resulting injuries.						
	• Obey road traffic rules						
	• Always maintain the legal speed limit						
	• Heed warning signs						
	• Maintain a safe distance between you and the vehicle in front of you						
	Defensive driving is not only a matter of politeness; it decreases your chances of being involved in an accident.						
	Give those walking or on bicycles the right of way.						
	The first time you drive take someone with you for support. Think seriously about displaying a 'P' plate.						

European Code against Injuries - ECaI
What can I do to make my everyday life safe?
What can I do to prevent injury?

Accidental injury is a major risk to your health and well- being in everyday life, regardless of your age, whether working, travelling, going out or at home. Most injuries are preventable; they are not caused by bad luck or chance events that are outside of your control. There is a lot you can do to make your life safer. You can promote safety for children and yourself by knowing more about how injuries happen, changing attitudes and adopting safe behaviour in everyday life. These 10 messages are based on what is known to help you stay safe and prevent injuries. They may require you to think and act differently. The benefit can be more years of healthy life for yourself and others.

Stay safe on the road

1. As a driver

Driving needs your full attention and concentration; keep distractions to a minimum and respect other road users.

- Avoid smoking, eating, drinking, using a mobile phone, adjusting the sound system or other distractions while driving.
- On long trips, take regular breaks. A 15 minute break for every two hours of driving is necessary.
- Follow road traffic rules, don't exceed the legal speed limit, heed warning signs and maintain a safe distance between you and the vehicle in front of you.
- Stay calm. Aggressive driving increases your chances of being involved in an accident.
- Keep in mind that you are sharing the road with other more vulnerable road users.
- Be realistic about your own ability and always drive within your limitations, we can't all be above average drivers. As a new driver consider taking a more experienced driver with you on your journeys
- Keep your vehicle in good repair and adapt your driving to the road and weather conditions.

2. As a road user

Minimise everyone's risks: use seat belts, child restraints and helmets; be visible and respect other road users' rights.

- Seat belts save lives and reduce serious injuries. Wear your seat belt on all trips, including short trips. Make sure that everyone wears a seat belt in your car, both in the front and rear seats.
- The rear seat is the safest place for children. Children need an age and size-appropriate car restraint or booster seat that is properly fitted in the vehicle.
- Always wear a helmet when you ride and make sure that it meets the safety standards. It needs to be the correct size and worn in the correct position. Make sure your children's helmets are properly adjusted.
- Make sure that you are visible. Wear light coloured, fluorescent and reflective clothing. Use your lights to be seen as well as to see.
- As a pedestrian, follow the traffic rules and warning signs. Walk on pavements and use zebra/pelican crossings if available; walk on the side of the road facing oncoming traffic. Teach your children how to cross the road safely and practice with them in real life situations. Support school programs that teach children to use the road safely.

Safe at home and leisure

3. Falls

Falls are the major cause of injury among children and the elderly

- Take care of your physical fitness on a regular basis with exercise programs, tailored to your specific needs, so as to maintain muscle and bone strength, and your balance and flexibility.
- Reduce your risk of falls at home, e.g. by having good lighting; handrails on both sides of the stairs and in the bathroom; non-slip bath mats; rugs that don't slip on the floor. Move obstacles away from walking areas and store things within easy reach. Having a home safety assessment from a health professional and making changes to make your home safer can reduce your risk of falls.
- Wear shoes with firm non-slip soles and avoid loose-fitting footwear that could cause you to trip.
- Protect your child, e.g. use window locks, safety gates or other barriers at the top and bottom of stairs. Keep chairs, cribs and other furniture away from windows. Remember baby walkers can be dangerous. Use safety straps on high chairs, changing tables and all products when supplied.

- Have periodic reviews of your medication and follow your health care provider's instructions. Have regular eye tests and correct your vision.

4. Poisoning

Prevent poisoning; use child resistant closure and store products safely

- Remember that many products can be potentially dangerous, e.g. household cleaners, medicines, and garage items like antifreeze and pesticides. Make sure that they have child resistant closures. Many children, however, can open 'child resistant' closures, so, store them safely, either locked away or out of reach of children.
- Store food and non-food products separately. Always read the use and storage directions of products. In case of poisoning, read the labels on product containers, which often give important first-aid information.
- Make sure you have the emergency number next to the telephone.

5. Fires and burns

Smoke detectors save lives; Ensure that all family members know what to do in the event of a fire

- Make and practice a fire escape plan so that everyone in the household knows what to do in the event of a fire.
- Install smoke detectors, test them and change batteries regularly.
- Store matches, lighters and other flammable materials out of reach of children. Teach children about the dangers of fire.
- Make sure all family members know what to do in the event of a fire. Get a fire extinguisher, learn how to use it and check it regularly.
- Smoking is a major cause of fire, especially in the bedroom. Try to avoid smoking in the bedroom.

6. Water safety

Reduce the risk of drowning by learning to swim, complying with water safety practices and actively supervising your children.

- Learn to swim. Children should be taught how to swim from an early age by a qualified instructor.

- Wear appropriate flotation devices for all water sports undertaken in open water.
- Be aware that drowning can also happen in shallow water, e.g. ponds, bathtubs, buckets and toilet bowls.
- Teach your child how to be safe in and around the water. Actively supervise your child. Do not delegate supervision of your child to older children.
- Unfenced swimming pools are highly hazardous; they should have a climb-resistant fence with a self-closing gate. Insist on the same standards for any private pools used by your children.
- Learn how to resuscitate a drowning victim

7. Sport safety

Practice sports safely and use protective equipment

- Be aware about sport specific recommendations and regulations and follow them. Make sure that other participants do the same.
- Be realistic about your own physical performance and exercise within your limits.
- Warm-up before participating in sports to reduce your injury risk.
- Make sure you and/or your child use sport appropriate protective equipment; check the condition of the protective equipment as well as the sports area.
- Encourage your child to participate in organized sports where there are certified coaches, trained in the prevention, recognition and immediate care of injuries.

8. Safe products

Safety products can dramatically reduce the number of accidents and injuries

- Select products that meet safety standards and follow the safety recommendations in the manual and on labels.
- Use products for their intended use and age groups and respond to product recalls and warnings.
- When selecting toys, consider the child's age and development. Children under three years of age are at high risk of suffocation; therefore, avoid small toys or toys with small removable parts. Teach older children to keep their toys away from their younger brothers and sisters.
- Inspect toys regularly for damage and potential hazards such as sharp edges. Discard broken toys immediately, making sure children cannot get hold of them.

- Teach children to play safely together: by helping them to interact safely and constructively you will be helping them with more than just injury prevention

Safe at work

9. Work safety

Be aware of your rights and actively participate to improve workplace safety

- The employer should: be in possession of an assessment of the risks to safety and health at work, decide on the protective measures to be taken and follow national laws and/or practices, reports on occupational accidents suffered by his workers.
- Within the context of his responsibilities, the employer should take the measures necessary for the safety and health protection of workers, including prevention of occupational risks and provision of information and training, as well as provision of the necessary organization and means.
- Follow the safety rules and study all safety information supplied by your employer. If you are not aware of the safety rules, try to find the relevant information.
- If you know the risks then you are able to avoid the potential hazards.
- Protect yourself by using the necessary safety systems, tools and devices. Read the guidelines and the instructions for use.
- Wear the necessary personal protective equipment: eye-protection, gloves, belts, helmets, special shoes or whatever is required by your work that could minimize any injury if an incident occurs
- Actively participate in safety activities at your work.
- Take an active part in eliminating risks from the workplace. If you discover a new hazard, report it to your employer.

Safety and your habits

10. Alcohol, drugs and medication

Alcohol and drugs increase your risk of injury because they affect judgment. Beware that some medications may also increase your risk of injury

- If you can't make a good decision, you can't protect others or yourself. Even minimal alcohol consumption increases your risk of an injury; the more you drink the higher the risk. Most people underestimate how long alcohol remains in their body.

