

cast



# CAST campaigns

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# WP5 – Pan-European Campaign

- **What?**
  - design and implement a pan-European road safety campaign
  - according to the recommendations in the CAST manual
  - as a practical test of the manual
  - possible themes: fatigue or driver distraction (emerging issues)
- **Where?**
  - Belgium and Greece
- **Partners**
  - UTh (Greece)
  - IBSR-BIVV (Belgium)

# WP5 - Getting started

- **Available data on fatigue and distraction per country**
  - **No registration of fatigue as factor in accident statistics in Greece and Belgium**
  - **Only international studies available: fatigue = major factor in 10-20 % of accidents, growing awareness**
  - **until present, no large-scale campaigns on fatigue in Belgium or Greece**
- **Survey on fatigue**
  - **to have more detailed information on the situation**
    - **risk awareness**
    - **self-reported behaviour**
    - **target groups**
    - **countermeasures**

- **Survey results – Belgium**
  - face-to-face questionnaire, 615 car drivers
  - risk perception: “fatigue” = 4<sup>th</sup> factor (after speeding, alcohol, drugs) - “inattention” = 8<sup>th</sup>
  - self-reported behaviour: 1/3 has driven while too tired over last 12 months
    - higher rates for men, 18-34 aged, professional drivers, social upper class
  - popular countermeasures: fresh air, listen to music, park & rest, coffee
  - 1/3 do not know what to do to reduce fatigue
  - information / awareness raising is considered most appropriate measure



- **Survey results – Greece**
  - **telephone questionnaire, 1002 drivers**
  - **fatigue ranks 8<sup>th</sup> out of 10 accident factors**
  - **58% have experienced fatigue while driving (at least 1x/yr)**
  - **countermeasures: park & rest (45%), coffee (20%), do not know (19%), other (18%)**
  - **awareness raising is one of the most appealing methods**

# WP5 - Situation analysis

- **Literature review on fatigue**
  - **fatigue deteriorates driving behaviour**
    - semi-automatic mental process
    - compensatory strategies not sufficient to eliminate risk
  - **fatigue is quite frequent**
    - over 50% of private drivers at least 1x/year
    - young drivers & professional drivers: increased risk
  - **fatigue increases crash risk**
    - 17 h awake = 0,05 BAC
  - **countermeasures may be directed at drivers, transport companies, roads and vehicles**

# WP5 - Situation analysis

- **Literature review: theoretical models that explain problem behaviour**
  - **all drivers are able to recognize when they feel sleepy, despite this many of them keep driving**
  - **main reasons for continuing driving:**
    - **poor understanding of crash risk > inaccurate knowledge**
    - **underestimating transition speed between fatigue and sleep > incorrect perception**
    - **no history of fatigue-related accidents > belief based on personal experience**
    - **choosing to ignore warning signs > risk-taking**
    - **pressure to reach destination > motivation**
    - **no perceived threat of penalty**



# Belgian campaign

- **Target audience**
  - **18-25 year old car drivers, mainly men**
    - **high risk group due to lifestyle (ERSO)**
    - **more vulnerable to effects of fatigue (ERSO + UK Dept for Transport)**

- **Main behaviour predictors for target audience**
  - **Qualitative pilot study (Belgium)**
    - personal perceptions & motivations of 18-25 year old car drivers (20 individuals)
      - knowledge of general risk is OK, but personal risk apprehension not always present
      - knowledge is applied for long journeys, not for short distances / known itineraries
      - problem concentrated in early morning (after night out)
      - main motivation: get home asap to sleep  
> emotional + socially influenced
      - social threshold for safe behaviour should be removed

# WP5 - Situation analysis

- **Theoretical framework**
  - **Protection Motivation Theory (PMT)**  
motivation is directly related to  
threat appraisal and coping appraisal



# WP5 - Campaign design

- **Campaign strategy**

- increase threat appraisal by
  - influencing beliefs on personal vulnerability
- **increase coping appraisal** by
  - increasing response efficiency by providing knowledge about effective countermeasure (powernap)
  - decreasing response costs by removing social threshold to perform safe behaviour



# WP5 - Campaign design

- **Objectives**

- **Knowledge**
  - **effective solution (> response efficiency)**
- **Beliefs**
  - **Effectiveness of other solutions (> response efficiency)**
  - **Getting home is important (> response costs)**
  - **Opinion of friends/relatives (> response costs)**
  - **Risk apprehension (> severity, vulnerability)**
- **Behavioural intentions (> protection motivation)**
- **Self-reported behaviour**



