Project No. TREN-05-FP6TR-S07.61320-518404-DRUID

DRUID
Driving under the Influence of Drugs, Alcohol and Medicines

Integrated Project
1.6. Sustainable Development, Global Change and Ecosystem
1.6.2: Sustainable Surface Transport

6th Framework Programme
Deliverable 5.2.1

Good Practice: In-Depth Analysis on Recidivism Reasons & Analysis of Change Process and Components in Driver Rehabilitation Courses

Due date of deliverable: 14.10.2007
Actual submission date: 18.07.2008

Start date of project: 15.10.2006
Duration: 48 months
Organisation name of lead contractor for this deliverable: Austrian Road Safety Board
Revision 2.0

Project co-funded by the European Commission within the Sixth Framework Programme (2002-2006)		
Dissemination Level		
PU	Public	X
PP	Restricted to other programme participants (including the Commission Services)	
RE	Restricted to a group specified by the consortium (including the Commission Services)	
CO	Confidential, only for members of the consortium (including the Commission Services)	

6th Framework Programme
Deliverable 5.2.1

Good Practice:
In-Depth Analysis on Recidivism Reasons & Analysis of Change Process and Components in Driver Rehabilitation Courses

Status: Restricted to other programme participants

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Date: 18th July 2008

Project Funded by the European Commission under the Transport RTD Programme
of the 6th Framework Programme

Acknowledgments

The DRUID WP5 team thanks the following persons for their support in realizing the feedback study in their respective countries. These were:

Judit Aranyos (HU)
Annick Billard (FR)
Ilona Butler (PL)
Su Buttress (UK)
Don DeVol (DE)
Max Dorfer (IT)
Josefine Hill (DE)
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Klaus-Peter Kalwitzki (DE)
Ludo Kluppels (BE)
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Alexandra Ochs (DE)
Lily Read (UK)
Irina Schmidt (DE)
Wolfgang Schubert (DE)
Doris Stengl-Herrmann (DE)
Rob van Beekum (NL)
Ulrich Veltgens (DE)
Horst Ziegler (DE)

The DRUID WP5 team thanks the following persons for their support in realizing the recidivism study at the KfV in Austria. These were:

Brigitte Hirschegger (AT)
Gregor Kobelkoff (AT)
Jakob Leitner (AT)

Methodological evaluations were carried out by EPS,
Elisabeth Ponocny-Seliger (AT)

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List of Abbreviations

AAK	Breath Alcohol Concentration, AT
ART2020	Act & React Testsystem, AT
AT	Austria
ANDREA	Analysis of driver rehabilitation programmes
BAC	Blood alcohol concentration
BASt	Bundesanstalt für Straßenwesen (Federal Highway Research Institute), DE
BE	Belgium
BMVIT	Ministry of Traffic, Innovation and Technology, AT
DA	Driver assessment
DE	Germany
DR	Driver rehabilitation
DR2	Test on reaction behaviour
DUI	Driving under influence of alcohol
DUID	Driving under influence of (illicit) drugs
DWI	Driving while impaired/intoxicated
e.g.	exempli gratia (Latin): for example
EC	European Commission
EU	European Union
EUR	Euro
FR	France
FRF	Questionnaire measuring risk proneness
FSG	Führerscheingesetz (Austria Driving Licence Law), AT
FSG-GV	Führerscheingesetz-Gesundheitsverordnung (Driving Licence Health Act), AT
FSG-NV	Nachschulungsverordnung (Driving Licence Rehabilitation Act), AT
GB	Great Britain
GEMAT	Test on memory capacity
g/ml	gram per millilitre
HU	Hungary
IBSR	Institut Belge pour la Sécurité Routière (Belgian Road Safety Institute), BE
i.e.	id est (Latin): that is
INRETS	Institut National de Recherche sur les Transports et leur Sécurité (National Institute for Transport and Safety Research), FR
IT	Italy
ISCO	International Standard Classification of Occupations
KfV	Kuratorium für Verkehrssicherheit (Austrian Road Safety Board), AT
KUK	Course and client data bank, AT
LL5	Test on visual structuring ability
MAT	Test on non-verbal intelligence
mg/ml or mgs/mls	milligram(s) per millilitre(s)
NL	the Netherlands
p	p-value
PL	Poland
Q1	Test on concentration capacity
RH	Rehabilitation
RST3	Test on reactive stress resistance
SAP	Systems, Applications & Products in Data Processing
SENSO	Test on sensomotor coordination