- Be aware that alcohol consumption increases your risk of road traffic, work related and sport injuries and drowning. If you have been drinking alcohol, try to avoid these activities.
- Using public transport or having a designated driver is a smart move! If you go out with others, plan ahead and decide beforehand who will drink non-alcoholic beverages and make sure everyone gets home safely.
- The same rules as for alcohol should apply for prescribed or over the counter medications as well as for drugs that alter your perception, because these increase your injury risk.
- Fatigue, a lack of sleep and heavy meals slow your reactions and increase your risk of injury. Take this into account when planning your activities.

APPENDIX 7: Experts that commented on ECAI

LIST OF PARTICIPATING EXPERTS

Participants of the EURO Regional Consultation

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Birute Strukcinskiene	Klapeidia College of Medicine, Lithuania
Iva Truellova	Healthcare abd Pharmacy Department, Ministry of Health, Czech Republic
Joanne Vincenten	European Child Safety Alliance/ EuroSafe, Netherlands
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NGO representatives

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Brigitte Chaudhry	European Federation of Road Traffic Victims (FEVR)
Richard Jones	Institution of Occupational Safety and Health (IOSH)

EUNESE Network Members

Janice Cave	Royal Society for the Prevention of Accidents
Lena Levin	Swedish National Road and Transport Research Institute (VTI)
Luna Fragomeni	Admministrazione Provinciale di Parma, IL

APOLLO WP Leaders and Sub-contractors

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Eva Negri	Istituto di Ricerche Farmacologiche “Mario Negri”, Milan, Italy
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Chris Buttanshaw	Chief executive at Bucknall Hospital, UK
Carlo La Vecchia	Head, Laboratory of Epidemiology, Istituto di Ricerche Farmacologiche “Mario Negri”,
Dimitrios Trichopoulos	Department of Hygiene, Epidemiology and Medical Statistics, Medical School, Athens University

Questionnaire targeting experts

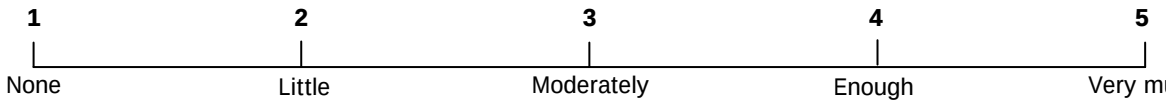
European Code against Injuries (ECal)

Date: ___/___/____

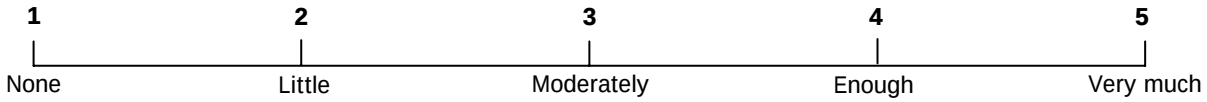
The European Code against Injuries comprises ten main domains with 53 injury prevention messages addressed to the general population.
Please, assess each one of the 53 key messages in a 1-5 scale according to
a. how **relevant** you consider that each one of the messages is to the respective type of injury and,
b. **how likely it is** that you will pass these messages around when you consult your patients, clients, etc.

1	2	3	4	5
None	Little	Moderately	Enough	Very much

	How relevant Is it?	How possible is it to pass the message around?
I. Be a safe driver		
1. Avoid smoking, eating, drinking, using a mobile phone, adjusting the sound system or other distractions while driving.		
2. On long trips, take regular breaks. A 15 minute break for every two hours of driving is necessary.		
3. Follow road traffic rules, don't exceed the legal speed limit, heed warning signs and maintain a safe distance between you and the vehicle in front of you.		
4. Stay calm and don't be provoked by other road users. Aggressive driving increases your chances of being involved in an accident.		
5. Keep in mind that you are sharing the road with other more vulnerable road users.		
6. Be realistic about your own ability and always drive within your limitations, we can't all be above average drivers. As a new driver consider taking a more experienced driver with you on your journeys		
7. Have your vehicle regularly serviced and keep it in good repair: adapt your driving to the road and weather conditions.		
II. Be a safe road user		
8. Seat belts save lives and reduce serious injuries. Wear your seat belt on all trips, including short trips. Remember, seat belts must still be used if your vehicle has airbags. Make sure that everyone wears a seat belt in your car, both in the front and rear seats.		
9. The rear seat is the safest place for children. Children need an age and size-appropriate car restraint or booster seat that is properly fitted in the vehicle; make sure you know the regulations		
10. Always wear a helmet when you ride and make sure that it meets the safety standards. It needs to be the correct size and worn in the correct position. Make sure your children's helmets are properly adjusted.		
11. Make sure that you are visible. Wear light coloured, fluorescent and reflective clothing. Use your lights to be seen as well as to see.		
12. As a pedestrian, follow the traffic rules and warning signs. Walk on pavements and use zebra/pelican crossings if available; walk on the side of the road facing oncoming traffic. Teach your children how to cross the road safely and practice with them in real life situations. Support school programs that teach children to use the road safely.		
III. Prevent falls – elderly people		
13. Take care of your physical fitness on a regular basis with exercise programmes, tailored to your specific needs, so as to maintain muscle and bone strength, and your balance and flexibility.		
14. Reduce your risk of falls at home, e.g. by having good lighting; handrails on both sides of the stairs and in the bathroom; non-slip bath mats; rugs that don't slip on the floor. Move obstacles away from walking areas and store things within easy reach. Having a home safety assessment from a health professional and making changes to make your home safer can reduce your risk of falls.		
15. Wear shoes with firm non-slip soles and avoid loose-fitting footwear that could cause you to trip.		
16. Some medications can increase your risk of falls. Have periodic reviews of your medication and follow your health care provider's instructions. Have regular eye tests and correct your vision.		
Prevent falls – children		
17. Protect your child, e.g. use window locks, safety gates or other barriers at the top and bottom of stairs. Keep chairs, cribs and other furniture away from windows. Remember baby walkers can be dangerous. Use safety straps on high chairs, changing tables and all products when supplied.		
IV. Guard against accidental poisoning		
18. Remember that many products can be potentially dangerous, e.g. household cleaners, medicines, and garage items like antifreeze and pesticides. Make sure that they have child resistant closures. Many children, however, can open 'child resistant' closures, so store them safely, either locked away or out of reach of children.		
19. Store food and non-food products separately. Always read the use and storage directions of products. In case of poisoning, read the labels on product containers, which often give important first-aid information.		
20. Make sure you have the emergency number next to the telephone.		



	How relevant Is it?	How possible is it to pass the message around?
V. Know the dangers of fire		
21. Make and practice a fire escape plan so that everyone in the household knows what to do in the event of a fire.		
22. Install smoke detectors, test them and change batteries regularly.		
23. Store matches, lighters and other flammable materials out of reach of children. Teach children about the dangers of fire.		
24. Get a fire extinguisher and a fire blanket for the kitchen, learn how to use them and make sure they are checked regularly. Tackle only the smallest fires yourself: your first thought should always be to call the fire brigade out.		
25. Smoking is a major cause of fire, especially in the bedroom. Try to avoid smoking in the bedroom.		
VI. Be safe near water		
26. Learn to swim. Children should be taught how to swim from an early age by a qualified instructor.		
27. Wear appropriate flotation devices for all water sports undertaken in open water.		
28. Be aware that drowning can also happen in shallow water, e.g. ponds, bathtubs, buckets and toilet bowls.		
29. Teach your child how to be safe in and around the water. Actively supervise your child. Do not delegate supervision of your child to older children.		
30. Unfenced swimming pools are highly hazardous; they should have a climb-resistant fence with a self-closing gate. Insist on the same standards for any private pools used by your children.		
31. Learn how to resuscitate a drowning victim		
VII. Play sports safely		
32. Be aware about sport specific recommendations and regulations and follow them. Make sure that other participants do the same.		
33. Be realistic about your own physical performance and exercise within your limits.		
34. Warm-up before participating in sports to reduce your injury risk.		
35. Make sure you and/or your child use sport appropriate protective equipment; check the condition of the protective equipment as well as the sports area.		
36. Encourage your child to participate in organized sports where there are certified coaches, trained in the prevention, recognition and immediate care of injuries.		
VIII. Use safer products		
37. Select products that meet safety standards and follow the safety recommendations in the manual and on labels.		
38. Use products for their intended use and age groups and respond to product recalls and warnings.		
39. When selecting toys, consider the child's age and development. Children under three years of age are at high risk of suffocation; therefore, avoid small toys or toys with small removable parts. Teach older children to keep their toys away from their younger brothers and sisters.		
40. Inspect toys regularly for damage and potential hazards such as sharp edges. Discard broken toys immediately, making sure children cannot get hold of them.		
41. Teach children to play safely together: by helping them to interact safely and constructively you will be helping them with more than just injury prevention		
IX. Be safe at work		
42. The employer should: be in possession of an assessment of the risks to safety and health at work, decide on the protective measures to be taken and follow national laws and/or practices, reports on occupational accidents suffered by his workers.		
42b. Within the context of his responsibilities, the employer should take the measures necessary for the safety and health protection of workers, including prevention of occupational risks and provision of information and training, as well as provision of the necessary organization and means.		
43. Follow the safety rules and study all safety information supplied by your employer. If you are not aware of the safety rules, try to find the relevant information.		
44. If you know the risks then you are able to avoid the potential hazards.		
45. Protect yourself by using the necessary safety systems, tools and devices. Read the guidelines and the instructions for use.		
46. Wear the necessary personal protective equipment: eye-protection, special clothing, including gloves, belts, helmets, shoes or whatever is required by your work that could minimize any injury if an incident occurs		
47. Actively participate in safety activities at your work.		
48. Take an active part in eliminating risks from the workplace. If you discover a new hazard, report it to your employer.		