# WP5 - Campaign design

- **Central message**
  - if you feel tired, take a powernap!
- **Timing: 12 Nov – 14 Dec 2008 (4 weeks)**
- **Campaign elements**
  - radio spots (youngsters' stations, weekend nights), 3 weeks
  - online campaign: website with information + online game
  - giveaway: PITSTOP package
  - small posters in IBSR network (youth clubs,...)
  - information leaflet
  - PITSTOP door hangers
  - field actions: sleep-ins + volunteer network
- **Partners: EC, AXA Bank and Insurance, Q8, Road Safety Volunteer Network**



# WP5 - Evaluation design

- **Evaluation**

- **formative evaluation: qualitative pre-test**
- **process evaluation:**
  - **objective exposure (number of messages distributed)**
  - **subjective exposure (number of messages received in target audience)**
- **outcome evaluation:**
  - **Knowledge (> response efficiency)**
  - **Beliefs (> response efficiency, response costs, severity, vulnerability)**
  - **Behavioural intentions (> protection motivation)**
  - **Self-reported behaviour**
  - **Method: before / after measurement (online survey, quasi-experimental design with comparison group)**

## Sample characteristics

- **Total sample (drivers, 18+): 1.203**
- **Drivers 18-25: 598**
- **49% male (N=589), 51% female (N=614)**

# WP5 - Results

## Exposure

- **1750 radio broadcasts**
- **20.000 leaflets**
- **15.000 posters**
- **15.000 door hangers**
- **10.000 pitstop kits**
- **Website: ca. 25.000 unique visitors – ca. 5.500 pitstop kits distributed**
- **14 terrain actions – ca. 4.500 pitstop kits distributed**

## Recall

- **33 % recall at least 1 campaign element (18-25, N=598)**
  - **radio spot: 60% - website: 14% - pitstop kit: 12%**

## Appreciation

- **Campaign visuals (N=340)**
  - **Original: 65%**
  - **Eye-catching: 63%**
  - **Attractive: 61%**
- **Campaign message (N=340)**
  - **Very clear: 83%**
  - **Credible: 82%**
  - **Informative: 78%**
  - **Realistic: 69%**

## Knowledge

Best solution against fatigue (18-25, N=598)

	Before	After
Powernap	22%	30%



## Beliefs

Other remedies against fatigue (18-25, N=598)

	Before	After
Short pause	21%	24%
Opening window	24%	18%
Talk to passengers	15%	12%
Radio	13%	11%
Coffee	5%	5%



# WP5 - Results - Outcome

## Beliefs

(18-25, N=598)

	Before	After
Get home asap is most important	56%	55%
Friends/family expect me to take a powernap	59%	58%
I will take a powernap even if friends/family disapprove	47%	50%
Safe parking place could convince me to take a pitstop	68%	72%

## Risk apprehension

(18-25, N=598)

	Before	After
Fatigue increases accident risk	70%	73%
I am less at risk than the others	32%	27%
I am a better driver than the others, even when tired	24%	27%



## Intended behaviour

(18-25, N=598)

Next time I feel tired...

	Before	After
Short pause	27%	24%
Powernap	21%	24%
Open window / turn on radio / talk to passengers	36%	32%



## Self-declared behaviour

(18-25, N=598)

Over the past month, I have taken a powernap...

	Before	After
Yes	10%	10%
No	39%	37%
Not applicable because no fatigue	51%	53%

# WP5 - Results - Conclusions

- **High recall (especially radio)**
- **High appreciation**
- **Increased knowledge of effective solution**
- **Moderate decrease in beliefs about other solutions**
- **No change in beliefs about personal motivations or social threshold**
- **Most important barrier: feeling of unsafety on parkings**
- **Slight increase in personal vulnerability to threat (partial)**
- **No change in intended behaviour for effective solution**
- **Decrease in intended behaviour for other solutions (partial)**
- **No change in self-declared behaviour**

- **Lessons for follow-up campaigns?**
  - **Focus on personal motivations /social threshold**
  - **Focus on safe locations for power nap**