TAAK	Test for alcohol conspicuous drivers
TT15	Test on traffic specific overview
TTM	Transtheoretical Model of Change
UK	United Kingdom
VIP	Traffic-specific item pool
VPT2	Traffic-specific related personality questionnaire
VPU	Verkehrspsychologische Untersuchung (traffic psychological assessment), AT
WP	Work Package

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Executive Summary

Introduction

Work Package 5 (WP5) of the integrated EU research project DRUID (Driving under the Influence of Drugs, Alcohol and Medicines) deals with rehabilitation of substance impaired drivers. The overall aim of WP5 is to increase knowledge and to elaborate Europe-wide standards on intervention measures for offenders under the influence of alcohol (DUI) and for drivers under the influence of illicit drugs (DUID) whereby the entire group of DUI/DUID is included.

The research activities in WP5 are carried out in two steps. In WP5 task 1 (WP5.1) a comprehensive overview on the state of the art is provided. This activity is already finished and the outcomes are documented in Deliverable 5.1.1.

WP5 task 2 (WP5.2) focuses on good practice as regards DR (driver rehabilitation) for DUI and DUID offenders. Thereby, the following four research activities can be distinguished:

1. In-depth analysis on reasons for recidivism of drivers under the influence of psychoactive substances who participated in DR programmes.
2. Analysis of existing quality management systems established along with DR schemes.
3. Development of an evaluation instrument for best practices.
4. Validation of existing DR schemes.

The deliverable at hand is the result of the investigations in WP5.2.1 (In-depth analysis on reasons for recidivism of drivers under the influence of psychoactive substances who participated in DR programmes) and closes all research actions in this part.

Four partners of WP5 were involved:

- Austrian Road Safety Board (KfV), Austria
- Belgian Road Safety Institute (IBSR/BIVV), Belgium
- Federal Highway Research Institute (BASt), Germany
- National Institute for Transport and Safety Research (INRETS), France.

Research structure

The conduction of the research in WP5.2.1 was carried out in two parts:

- Part I: In-depth analysis on recidivism reasons
- Part II: Analysis of change process and components in driver rehabilitation courses.

Both parts refer to the in-depth analysis on DR measures. The study on reasons for recidivism (part I) provides insight into the contributing factors and risk profile for non-successful DR course participation. In addition, the analysis of change process and components in driver rehabilitation courses (part II) focuses on the different stages and processes as well as on the key elements of change based on a large European sample. In this part recidivists, i.e. offenders with a second time DR course participation as well as an overall participant feedback are considered as well.
While the recidivism study is a retrospective data analysis, the analysis of changes study is a prospective questionnaire survey. Both studies are in line with the general DRUID demand to provide results with a strong empirical basis (Bukasa, 2007).

Part III: It comprises overall results, discussion and conclusion and summarizes the main outcomes of both studies and discusses its implications for good practice.

Methodology

Part I: In-depth analysis on recidivism reasons
Due to availability of data, the exploratory study on recidivism reasons is restricted to DUI offenders with a BAC of 1.6‰ or more who are usually classified as high risk offenders.
A case-control study design was realized whereby recidivists (i.e. drivers with a BAC of 1.6‰ or more, having participated in a DR course, yet underwent another DR course due to a subsequent DUI offence within a time period of about five years) were compared with a matched control group of non-recidivists (i.e. drivers with a BAC of 1.6‰ or more, a DR course as a consequence of this offence, but no second DR course in the defined time frame) regarding their traffic psychological DA (driver assessment) data. DA is obligatory in case of a BAC of 1.6‰ or more DUI offence and independent from the obligation to participate in a DR course in Austria.
Data analyses on uni- and multivariate level (group comparisons and regression analysis) were carried out.

Part II: Analysis of change process and components in driver rehabilitation courses
The analysis of change process and components in driver rehabilitation courses is carried out by means of a questionnaire survey with DR course participants. The questionnaire was developed within the WP5 team based on a theoretical framework, namely the TTM (Transtheoretical Model of Change from Prochaska & DiClemente, 1984), supplemented by the Diamond of Change (created by the WP5.2 research team). The latter considers the key elements contributing to a change in DR courses. In this study, a subgroup analysis of recidivists and an evaluation of the overall course assessment carried out by the participating offenders were conducted as well. The theoretically based approach of the questionnaire survey allowed a one-time data collection at the end of the DR intervention. DUI and DUID offenders were included.
A prospective cohort design was realized with a data collection in several Member States.
Data were analysed by means of conventional statistical measures and by means of group comparisons for the entire European sample and for each European country separately.