	How relevant Is it?	How possible is it to pass the message around?
X. Safety essentials: know the risks of alcohol & medication		
49. If you can't make a good decision, you can't protect others or yourself. Even minimal alcohol consumption increases your risk of an injury; the more you drink the higher the risk. Most people underestimate how long alcohol remains in their body.		
50. Be aware that alcohol consumption increases your risk of road traffic, work related and sport injuries and drowning. If you have been drinking alcohol, try to avoid these activities.		
51. Using public transport or having a designated driver is a smart move! If you go out with others, plan ahead and decide beforehand who will drink non-alcoholic beverages and make sure everyone gets home safely.		
52. The same rules as for alcohol should apply for prescribed or over the counter medicines as well as for drugs that alter your perception, because these increase your injury risk.		
53. Fatigue, a lack of sleep and heavy meals slow your reactions and increase your risk of injury. Take this into account when planning your activities.		

If you have answered that you would not pass certain messages around, please explain in brief the main reasons.

_____

_____

_____

_____

_____

_____

Other comments

_____

_____

_____

_____

_____

Thank you for your participation

National and Kapodistrian University of Athens
Dept of Hygiene and Epidemiology
School of Medicine

Center for Research and
Prevention of Injuries
(CEREPRI)

APPENDIX 9: Analytic results of focus groups

Findings of Focus Groups with Directors of Health Education and Health Promotion Unit at Secondary Schools

Background
The focus groups took place on March 6, 2007 in Athens.

Questions Posed to the Groups and Findings

Question 1: Are there information for preventive measures that you weren't aware of before reading the code? If yes, please define.

- After reading the message related to taking care of our physical fitness, participate in exercise programs etc. I realized how important things like these in order to avoid injuries due to falls are.
- I hadn't heard before about the changing tables and the safety straps. I didn't know that I must use them.
- We are aware of almost all of the messages.
- I now realize that teachers at schools should inform children about the safe products.
- I didn't know that I must install a smoke detector in my home, although I was aware that it is recommended for all public places.
- It is not a common knowledge that fluorescent and reflective clothing are available on markets. I thought that it is by chance to buy clothes or shoes that are reflective.
- It is not a common knowledge if it is mandatory to wear seat belts on the rear seats.
- It is not a common knowledge if the exercise programs for bone and muscle strength is different from physical exercise in general.
- It is not known who professionals are capable for making home safety assessment and changes and what they are doing exactly.
- There is no new information.
- The preventive measures that are suggested are all familiar to us, but it is very good that they are consolidated.
- I don't know what the fire blanket is, how I should use it and where I can find it.
- Messages related to the prevention of fires (e.g. such as every house should have smoke detectors, or fire blanket in the kitchen).
- Measures related to the prevention of drowning (e.g. fenced swimming pools).
- I wasn't aware about the fall related injuries. I hadn't realized that falls comprise a type of accident. I mean that, I have heard about cases of poisoning or drowning but I haven't heard about fall related injuries and I didn't know that falls are a major cause of death of elderly people.
- Measures related to the prevention of falls (e.g. it is suggested that a professional should make home safety assessment, have handrails in bathroom).
- I didn't know that it is important, especially for pedestrians, to wear fluorescent and reflective clothing for the prevention of road traffic accidents.
- There is no new information. Almost all the suggested messages are common knowledge.

Question 2: According to your opinion, are there preventive measures that you believe that it is difficult for someone to adopt? If yes, please, give specific examples and explain why you believe that the adoption of such measures is difficult.

- When you say "don't be provoked by other road users" I think that it is not feasible.
- Almost none walks on the side of the road facing oncoming traffic. We don't perceive it as something important. We thing that we are not in danger no matter on what side of the road we walk.
- Many adolescents start to drive from a very early age, especially in rural areas and islands. They are very impulsive and most of the times parents encourage them. Authorities are not doing anything. There is no enforcement of the laws (such as mandatory wear helmets).
- There are some reckless people that drive by having children in the front seat of the car or motorcycle. They are totally careless and they don't even think that they pose their children in danger.
- Even though it is mandatory to install smoke detectors in public places and some alarms, many people install them but they don't maintain them. There is no enforcement of the law.
- There is no enforcement of the laws related to safety in workplaces.
- Most of us are not aware of the laws that should be followed in schools for the safety of the children.
- I cannot avoid speaking on my mobile phone while driving. I am very curious about who is calling me.
- I don't thing that anybody uses fire blankets in the kitchen. We are not used to.
- I don't think that anyone could accept that it is possible for someone to drown in toile bowls or buckets. We don't even know that.

- Here it is written that we should follow the speed limits, but these limits should be realistic. While driving you can see the speed limit that is 50km/h and thereupon you see 30km/h. We cannot follow speed limits like this
- I haven't seed any fenced pool here. When you say that swimming pools should be fenced, how far away from the pool should be the fence? About which swimming pools you are talking about? The public ones of the private? This type of information seems strange to us.
- Smoke detectors are not usually used in houses. There are smoke detectors in public areas but I don't think that anyone has installed a smoke detector in our country. I imagine also that it is a difficult procedure to install a smoke detector in the house.
- We are aware of all of these measures but when we always talk about these things again and again, nobody pays attention on them.
- It is not feasible to "teach the children to play safely together"
- It is not difficult to adopt the measures that are suggested by these messages.
- We are not aware of the dangers.
- Recklessness– we don't even think about the danger.
- Its is the Greek people's mentality – lifestyle: we are overoptimistic and irresponsible citizens.
- Most of the times it is provocative to infringe the regulations or to pass the limits (by this way some people think that live daredevilry).
- We believe that an accident is not going to happen to us.
- We have not realized that these messages are regulations (we think that it depends on our good willingness).
- We are aware about them just as information which doesn't concerns directly to us.
- Nobody tries systematically to pass the messages convincingly to the public.
- Some times you are afraid as if the preventive measures restraint someone in case of an emergency (e.g. the locks on the windows in case of a fire for example).
- Helmets: even though it is well known that it is mandatory and it protects the cyclist, many say that it mangles the hair and it posses a problem if you have to go to your work.
- Seat belts: many people thing that it is overstatement (it mustn't be) to wear your seatbelt on short journeys.
- (mainly for adolescents) The image of the young adult who wears helmet is not the cunning guy.
- In workplace: People are not informed systematically neither about the dangers nor about the safety measures. There is no law inspection regarding the safety in workplaces. There are no inspectors responsible for that and there are no authorities responsible for checking the adherence to the laws and safety measures.
- There are no strict punishments for those that break the laws and not adhere to the safety measures or enforcement of the penalties (e.g. police tickets are erased by traffic police).
- There is no strict and continuous inspection/enforcement.
- If we don't start to respect ourselves and the others, we won't adopt the suggested preventive measures
- Nescience about the regulations.
- We believe that an accident won't happen to us.
- We usually don't perceive that an accident can cause severe injury to ourselves, and this result not to take preventive measures.
- Established attitudes and mentality which leads to scorn the prevention in general (if someone wears always helmet when riding, then he/she is the "linnet" who is afraid of be injured or he/she is "exaggerating" regarding safety).
- Excessive trustfulness to ourselves and overestimation of our abilities (we often believe that we can control the danger without behaving preventively).
- Carelessness – young adults mainly cannot estimate the danger because they believe that it they are "immortal" and that it is unlikely that they will have an accident (they don't thing about that).
- Social cohesion: social relationships, for example, are no close enough so as adults are unable to tell his/her child about safety (when for example sees the child to do something dangerous) because it is going to be a misapprehension. As a result, we see around us accidents to happen but we stay just spectators.
- Promotion of false patterns: e.g. many advertising messages promote patterns (stars) which are daredevil and not support the prevention.
- Lack of communication of preventive messages and measure that suggest the best way to (in every place, for example in swimming pools, should be posted the preventive measures and people should be kept informed about these measures constantly).
- Some people avoid to take the responsibility (in workplaces, for example, employers do the minimum regarding safety (e.g. they post only an announcement) and leave the responsibility of the prevention on the employees, who are not adequately and properly aware).
- Local deficiencies (e.g. in some areas in the country it is considered as normal if children start to drive vehicles by an early age, and it is acceptable.
- «Canning».