# Greek campaign



- **Target audience**

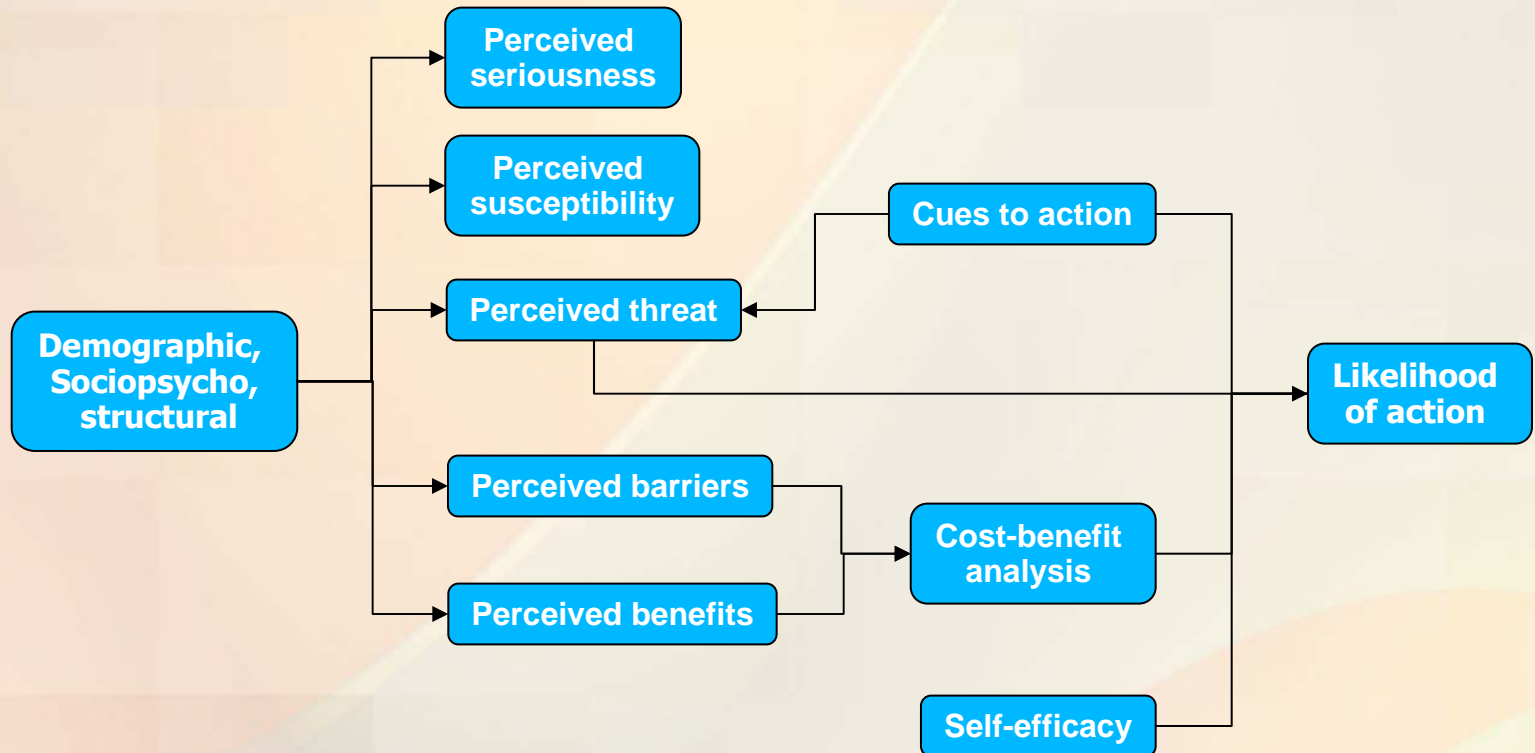
- **primary target group: professional drivers**
  - high risk group identified in international literature (ERSO)
  - important number of offences committed by professional drivers, large number of accidents
  - driving many hours affects driving capabilities
- **secondary target group: all drivers**
  - long distance driving



- **Theoretical framework**

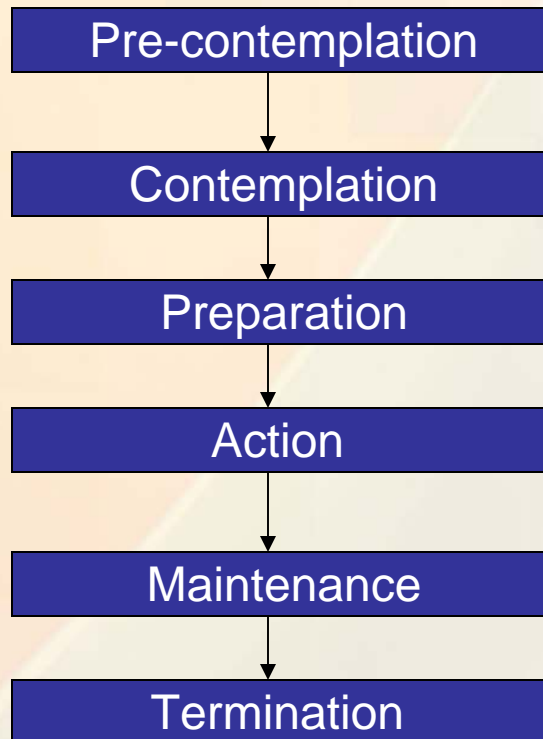
- **Health Belief Model (HBM)**

**the desire to avoid negative health consequence = key motivator for positive action**





- **Transtheoretical model of change (TMC)**





- **Campaign strategy**

- **Increase awareness on** (*pre-contemplation stage*):

- seriousness

- susceptibility

- threats

- benefits

- **Affect self-efficacy** (*contemplation stage*):

- accept warning signs

- minimize risk-taking

- **Increasing likelihood of action** (*preparation, action, maintenance, termination stages*):