Results

Part I: In-depth analysis on recidivism reasons
A sample of n=303 recidivists and a matched control-group of n=303 non-recidivists were identified.
Group comparisons on univariate level reveal 20 significant differences between study and control group. On multivariate level, six of them show predictive value in a regression analysis additionally.
Based on the entire results, the following risk profile of DUI offenders who might not profit from a DR course can be deduced:

- Having high BAC levels at the current offence or refusing the breath test
- Having additional prior drink-driving or already several DUI offences (i.e. not the first one) and consequently having longer suspension periods of driving licence
- Having an habitual drinking pattern in the past and in spite of past or current abstinence periods having an increased alcohol tolerance, thus having also felt less impaired at the actual DUI offence
- Denying or not having any alcohol related health problems, being a smoker and being less aware of own health issues

- Showing a more unrealistic self-perception and less self-reflection whereby alcohol related risks in traffic are underestimated
- Not living in a partnership
- Being assessed as having an enhanced re-offence risk by a qualified expert (traffic psychologist).

As concerns the non-successful DR course participation of the re-offenders, the study results reveal that recidivists strongly tend to ignore or underestimate their problematic alcohol consumption pattern and their enhanced probability of re-offences in traffic, especially as they support large quantities of alcohol without feeling impaired, do not show any significant decreases in traffic related performance aspects and do not experience alcohol related health problems. This all together strengthens the recidivist's (false) conviction that they can control their alcohol consumption and above all that they can separate drinking and driving reliably. The recidivists entered the first (obligatory) DR course with this problem constellation and obviously were not yet ready to carry out the necessary changes or in case they started changes to keep them going on.

Part II: Analysis of Change Process and Components in Driver Rehabilitation Courses
Data from a total sample of n=7889 DR course participants were collected, thereof n=7339 from DUI and n=550 from DUID offenders. Nine Member States (Austria, Belgium, France, Germany, Great Britain, Hungary, Italy, the Netherlands, Poland) participated in the questionnaire survey. Thereby, all countries included DUI course participants. Only Germany – due to relevant numbers – was in the position to include DUID course participants as well.

The following main results were obtained:

TTM stages and processes
According to their assessments, both, DUI and DUID course participants can successfully complete all stages of change. In the 10 TTM scales (consciousness raising, dramatic relief, environmental re-evaluation, self re-evaluation, social liberation, self-liberation, stimulus control, counter conditioning, helping relations and reinforcement management) the results of the entire European DUI sample range from 1.39 to 1.92 and of the DUID sample from 1.58 to 1.93 (1=agree completely, 2=agree mostly, 3=disagree mostly, 4=disagree completely).
Thereby, the outcomes reveal that participation in a DR course especially brings about behavioural change processes (mean assessment score of 1.50 in the entire European DUI sample and of 1.69 in the DUID sample) compared to the realization of cognitive affective processes (mean assessment score of 1.69 in the entire European DUI sample and of 1.83 in the DUID sample).

Diamond of Change key elements
Based on the DUI and DUID offenders' assessments, all five key elements of the Diamond of Change highly contribute to change within DR courses, above all the participant-trainer relation, but also the other components, namely the individual, the methods, the contents and the participant-participant relation (mean assessments range from 1.37 to 1.67 in the entire European DUI offender sample and from 1.42 to 1.97 in the DUID sample).

Overall course evaluation
Both target groups evaluate the entire DR course in a very positive way. About 95% of all European DUI offenders who participated in this study assess the DR course as good or very good. Only about 2% rate the course as bad or very bad (about 3% are missing data). About 90% of the DUID offenders judge the entire DR course as good or very good. Only about 6% assess the intervention as bad or very bad (about 4% are missing data).