- Many times, there are some preventive measures that are inconvenient, such as the seatbelt and the helmet.
- No enforcement of the law: although the laws exist, they are not enforced correctly or systematically and as a result they have no value and seems like they don't exist (e.g. traffic police behaves like going out in order to receive payment and not to check if people adhere to the road traffic code. So, they give tickets as easily to someone that doesn't't have his license in the car as to someone that passes the red light and as a result the severity of the risky behaviour is lost).
- when there are efforts for prevention, most of the times there is no follow up. For example, in the frame of a program were bought helmets for all students of a specific school that were riders, who indeed used the helmets during the implementation of the program but they stopped as soon as the program finished!
- Police is not effective unless each individual gets convinced to adopt and respect the measures and regulations (example: if a driver sees traffic police that gives tickets alert the other drivers. Then the other drivers fasten their seatbelts and reduce speed, and remove them when they are far away of the traffic police).
- There are some measures which are difficult for Greek people to adopt. For example, if you tell a pedestrian that he/she has to wear reflective clothes in order to be visible, there is great possibility that he/she is going to laugh. In other European countries, however, this is measure that is adopted by citizens. We have no awareness. There are many things that we don't know, and what is needed is to receive injury prevention education from an early age.
- There are also things that are not the result of the lack of awareness, but have to do with the mentality and temperament of Greek people. For example, aggressive driving is something that is considered as "canning". None can understand that stay calm and should not be provoked by other road users while driving.
- There are many measures written in the Code that are difficult to be adopted. For example, how many people lock in closets the household cleaners in order to keep them away from the children? How many people have done home safety assessment by a professional? Unfortunately, the truth is that we don't perceive the severity of the danger and we believe that it is impossible that an accident may happen to us. Only if we experience one accident we understand the possibility.
- The cost of some of the preventive measures stated in the Code might be discouraging for someone to adopt them. For example, smoke detectors must be very expensive.

Question 3: Have you adopted these preventive measures in your daily life? What are the main reasons for that?

- I adopt preventive measures in order to protect my self
- I wear my seatbelt in order not to receive a ticket from the police.
- I have been convinced that I must always wear my seatbelt in order to avoid an injury in case of an accident την φοράω πάντα. I always wear my seatbelt as well as my children· It is my first move when I get into my car. It is very important how you have been raised as a child and what you see around.
- I know that seat belt protects me.
- Health education programs at schools have helped me very much to get convinced that it is very important to wear seatbelts. These efforts are very helpful.
- Children imitate their parents; if parents wear seatbelts then the children learn to wear them.
- I showed to my children some educative spots (the one was produced by CEREPRI) and every time they get into the car they wear their seatbelt and tell me: "Dad, you forgot to fasten your seatbelt".
- It is of high importance that parents and teachers at schools (primary and secondary) to educate the children about the prevention of injuries.
- Preventive messages about safety at work are rebellious. None employer follow these practices and it is very important that you refer these practices here. I believe that all who will read the code will pay attention on them.
- I adopt these practices in my daily life in order to protect me and others. I, for example, never speak to my mobile phone while driving. My daughter respects that because she knows that I do that for our safety. Everybody knows that and when I don't answer to the phone they know that I am driving.
- It is easy to use a fire extinguisher in the house. It is something that Greek people can easily get used to.
- Regarding measures for children safety, I don't thing that there is someone that don't do them. All of us are careful and adopt practices related to children's safety.
- It is very important how you try to pass the messages to the public. For example, the code is not written in a positive way. It is very imperative.
- The messages related to children safety should be conveyed to the children by their parents or by professionals who know how to communicate with children. It is more likely that they will adopt them though that way.
- I believe that because children imitate their peers, if some wear helmets then all will do.

- The social context where someone is brought up (if the family adopt preventive practices, then the children will do the same or if someone lives in a place that all people are sensitized and interested in the prevention of injuries, then he adopts preventive practices).
- Correct education for the prevention of injuries (health education and promotion) / Special education of people that have the responsibility to advise and convince the others.
- Fear of penalty/ punishment, intimidation of people that do not adhere to the laws.
- If someone is responsible for the safety of others, most of the times it is effective. Furthermore, when preventive practices are adopted in general in a community, then each individual comply (e.g. in a rural place where all of the women decided to buy the appropriate protective uniform for all the family members that work in the fields so as to avoid affections from pesticides. All the people in that village, in the period of sprinkle, wear their uniforms in order to protect themselves. People that live in the village that is near to them, they kidding them, but they have more respiratory problems and cutaneous inflammations).
- When you show to people the consequences that they may have if they don't adopt preventive practices can be effective in order to convince them to take preventive measures.
- The individual's characteristics: if you are a director of health education at school and drive without helmet or seatbelt (or other practices), then you cancel yourself and your reliability in front of the students who you are trying to convince to protect themselves from accidents.
- As soon as somebody becomes parent, and he/she is responsible for the other, then automatically changes the way that he/she behaves and thinks, because is cares about the children's safety. Furthermore, you cannot tell to your children to be careful etc. without following what you are saying, because they don't believe you.
- Many times (unfortunately) the police.
- Fear about the consequences of an accident.
- Previous experience of an accident (mainly personal or person that you know very well).
- TV and radio convey the messages very effectively and can sensitize citizens.
- Respect of others: every individual who respect the other, his/her safety and rights, then respects his/her self and adopts preventive practices for sure in order to avoid harm the others and his/her self also.
- The way that messages are conveyed: directives and prohibitions coming from parents are totally ineffective. The right way is when parents adopt these practices to their daily life (they become their models).
- If someone experience the benefit that results from the use of the preventive measure, then certainly can be more acceptable to adopt more and simple preventive practices (e.g. if I wore my seatbelt, I wouldn't have this accident …. Since then I wear my seatbelt and my helmet when riding, but I didn't used to before).
- The political willingness to promote the issue of the prevention of injuries.
- Funding of efforts and interventions for sensitization and awareness raising regarding the prevention of accidents.
- The Code!
- Yes, because we have been got used to that way of living. Because of our occupation, we have become aware of the frequency of accidents and we have been educated on the prevention of accidents.
- Yes, because we want to reduce the magnitude of the problem and to be safe, we adopt preventive practices.
- It is a shame for someone that works for health education and promotion not to adopt simple preventive practices, like these that are written in the Code.
- Education and awareness are factors that facilitate someone to adopt practices for the prevention of accidents.
- If you are aware of the danger, it is more likely that you will adopt preventive measures.
- If someone has a previous experience of an accident, either he/she or a close relative, it is highly likely that he/she adopts preventive practices.