- influencing perceived threats

- influencing perceived benefits



- **Objectives**

**Primary**

- **Observed behaviour**
- **Accidents (attention!)**

**Secondary**

- **Knowledge**
- **Beliefs**
- **Risk apprehension**
- **Behavioural intentions**
- **Self-reported behaviour**



- **Central message:**
  - **Sleep, but not at the wheel!**
- **All messages:**
  - **What causes fatigue**
  - **Signs of fatigue**
  - **Behaviour of driver under status of fatigue**
  - **Countermeasures**
  - **False action**



- **Campaign elements**

- **TV Spot (14 national stations, once/twice per day, 5 weeks)**
- **Radio Spot (39 national stations, once/twice per day, 5 weeks)**
- **Insertions (7 national newspapers, 11 publications, 5 weeks)**
- **Leaflets (600.000 copies, 3 toll stations, 2 public transport authorities, universities, clubs, cafes, 5 weeks)**
- **Posters (1800 copies, all urban public transport terminals and vehicles, 2 drivers' associations, 5 weeks)**
- **On-line campaign: website with information and campaign materials**



- **Action plan**
  - **Category of activities (spots, leaflets, etc)**
  - **Media channels (radio & TV stations, organizations, associations, etc)**
  - **Exposure (number of messages, frequency, duration, etc)**
  - **Timing**
  - **Ratings (Gross Rating Point) – Reach – OTS (Opportunity To See)**

# WP5 - Campaign design



# WP5 - Campaign design



## A SLEEPY DRIVER HAS

- Weak judgment
- Difficulty in making a choice
- Delayed reflection in unexpected situations
- Inability in foreseeing the outcome of his/her own actions
- Difficulty in comprehending complicated road and traffic conditions
- Tendency to ignore information that does not seem important to his/her
- Lack of acceptance that his/her fatigue affects his/her driving
- A possibility of falling asleep, even if he/she thinks he/she can control it

If you ignore the signs of sleepiness, there is a severe possibility that you drift into "micro-sleep", meaning a brief nap that lasts for about 3-5 seconds.

**Most of the accidents occurring on the highways are attributed to the "micro-sleep".**

At 100 km/hr that corresponds to a distance of 100 meters and long enough time to get you off the road or make you run into the opposing traffic, and get involved into an accident.



Communication Sponsors



## SLEEP BUT NOT AT THE WHEEL



# WP5 - Campaign design



Fatigue is one of the main reasons affecting safe driving. The road accidents that have been caused by drivers who fell asleep on the wheel, are fatal, since the driver is not in a position to react (apply the brake, change course of travelling etc.). Good a priori trip scheduling and proper countermeasures to fatigue may minimize the possibilities of an accident occurrence and ensure a safe trip for everybody.

## REASONS THAT CAUSE SLEEPINESS

- Getting less sleep than normal, or poor sleep
- Long driving hours
- Variable work schedule, overtime, night shifts etc.
- Sleep disorders
- A heavy meal before driving
- Alcohol or drug consumption
- A monotonous itinerary
- Too high or too low cabin temperature
- Bad cabin ventilation
- Poor physical condition

## HOW IT IS DETECTED

- Difficulty in keeping your eyes open and staying in focus
- Difficulty in keeping your head up
- Frequent yawning
- Lack of concentration and inattention
- Drifting of the lane
- Last moment corrections of the steering
- Inability in remembering driving for the last kilometres
- Your passengers complaints about your driving



## COUNTERMEASURES TO SLEEPINESS

- Start your trip after having gotten a good (night, preferably) sleep, for at least 7 hours
- Don't get big meals before travelling
- Don't consume alcohol before you drive, especially if you are already tired. Fatigue increases the effect of alcohol in the body
- Try to avoid driving during the hours that your body clock is set to sleep
- Prefer to have a companion driver. He/she can warn you about your sleepiness, and replace you in driving, if necessary
- Take short rest breaks, every two hours
- If you feel tired while driving, get off the next exit to a service area and take a power nap for 15-30 minutes
- Coffee stimulates alertness, but cannot substitute sleep. It becomes effective 1/3 an hour after it is consumed and reduces sleepiness for up to 2-3 hours. This time is even less if one is a regular caffeine consumer.
- Especially, if you are a professional driver, a good trip scheduling, with getting adequate resting before driving, and taking short breaks every two hours of driving, ensures a safe trip

## REMEMBER

Winding down the window and turning up the volume of your radio or stereo do not help substantially in the elimination of sleepiness.