Question 4: Are there measures that you intent to adopt in your daily life, after reading the Code?

- I would pay more attention on the messages related to the children, because we are not informed about what you must do to protect the children.
- I will install smoke detectors in my home, now that I learned what is and how it functions. I didn't know that it is cheap and it functions with batteries. I say that I will do, but nobody knows if I will do so!
- I will install smoke detectors, and if not, I will buy fire extinguisher in any case.
- I won't speak to my mobile phone while driving.
- I will adopt the measures related to home safety assessment (mainly those related to protect the children).
- Measures related to the prevention of fires.
- Measures that we weren't aware before, such as installment of smoke detectors in the house or the fluorescent and reflective clothing in order to be visible while walking on the road.
- Installment of smoke detectors in my house.

- If I had children and read the code, I would adopt the measures related to the safety of children, especially those that refer to the prevention of falls. I hadn't realized how important the safety gates and the window locks are.

Question 5: What is your opinion regarding:

- The comprehensiveness, clarity and the immediateness of the messages?
- The convincingness of the messages?
- The tone/style (e.g. positive, prohibitive, friendly)?

- Modify the messages in order to be more positive
- The text needs to be more immediate and friendly, not so "formal".
- Messages are clear and easily understandable. You don't have to devote much time to read them.
- Some of the messages are informative and it seems like they try to inform someone and not to convince. For example the message that recommends the driver to take a 15min break every 2 hours of driving is something strange and extravagant to us. We don't do that – or not so frequently. If the message stays on that position in hierarchy, it will loose its validity.
- Messages are clear and explicit, in general, but the whole code needs to be shortened and more brief.
- The style is unemotional and neutral. It is very imperative and will make the reader aggressive. Generally, the text has no alterations and is tiring.
- It is very long the text. You have to identify a way that would convey the message in a prototypal and smartly in order to convince the public. I cannot remember such a long text.
- Images can be an effective way, a picture of someone that is drinking or eating while driving.
- I wasn't enthusiastic about the style of the text. Messages have to be smaller, more immediate and friendly, not so austere.
- The code needs to be more lively and briefer. Some pictures or drawings could make it more attractive and eye-catching.

Question 6: What are your suggestions for improving the Code and it's messages

- The leaflet that you intend to prepare it would be better if you added some images and gave it to local municipalities and authorities who can easily disseminate it to the public.
- At the first page you write "keep in mind that you are sharing the road with other more vulnerable road users". What do you mean "more vulnerable?"
- Somewhere you write "some medications can increase your risk of falls", what do you mean by that?
- You have to separate the messages for the prevention of falls targeted to elderly and children.
- In the section: «As road users», you write that you have to be visible, but to whom that concerns? To pedestrians or other users? This might be clear. You had better to separate them.
- Somewhere you write: "support school programs that teach children to use the road safely", but what do you mean "support"?
- When you write "Always wear your helmet when you ride" you should add "not only when you are the driver, but also when you are a passenger.
- What are the changing tables and safety straps?
- You should add, that pedestrians have to look both ways of the road before crossing the street.
- You should add to be careful about the products that have expired. Seldom do we look the expiration date of a product.
- I have noticed that many playgrounds now have guardrails at the entrance which is in front of the street, and it is very important.
- When you say "avoid smoking in the bedroom", this applies too when you are lying on the sofa and you are tired.
- Falls occur not only on the home, but also on the road and everywhere.
- It is not clear who should take care in order to be visible: pedestrians or cyclists?
- You should suggest also to people not to drive while they are nervous.
- You write "on long trips, take regular breaks. A 15min break for every two hours is necessary". But to whom you refer? For a person 20 years old, 40 years old, 50 years old? As I grow up, I understand that I become more easily tired and I must stop every one-hour of driving. You should specify the age that the message refers to.
- When you refer to the falls in the house, you should also mention falls on the street while walking.
- You could also add some messages about earthquakes and floods. We have implemented many programs at schools regarding these issues.
- Your suggestion about storing food and non-food products separately is very important. It is also important not to replenish empty bottles with other liquids. We often don't remember what we have put inside and there is a great possibility of poisoning.
- You should use images and the text has to be rephrased in order to be simpler.

- When you refer to 10 messages, we expect to read 10 messages and not 10 sections of messages
- I didn't understand what the changing table and safety straps are.
- At the beginning of the code you write that injuries are predictable and preventable, but there are cases that you cannot avoid them. The text also is very imperative.
- You didn't mentioned that parents should use the safety cover plates for the wall sockets.
- In fire injury prevention you should add that we must be careful of candles and cressets.
- The code needs to be shortened, especially if you intend to distribute it to students. It is impossible that a student will read all these pages.
- I thing that you could add a separate section about injuries that occur in school areas.
- In the section of fire injuries prevention, I believe that you should add some advices for women that are cooking and forget the cooker switched on. It is a frequent cause of residential fires.
- It would be effective if the code could be disseminated as a poster.
- It would be very effective if the code could be disseminated through mass media referring to the code and where someone could find it.
- It would be better to separate road users, as passengers and pedestrians, for example
- You should write before the messages to whom you refer by age or property (e.g. parents, care givers etc.).

Questionnaire targeting Medical Students

European Code against Injuries (ECal)

The European Code against Injuries comprises ten main domains with 53 injury prevention messages addressed to the general population.
Please, assess each one of the 53 key messages in a 1-5 scale according to
a. how **relevant** you consider that each one of the messages is to the respective type of injury and
b. how **likely it is** that you will pass theses pieces of advice when you consult your clients of health services or patients

Demographics

1. *Gender:*

☐ Male
☐ Female

2. *Age:* _____ ***years old***

3. *Education*

☐ Medical Student at the _____ academic year
☐ Other (please define): _____

4. *Place of Residence*

Mark your answer with a check (✓)

☐ City (more than 100.000 habitants)
☐ City (15.000 ~ 100.000 habitants)
☐ Town (1.500 ~ 15.000 habitants)
☐ Village (less than 1.500 habitants)
☐ Other: _____