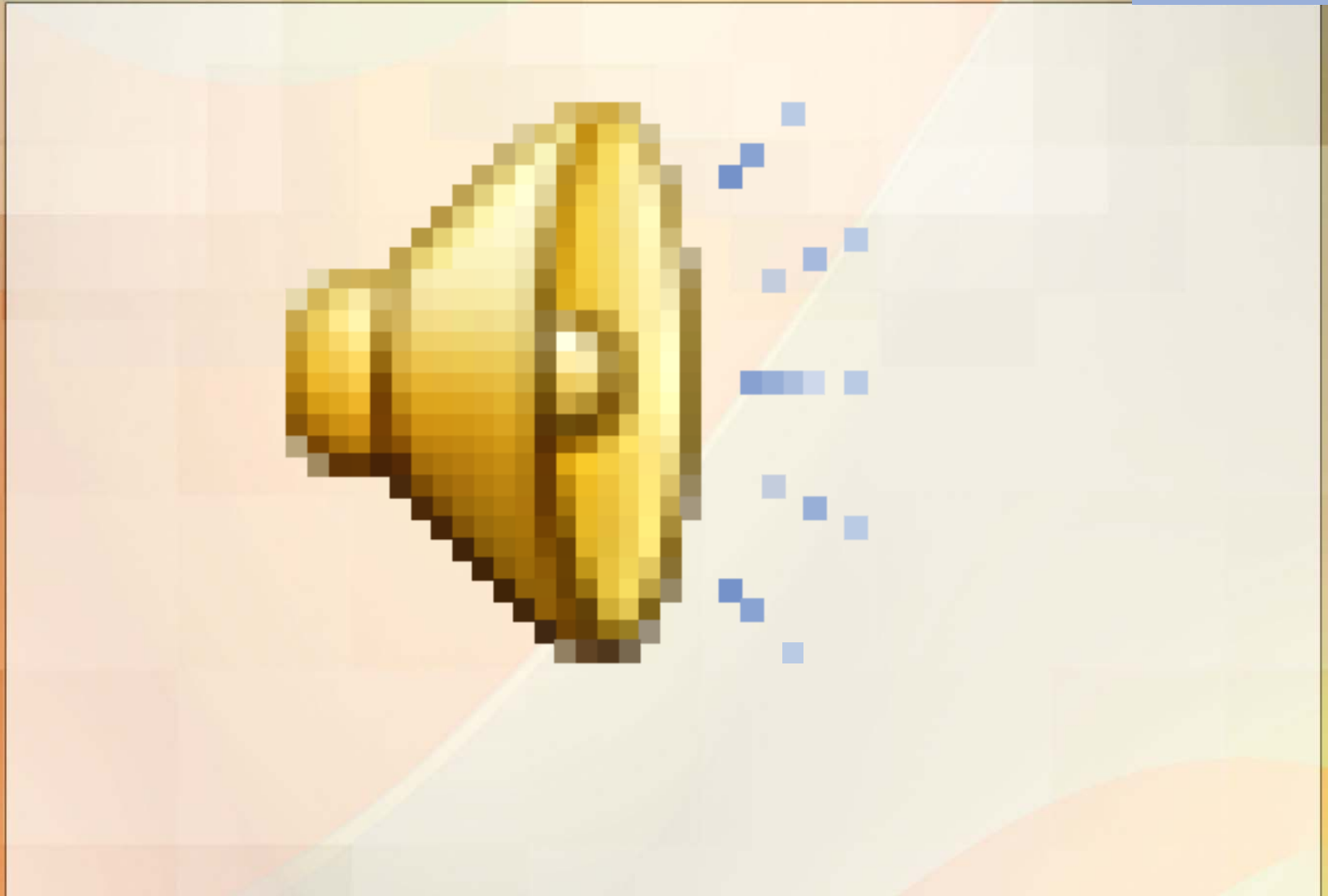


**The most appropriate countermeasure is sleep!  
Get a good night's sleep before your drive.  
If you feel tired while driving, stop at a safe  
rest area and take a 15-30 minutes power nap.**

# WP5 - Campaign design



# WP5 - Campaign design





- **Evaluation**

- **process evaluation:**

- objective: number of messages, frequency, duration, timing**

- subjective: reach, awareness, recognition and recall, appreciation, message take out**

- **outcome evaluation: self-reported data on: knowledge, beliefs, risk comprehension, behavioural intentions, behaviour**

- **Design: One or more groups before-during-after evaluation design**



## Sample characteristics

### 1) Sample size

Professional drivers: 1000

Other drivers: 1000

### 2) Sample gender

Professional drivers: male 100%

Other drivers: male 70%  
female 30%

### 3) Proportion of drivers having faced fatigue while driving: 8-15%

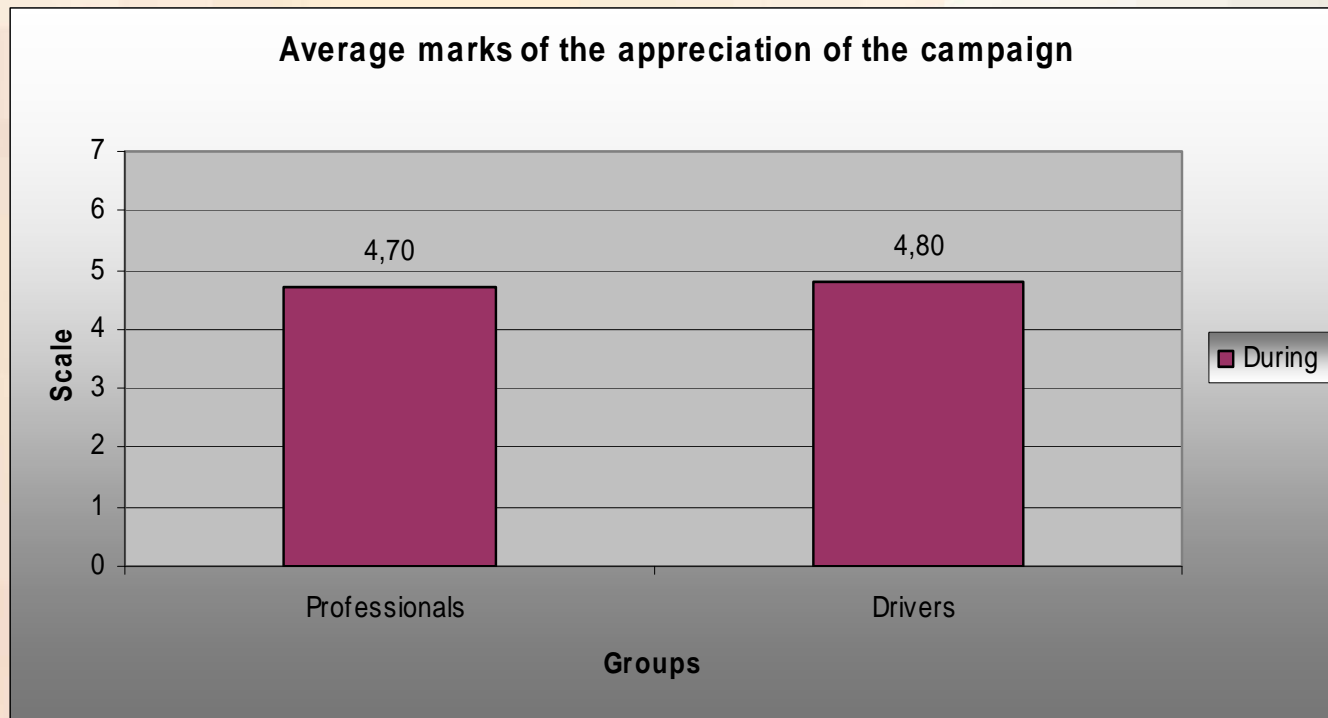


## Exposure

- **630 TV broadcasts**
- **1700 radio broadcasts**
- **11 insertions**
- **600.000 leaflets**
- **1800 posters**