5. Do you have attended an educational class in regards the issues of prevention of unintentional injuries?

☐ Yes
☐ No

If yes, please define the kind of the education

_____
_____
_____
_____

1	2	3	4	5
None	Little	Moderately	Enough	Very much

	How relevant it is?	How possible to suggest the message
I. Be a safe driver		
1. Avoid smoking, eating, drinking, using a mobile phone, adjusting the sound system or other distractions while driving.		
2. On long trips, take regular breaks. A 15 minute break for every two hours of driving is necessary.		
3. Follow road traffic rules, don't exceed the legal speed limit, heed warning signs and maintain a safe distance between you and the vehicle in front of you.		
4. Stay calm and don't be provoked by other road users. Aggressive driving increases your chances of being involved in an accident.		
5. Keep in mind that you are sharing the road with other more vulnerable road users.		
6. Be realistic about your own ability and always drive within your limitations, we can't all be above average drivers. As a new driver consider taking a more experienced driver with you on your journeys		
7. Have your vehicle regularly serviced and keep it in good repair: adapt your driving to the road and weather conditions.		
II. Be a safe road user		
8. Seat belts save lives and reduce serious injuries. Wear your seat belt on all trips, including short trips. Remember, seat belts must still be used if your vehicle has airbags. Make sure that everyone wears a seat belt in your car, both in the front and rear seats.		
9. The rear seat is the safest place for children. Children need an age and size-appropriate car restraint or booster seat that is properly fitted in the vehicle; make sure you know the regulations		
10. Always wear a helmet when you ride and make sure that it meets the safety standards. It needs to be the correct size and worn in the correct position. Make sure your children's helmets are properly adjusted.		
11. Make sure that you are visible. Wear light coloured, fluorescent and reflective clothing. Use your lights to be seen as well as to see.		
12. As a pedestrian, follow the traffic rules and warning signs. Walk on pavements and use zebra/pelican crossings if available; walk on the side of the road facing oncoming traffic. Teach your children how to cross the road safely and practice with them in real life situations. Support school programs that teach children to use the road safely.		
III. Prevent falls – elderly people		
13. Take care of your physical fitness on a regular basis with exercise programmes, tailored to your specific needs, so as to maintain muscle and bone strength, and your balance and flexibility.		
14. Reduce your risk of falls at home, e.g. by having good lighting; handrails on both sides of the stairs and in the bathroom; non-slip bath mats; rugs that don't slip on the floor. Move obstacles away from walking areas and store things within easy reach. Having a home safety assessment from a health professional and making changes to make your home safer can reduce your risk of falls.		
15. Wear shoes with firm non-slip soles and avoid loose-fitting footwear that could cause you to trip.		
16. Some medications can increase your risk of falls. Have periodic reviews of your medication and follow your health care provider's instructions. Have regular eye tests and correct your vision.		
Prevent falls – children		
17. Protect your child, e.g. use window locks, safety gates or other barriers at the top and bottom of stairs. Keep chairs, cribs and other furniture away from windows. Remember baby walkers can be dangerous. Use safety straps on high chairs, changing tables and all products when supplied.		
IV. Guard against accidental poisoning		
18. Remember that many products can be potentially dangerous, e.g. household cleaners, medicines, and garage items like antifreeze and pesticides. Make sure that they have child resistant closures. Many children, however, can open 'child resistant' closures, so store them safely, either locked away or out of reach of children.		
19. Store food and non-food products separately. Always read the use and storage directions of products. In case of poisoning, read the labels on product containers, which often give important first-aid information.		
20. Make sure you have the emergency number next to the telephone.		

National and Kapodistrian University of Athens
Dept of Hygiene and Epidemiology
School of Medicine

Center for Research and
Prevention of Injuries
(CEREPRI)

1	2	3	4	5
None	Little	Moderately	Enough	Very much

	How relevant it is?	How possible to suggest the message
V. Know the dangers of fire		
21. Make and practice a fire escape plan so that everyone in the household knows what to do in the event of a fire.		
22. Install smoke detectors, test them and change batteries regularly.		
23. Store matches, lighters and other flammable materials out of reach of children. Teach children about the dangers of fire.		
24. Get a fire extinguisher and a fire blanket for the kitchen, learn how to use them and make sure they are checked regularly. Tackle only the smallest fires yourself: your first thought should always be to call the fire brigade out.		
25. Smoking is a major cause of fire, especially in the bedroom. Try to avoid smoking in the bedroom.		
VI. Be safe near water		
26. Learn to swim. Children should be taught how to swim from an early age by a qualified instructor.		
27. Wear appropriate flotation devices for all water sports undertaken in open water.		
28. Be aware that drowning can also happen in shallow water, e.g. ponds, bathtubs, buckets and toilet bowls.		
29. Teach your child how to be safe in and around the water. Actively supervise your child. Do not delegate supervision of your child to older children.		
30. Unfenced swimming pools are highly hazardous; they should have a climb-resistant fence with a self-closing gate. Insist on the same standards for any private pools used by your children.		
31. Learn how to resuscitate a drowning victim		
VII. Play sports safely		
32. Be aware about sport specific recommendations and regulations and follow them. Make sure that other participants do the same.		
33. Be realistic about your own physical performance and exercise within your limits.		
34. Warm-up before participating in sports to reduce your injury risk.		
35. Make sure you and/or your child use sport appropriate protective equipment; check the condition of the protective equipment as well as the sports area.		
36. Encourage your child to participate in organized sports where there are certified coaches, trained in the prevention, recognition and immediate care of injuries.		
VIII. Use safer products		
37. Select products that meet safety standards and follow the safety recommendations in the manual and on labels.		
38. Use products for their intended use and age groups and respond to product recalls and warnings.		
39. When selecting toys, consider the child's age and development. Children under three years of age are at high risk of suffocation; therefore, avoid small toys or toys with small removable parts. Teach older children to keep their toys away from their younger brothers and sisters.		
40. Inspect toys regularly for damage and potential hazards such as sharp edges. Discard broken toys immediately, making sure children cannot get hold of them.		
41. Teach children to play safely together: by helping them to interact safely and constructively you will be helping them with more than just injury prevention		
IX. Be safe at work		
42. The employer should: be in possession of an assessment of the risks to safety and health at work, decide on the protective measures to be taken and follow national laws and/or practices, reports on occupational accidents suffered by his workers.		
42b. Within the context of his responsibilities, the employer should take the measures necessary for the safety and health protection of workers, including prevention of occupational risks and provision of information and training, as well as provision of the necessary organization and means.		
43. Follow the safety rules and study all safety information supplied by your employer. If you are not aware of the safety rules, try to find the relevant information.		
44. If you know the risks then you are able to avoid the potential hazards.		
45. Protect yourself by using the necessary safety systems, tools and devices. Read the guidelines and the instructions for use.		
46. Wear the necessary personal protective equipment: eye-protection, special clothing, including gloves, belts, helmets, shoes or whatever is required by your work that could minimize any injury if an incident occurs		
47. Actively participate in safety activities at your work.		
48. Take an active part in eliminating risks from the workplace. If you discover a new hazard, report it to your employer.		

1	2	3	4	5
None	Little	Moderately	Enough	Very much

	How relevant it is?	How possible to suggest the message
X. Safety essentials: know the risks of alcohol & medication		
49. If you can't make a good decision, you can't protect others or yourself. Even minimal alcohol consumption increases your risk of an injury; the more you drink the higher the risk. Most people underestimate how long alcohol remains in their body.		
50. Be aware that alcohol consumption increases your risk of road traffic, work related and sport injuries and drowning. If you have been drinking alcohol, try to avoid these activities.		
51. Using public transport or having a designated driver is a smart move! If you go out with others, plan ahead and decide beforehand who will drink non-alcoholic beverages and make sure everyone gets home safely.		
52. The same rules as for alcohol should apply for prescribed or over the counter medicines as well as for drugs that alter your perception, because these increase your injury risk.		
53. Fatigue, a lack of sleep and heavy meals slow your reactions and increase your risk of injury. Take this into account when planning your activities.		

How comfortable you feel to convey these injury prevention messages to your patients (regarding the time needed, the attitudes of your patients towards the injury prevention measures, how comprehensive would consider that the messages are etc.)

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Other comments

_____

_____

_____

_____

_____

Thank you for your participation

National and Kapodistrian University of Athens
Dept of Hygiene and Epidemiology
School of Medicine

Center for Research and
Prevention of Injuries
(CEREPRI)

Questionnaire targeting to different population groups

European Code against Injuries (ECal)

Date: ____/____/_____

The European Code against Injuries comprises ten main domains with 53 injury prevention messages addressed to the general population.
Please, assess each one of the 53 key messages in a 1-5 scale according to
a. how **comprehensive** do you consider each one of the messages
b. **how likely it is** that you will adopt the proposed measures.