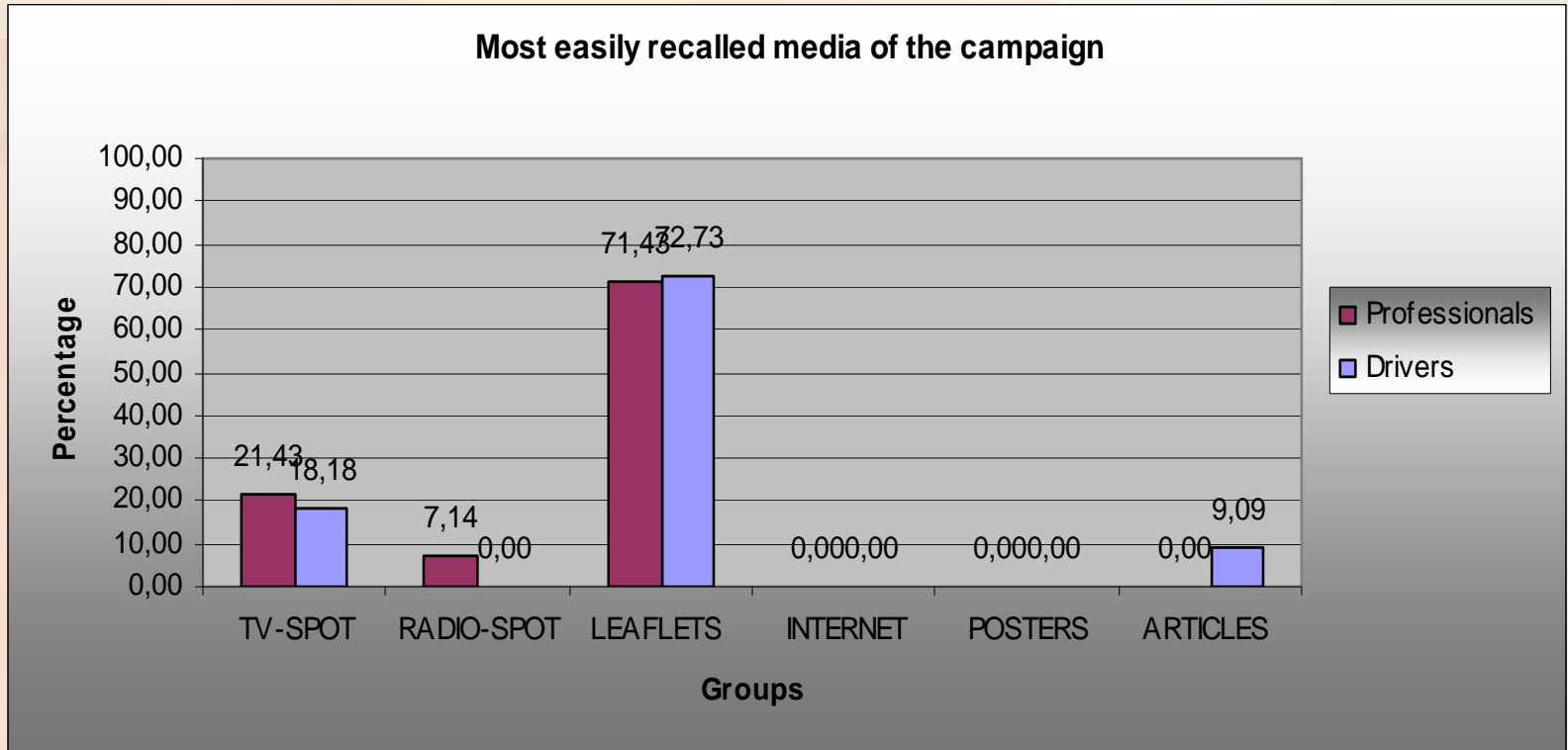


## Appeal





## Recognition





## Knowledge

No change

## Beliefs

Confidence level 95%, Degrees of freedom, df=398

Variable	Groups	N-population	Average	St-Deviation	t-value	P-value
To stop and rest for 15 minutes is the best solution to fatigue	Before	200	6.52	0.98	-2.957	0**
	During	200	6.79	0.77		
To plan my trip is a good solution to driving fatigue	Before	200	6.25	1.26	-2.765	0**
	During	200	6.67	0.93		

\*\*  $p < 0.001$ , \*  $p < 0.05$



## Risk comprehension

Confidence level 95%, Degrees of freedom, df=398

Variable	Groups	N-population	Average	St-Deviation	t-value	P-value
If you drive tired, how great is the risk that you will be involved in an accident?	Before	200	6.25	1.16	-2.226	0.004*
	During	200	6.49	0.99		

\*\*  $p < 0.001$ , \*  $p < 0.05$



## Intentions

Confidence level 95%, Degrees of freedom, df=398

Variable	Groups	N-population	Average	St-Deviation	t-value	P-value
I intend to stop and rest when tired in the next month	Before	200	6.03	1.39	-3.894	0**
	During	200	6.5	0.98		
I intend to plan my trips in the next month	Before	200	5.69	1.62	-1.630	0.126
	During	200	5.93	1.44		
How likely is that you will follow other countermeasures when tired in the next month?	Before	200	4.93	1.68	1.451	0.285
	During	200	4.69	1.76		
How likely is that you will drive even if you feel tired in the next month?	Before	200	3.44	1.82	1.560	0.601
	During	200	3.16	1.77		

\*\*  $p < 0.001$ , \* ,  $p < 0.05$



## Self-reported behaviour

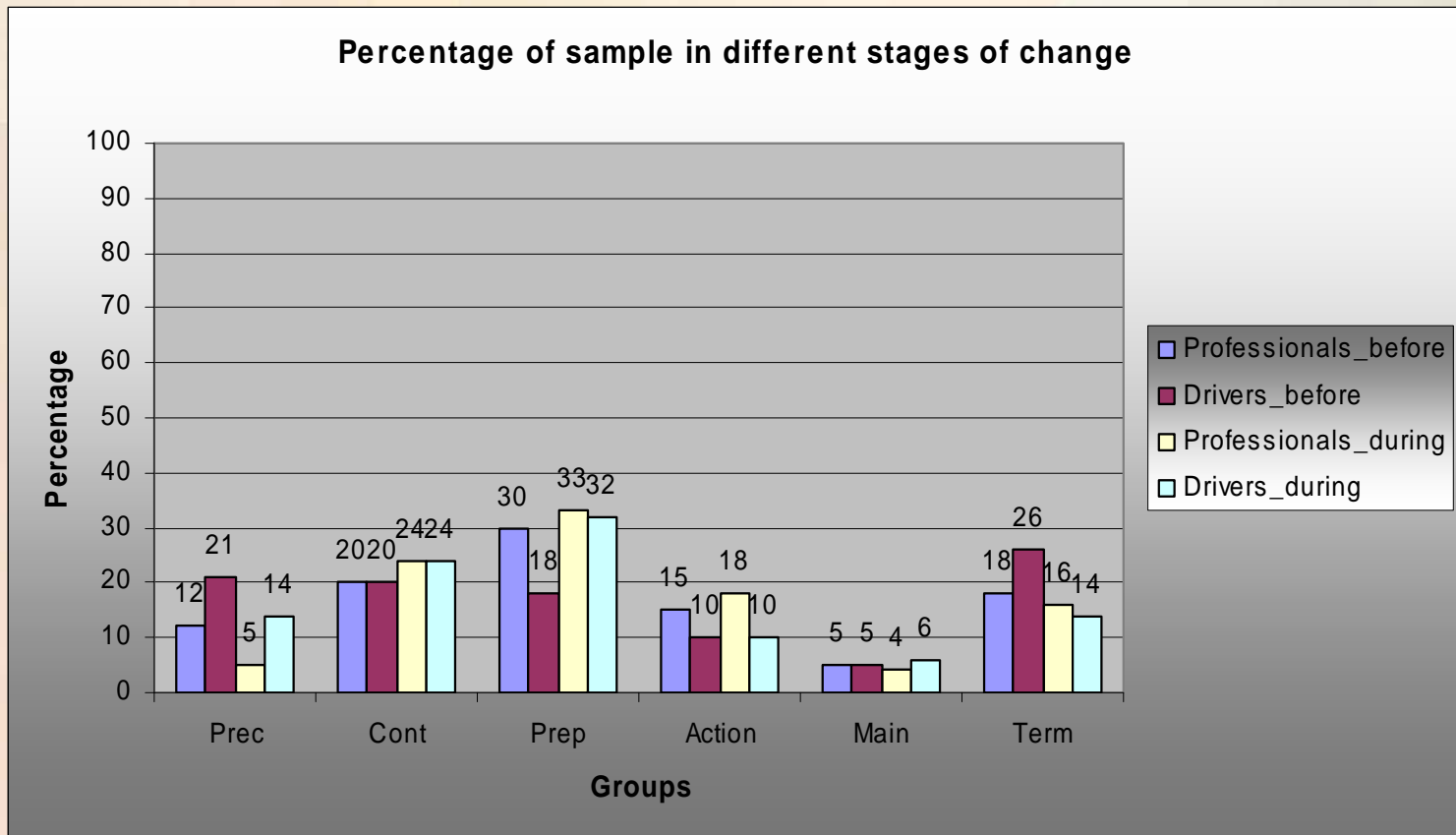
Confidence level 95%, Degrees of freedom, df=398

Variable	Groups	N-population	Average	St-Deviation	t-value	P-value
When I get tired while driving, I stop and rest	Before	200	5.86	1.64	-4.455	0**
	During	200	6.23	1.2		
When I get tired while driving, I drink coffee	Before	200	4.69	1.9	1.765	0.264
	During	200	4.36	1.86		
When I get tired while driving, I listen to music	Before	200	4.96	1.78	-0.030	0.309
	During	200	4.95	1.59		
When I get tired while driving, I talk to passengers	Before	200	4.87	1.87	2.172	0.110
	During	200	4.45	1.99		

\*\* p<0.001, \*, p<0.05



## Transtheoretical model of change



# WP5 - Results - Conclusions



- **The appreciation level of the campaign was relatively high**
- **The most easily recalled media channel was the distribution of the leaflets**
- **Significant changes were indicated in Beliefs and Risk Comprehension**
- **The campaign affects drivers mainly at the preparation stage for behavioural changes**

# WP5 – Conclusions regarding Manual

- **Generally able to follow framework & recommendations**
- **Encountered problems:**
  - **availability of data**
    - **no accident stats, no observed behaviour measurements > no possibility to make direct link with problem behaviour**
    - **no published results on previous campaigns**

# WP5 – Conclusions regarding Manual

- **Encountered problems:**
  - **timing**
    - necessary to squeeze different steps together / perform steps simultaneously, not successively
    - rules concerning official bids may lengthen the procedure
    - searching for sponsors may take a long time (6 months or more) > influences budget > influences campaign elements...
  - **research and evaluation**
    - important budgets are needed (€ 30.000 minimum for before/after measurement)
    - not always easy to convince partners

# WP5 – Conclusions regarding Manual

- **Encountered problems:**
  - **budget restrictions**
    - no quantitative survey to determine behaviour predictors (BE), only qualitative pilot
    - no quantitative pretest, only qualitative (BE)

# Thank you!

**More information:**

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