Demographics

1. *Gender:*
[*Mark your answer with a check* (✓)]
- ☐ Male
- ☐ Female

2. *Date of Birth:* ____/____/_____

3. *Educational level*
[*Mark your answer with a check (✓)*]
- ☐ Elementary School
- ☐ Junior High School
- ☐ High School
- ☐ Undergraduate Degree
- ☐ Graduate Degree
- ☐ Other (please define): _____
- ☐ Don't want to answer

4. Occupation/ property
[*Mark your answer with a check* (✓)]
- ☐ Student
- ☐ University Student
- ☐ Private employee
- ☐ Governmental employee
- ☐ Independent employee
- ☐ Pensioner
- ☐ Housework
- ☐ Unemployed
- ☐ Other (please define): _____
- ☐ Don't want to answer

5. *Place of Residence*
[*Mark your answer with a check* (✓)]
- ☐ City (more than 100.000 habitants)
- ☐ City (15.000 ~ 100.000 habitants)
- ☐ Town (1.500 ~ 15.000 habitants)
- ☐ Village (less than 1.500 habitants)
- ☐ Other: _____
- ☐ Don't want to answer

6. *How you consider your economical status?* [*Mark your answer with a check* (✓)]
- ☐ Up to 500 €
- ☐ 501 – 800 €
- ☐ 801 – 1100 €
- ☐ 1101 – 1500 €
- ☐ 1501 – 2500 €
- ☐ more than 2500 €
- ☐ Other: _____
- ☐ I do not want to answer

7. Have you ever experienced an injury?
[*You could check more than one, if needed*]
- ☐ No [*if no, please go to the next page*]
- ☐ Yes
- ☐ I do not want to answer

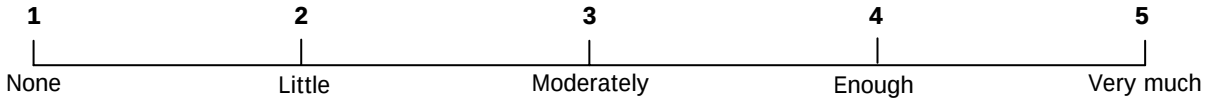
If yes, please define the time period:
- ☐ During the last year
- ☐ _____ years ago (define the number of years ago)

What type of injury? *(if you had experienced more than one injuries of the same category e.g. road traffic injuries, please use the choices "other")*	**Were you hospitalized?**
☐ Road traffic Injury	☐ No ☐ Yes, for _____days
☐ Fall	☐ No ☐ Yes, for _____days
☐ Near drowning	☐ No ☐ Yes, for _____days
☐ Poisoning	☐ No ☐ Yes, for _____days
☐ Sport injury	☐ No ☐ Yes, for _____days
☐ Occupational injury	☐ No ☐ Yes, for _____days
☐ Burn /fire /flames	☐ No ☐ Yes, for _____days
☐ Other: _____	☐ No ☐ Yes, for _____days
☐ Other: _____	☐ No ☐ Yes, for _____days
☐ Other: _____	☐ No ☐ Yes, for _____days

1	2	3	4	5
None	Little	Moderately	Enough	Very much

	How comprehensive Is it?	How likely is it to adopt the message?
I. Be a safe driver		
16. Avoid smoking, eating, drinking, using a mobile phone, adjusting the sound system or other distractions while driving.		
17. On long trips, take regular breaks. A 15 minute break for every two hours of driving is necessary.		
18. Follow road traffic rules, don't exceed the legal speed limit, heed warning signs and maintain a safe distance between you and the vehicle in front of you.		
19. Stay calm and don't be provoked by other road users. Aggressive driving increases your chances of being involved in an accident.		
20. Keep in mind that you are sharing the road with other more vulnerable road users.		
21. Be realistic about your own ability and always drive within your limitations, we can't all be above average drivers. As a new driver consider taking a more experienced driver with you on your journeys		
22. Have your vehicle regularly serviced and keep it in good repair: adapt your driving to the road and weather conditions.		
II. Be a safe road user		
23. Seat belts save lives and reduce serious injuries. Wear your seat belt on all trips, including short trips. Remember, seat belts must still be used if your vehicle has airbags. Make sure that everyone wears a seat belt in your car, both in the front and rear seats.		
24. The rear seat is the safest place for children. Children need an age and size-appropriate car restraint or booster seat that is properly fitted in the vehicle; make sure you know the regulations		
25. Always wear a helmet when you ride and make sure that it meets the safety standards. It needs to be the correct size and worn in the correct position. Make sure your children's helmets are properly adjusted.		
26. Make sure that you are visible. Wear light coloured, fluorescent and reflective clothing. Use your lights to be seen as well as to see.		
27. As a pedestrian, follow the traffic rules and warning signs. Walk on pavements and use zebra/pelican crossings if available; walk on the side of the road facing oncoming traffic. Teach your children how to cross the road safely and practice with them in real life situations. Support school programs that teach children to use the road safely.		

III. Prevent falls – elderly people		
28. Take care of your physical fitness on a regular basis with exercise programmes, tailored to your specific needs, so as to maintain muscle and bone strength, and your balance and flexibility.		
29. Reduce your risk of falls at home, e.g. by having good lighting; handrails on both sides of the stairs and in the bathroom; non-slip bath mats; rugs that don't slip on the floor. Move obstacles away from walking areas and store things within easy reach. Having a home safety assessment from a health professional and making changes to make your home safer can reduce your risk of falls.		
30. Wear shoes with firm non-slip soles and avoid loose-fitting footwear that could cause you to trip.		
16. Some medications can increase your risk of falls. Have periodic reviews of your medication and follow your health care provider's instructions. Have regular eye tests and correct your vision.		
Prevent falls – children		
17. Protect your child, e.g. use window locks, safety gates or other barriers at the top and bottom of stairs. Keep chairs, cribs and other furniture away from windows. Remember baby walkers can be dangerous. Use safety straps on high chairs, changing tables and all products when supplied.		
IV. Guard against accidental poisoning		
54. Remember that many products can be potentially dangerous, e.g. household cleaners, medicines, and garage items like antifreeze and pesticides. Make sure that they have child resistant closures. Many children, however, can open 'child resistant' closures, so store them safely, either locked away or out of reach of children.		
55. Store food and non-food products separately. Always read the use and storage directions of products. In case of poisoning, read the labels on product containers, which often give important first-aid information.		
56. Make sure you have the emergency number next to the telephone.		



	How comprehensive Is it?	How likely is it to adopt the message?
V. Know the dangers of fire		
57. Make and practice a fire escape plan so that everyone in the household knows what to do in the event of a fir		
58. Install smoke detectors, test them and change batteries regularly.		
59. Store matches, lighters and other flammable materials out of reach of children. Teach children about the dangers of fire.		
60. Get a fire extinguisher and a fire blanket for the kitchen, learn how to use them and make sure they are checked regularly. Tackle only the smallest fires yourself: your first thought should always be to call the fire brigade out.		
61. Smoking is a major cause of fire, especially in the bedroom. Try to avoid smoking in the bedroom.		
VI. Be safe near water		
62. Learn to swim. Children should be taught how to swim from an early age by a qualified instructor.		
63. Wear appropriate flotation devices for all water sports undertaken in open water.		
64. Be aware that drowning can also happen in shallow water, e.g. ponds, bathtubs, buckets and toilet bowls.		
65. Teach your child how to be safe in and around the water. Actively supervise your child. Do not delegate supervision of your child to older children.		
66. Unfenced swimming pools are highly hazardous; they should have a climb-resistant fence with a self-closing gate. Insist on the same standards for any private pools used by your children.		
67. Learn how to resuscitate a drowning victim		
VII. Play sports safely		
68. Be aware about sport specific recommendations and regulations and follow them. Make sure that other participants do the same.		
69. Be realistic about your own physical performance and exercise within your limits.		
70. Warm-up before participating in sports to reduce your injury risk.		
71. Make sure you and/or your child use sport appropriate protective equipment; check the condition of the protective equipment as well as the sports area.		
72. Encourage your child to participate in organized sports where there are certified coaches, trained in the prevention, recognition and immediate care of injuries.		
VIII. Use safer products		
73. Select products that meet safety standards and follow the safety recommendations in the manual and on labels.		
74. Use products for their intended use and age groups and respond to product recalls and warnings.		
75. When selecting toys, consider the child's age and development. Children under three years of age are at high risk of suffocation; therefore, avoid small toys or toys with small removable parts. Teach older children to keep their toys away from their younger brothers and sisters.		
76. Inspect toys regularly for damage and potential hazards such as sharp edges. Discard broken toys immediately, making sure children cannot get hold of them.		
77. Teach children to play safely together: by helping them to interact safely and constructively you will be helping them with more than just injury prevention		
IX. Be safe at work		
78. The employer should: be in possession of an assessment of the risks to safety and health at work, decide on the protective measures to be taken and follow national laws and/or practices, reports on occupational accidents suffered by his workers.		
42b. Within the context of his responsibilities, the employer should take the measures necessary for the safety and health protection of workers, including prevention of occupational risks and provision of information and training, as well as provision of the necessary organization and means.		
79. Follow the safety rules and study all safety information supplied by your employer. If you are not aware of the safety rules, try to find the relevant information.		
80. If you know the risks then you are able to avoid the potential hazards.		
81. Protect yourself by using the necessary safety systems, tools and devices. Read the guidelines and the instructions for use.		
82. Wear the necessary personal protective equipment: eye-protection, special clothing, including gloves, belts, helmets, shoes or whatever is required by your work that could minimize any injury if an incident occurs		
83. Actively participate in safety activities at your work.		
84. Take an active part in eliminating risks from the workplace. If you discover a new hazard, report it to your employer.		

1	2	3	4	5
None	Little	Moderately	Enough	Very much

	How comprehensive Is it?	How likely is it to adopt the message?
X. Safety essentials: know the risks of alcohol & medication		
85. If you can't make a good decision, you can't protect others or yourself. Even minimal alcohol consumption increases your risk of an injury; the more you drink the higher the risk. Most people underestimate how long alcohol remains in their body.		
86. Be aware that alcohol consumption increases your risk of road traffic, work related and sport injuries and drowning. If you have been drinking alcohol, try to avoid these activities.		
87. Using public transport or having a designated driver is a smart move! If you go out with others, plan ahead and decide beforehand who will drink non-alcoholic beverages and make sure everyone gets home safely.		
88. The same rules as for alcohol should apply for prescribed or over the counter medicines as well as for drugs that alter your perception, because these increase your injury risk.		
89. Fatigue, a lack of sleep and heavy meals slow your reactions and increase your risk of injury. Take this into account when planning your activities.		

If you have answered that you would not adopt one or more of the proposed measures, please write the main reasons for your choice. _____

_____

_____

_____

_____

_____

Other comments

_____

_____

_____

_____

_____

Thank you for your participation

National and Kapodistrian University of Athens
Dept of Hygiene and Epidemiology
School of Medicine

Center for Research and
Prevention of Injuries
(CEREPRI)

APPENDIX 12a: Final version of the ECAI (also available at:

http://www.euroipn.org/apollo/WP3_ECAI.htm (see attachment)


4
>> guard against accidental poisoning
Fact: Accidental poisoning is much more common than many people think. It kills or injures thousands of people every year, yet is easily prevented.
WHAT YOU CAN DO
Keep dangerous substances away from children; use child resistant closures, but remember none of these is 100% child-proof. Store products safely, either locked away or out of reach of children.
Remember that many products can be potentially dangerous, e.g. household detergents, medicines, and garage items, like antifreeze and pesticides. Store these products in their original containers.
Store food- and non-food products separately. Always read the use and storage directions of products. In case of poisoning, read the labels on product containers, which often give important first-aid information.
Make sure you have an emergency number next to the telephone in case of a suspected poisoning.


7
>> play sports safely
Fact: Sport injuries are increasing, so rapidly that they may soon be the most common hospital treated injury.
WHAT YOU CAN DO
Make sure you realize your child can wear appropriate protective equipment; check the condition of the protective equipment and the sports area.
Be aware of sport specific recommendations and regulations and follow them. Make sure that other participants do the same.
Warm-up muscles for a minimum of five minutes, before participating in sports.
Be realistic about your own physical performance and exercise within your limits.
Encourage your child to participate in organized sports where there are certified coaches, trained in the prevention, recognition and immediate care of injuries.


5
>> know the dangers of fire
Fact: 60% of fire-related deaths are due to house fires; learn how to prevent them.
WHAT YOU CAN DO


8
>> use safer products
WHAT YOU CAN DO
Use products for their intended use and age groups and respond to product recalls and warnings.
Select products that meet safety standards; read and follow the safety recommendations on labels and in the manual.
When selecting toys, consider the child's age and development; avoid small toys or toys with small removable parts, which can be a deadly suffocation risk to children under three years of age.
Teach older children to keep their toys away from younger brothers and sisters.
Inspect toys regularly for damage and potential hazards, such as sharp edges. Discard broken toys immediately, making sure children cannot get hold of them.


6
>> be safe near water
WHAT YOU CAN DO
Learn to swim – make sure that children are taught how to swim from an early age by a qualified instructor.
Teach your child how to be safe in and around the water. Actively supervise your child. Do not delegate supervision of your children to older children.


9
>> be safe at work
Fact: Most people are well protected by legislation at work but you still need to be aware of your rights and actively participate to improve workplace safety.
WHAT YOU CAN DO
Read all safety information supplied by your employer and follow the safety rules. Know the risks so that you can avoid potential harm.
Protect yourself and others by using the necessary safety procedures, tools and devices. Read the guidance and the instructions for use.
Actively participate in all relevant education and training for safety at your work.
Wear the necessary personal protective equipment properly: non-protective, special clothing, including gloves, harnesses, belts, helmets, shoes or whatever is required by your work that could minimize any injury if an accident occurs.
Take an active part in eliminating risks from the workplace. If you discover a new hazard or safety measures that do not work properly, report them to your employer.


10
>> know the risks of alcohol, drugs & medication
Fact: Alcohol, drugs and medicines affect judgment and increase your risk of accident and injury.
WHAT YOU CAN DO
Be realistic about how long alcohol remains in your body. Even low levels of alcohol can increase the risk of all types of injury and can also impair child supervision. If you have been drinking, try to avoid activities that could result in potential harm.
Apply the same safety rules as for alcohol to prescribed or over the counter medicines as well as for drugs that may alter your perception and increase your injury risk. Do not mix alcohol with any medicines, even over the counter ones.
Excessive drinking can cause alcohol poisoning which can be deadly. Avoid binge drinking and keep within the recommended guidelines of alcohol.

APPENDIX 12b: Translations of the ECAI (also available at: www.euroipn.org/apollo/WP3_ECAI.htm)

APPENDIX 12c: ECAI Supplement (also available at : http://www.mednet.gr/archives/contents2008-sup-en.html) (see attachment)

APPENDIX 12d: ECAI Poster (also available at: www.euroipn.org/apollo/WP3_ECAI.htm)

1. Please, answer the following ten questions based on the scale that you see on the right side of the paper, by writing an X for each question that expresses your opinion	STRONGLY DISAGREE	DISAGREE	NEUTRAL	AGREE	STRONGLY AGREE	DON'T KNOW
1. Drowning of a child happens only in open water.						
2. Falls occur mainly outdoors.						
3. If products with dangerous substances (household cleaners, medicines etc.) have child resistant closures they can be left around, because children cannot open them.						
4. To guarantee the safety and health of the work environment is a task of the employer.						
5. Helmets are not protective if they are not properly adjusted.						
6. Warm-up before participating in sports increase performance but it doesn't necessarily reduces injury risk.						
7. Smoke detectors decrease the injury risk in private homes						
8. The certification that a toy meets the safety standards is valid also below the recommended age for which the toy is meant.						
9. Use of some prescribed or over the counter drugs may increase the risk of injuries.						
10. If a trip lasts less than 5 hours it is not suggested the driver to stop and have a break.						

2. Please, answer the following ten questions based on the scale that you see on the right side, by writing a X for each question that expresses your opinion	NOT AT ALL	A LITTLE	MODERATE	ENOUGH	VERY MUCH	DON'T KNOW
1. How important it is to take into consideration the age of the child when buying a toy for him/her?						
2. How dangerous it is for someone to use the mobile phone while driving?						
3. How important it is that the employer files reports on occupational accidents and injuries in the context of occupational injuries prevention?						
4. How necessary it is to make modifications in a house that live elderly people, in order to be safe?						
5. How important it is that parents to check if the swimming pool meets the safety standards, before encouraging children to go there?						
6. How important it is for someone to warm-up muscles and stretch before participating in a football match?						
7. How dangerous it is to somebody to drive if he/she has drunk 2 glasses of alcohol but feels good to drive?						
8. How dangerous it is if someone smokes in the bedroom?						
9. How important it is for someone to pay attention on the way that stores products (e.g. food, household cleaners)?						
10. How important it is for somebody to use seat belts even if he/she is going for a short trip?						

APPENDIX 14: Evaluation presentation of the ECAI (see attachment)