Sub-group analysis of recidivists

Regarding recidivists the outcomes show that both subgroups, namely DUI course participants with a prior drink-driving offence and those with a prior DR course could profit from course participation as well. They pass the different TTM stages of change as successfully as non-recidivists whereby their results are even indicating a slightly stronger change in some aspects. This refers to getting insight into the problem behaviour on an emotional and rational level, how it affects oneself and the environment, being able to establish new behaviour and to keep it in, thereby using self-rewarding strategies.

Concerning the key elements of change all of them are important for the change process of recidivists as well, especially the trainer-participant relationship as this was the case for the entire DUI and the DUID sample in general. Besides, drivers with prior drink-driving offences emphasised stronger the influence of the individual as well as of the method on the change process compared to non-recidivists.

In line with the results of the entire DUI group and the DUID participants, recidivists with prior drink-driving convictions as well as recidivists who already participated once in a DR course (but re-offended) asses the overall DR course as having been good or very good, too.

Conclusions

Based on the results of both empirical studies the following practical implications were deduced:
DUI recidivists differ in several aspects from non-recidivists which influence their readiness to change. This enhanced recidivism risk can be identified in the course of driver assessment.
In principal, DR courses can be an adequate measure for recidivists as well as they can profit from a second course in the same extent than non-recidivists.
An assignment procedure for certain high risk recidivism groups (e.g. DUI drivers with a re-offence in a defined time period, DUI drivers with a very high BAC at the first offence) can clarify the adequate DR intervention. This can be done in the course of driver assessment.
DR courses can target on DUI and DUID offenders. Yet, the matching of both target groups in one and the same DR intervention should be avoided as they do not only differ regarding the drug and its legality/illegality but also in relevant socio-demographic and offence related aspects.
The psychological/psychotherapeutic/educative intervention concept, carried out in a group setting within this study and lead by a specially qualified trainer with psychological background seems to be adequate for DR courses.
No gender specific DR courses are necessary as both males and females can profit from this intervention, although the vast majority of DR course participants are male. Specific courses according to further socio-demographic variables, e.g. age, do not seem necessary as well.
DR courses can be applied throughout Europe as this measure was very positively evaluated across different Member States and due to the similar change effects obtained despite more or less differences of assignment and realization of this measure in single European countries.

These results will be considered in the next working activities in WP5.2.2 on the development of an integrated evaluation instrument for DR measures and the validation of existing DR schemes including final recommendation in WP5.2.4.

Introduction

Importance of research documented in this deliverable

The task of Work Package 5 (WP5) of the integrated EU research project DRUID (Driving under the Influence of Drugs, Alcohol and Medicines) is a comprehensive evaluation of driver rehabilitation (DR) measures for the entire group of drink-driving (DUI) and drug-driving (DUID) offenders. The overall aim of WP5 is to increase knowledge and to elaborate Europe-wide standards on intervention measures for this problem group.

While the research in WP5 task 1 on the state of the art as regards DR of DUI and DUID offenders is already closed (see Deliverable 5.1.1), the activities in WP5 task 2 dealing with good practice of this measure are still going on.

The deliverable at hand is the result of the investigations in WP5.2.1 (In-depth analysis on reasons for recidivism of drivers under the influence of psychoactive substances who participated in DR programmes) and closes all research actions in this part.

Four partners were involved in the research activities of WP5.2.1:

- Austrian Road Safety Board (KfV), Austria
- Belgian Road Safety Institute (IBSR/BIVV), Belgium
- Federal Highway Research Institute (BASt), Germany
- National Institute for Transport and Safety Research (INRETS), France.

Research activities in WP5.2.1

Annex I of the DRUID Core Contract describes the research activities in 5.2.1 one as follows:

In-depth analysis on reasons for recidivism of driver under influence of psychoactive substances who participated in RH-programmes. The empirical analysis will combine information from different tools, above all data on traffic relevant personality and attitudes, traffic relevant performance data, socio-demographical and driving related data, data from driver assessment and fitness-to-drive decision, variables from RH-course attendance (number of participants, gender, age) and physiological markers. Furthermore, information derived from interviews/questionnaires with different drivers driving under influence of psychoactive substances focussing on major aspects of successful vs. non-successful course participation will be gathered (p. 101).

In order to cover the above mentioned topics, two empirical studies were carried out:

- In-depth analysis on recidivism reasons: This study with repeated DR course participants explores possible contributing factors for recidivism in a group of high-risk DUI offenders. This research is based on the according data of the KfV in Austria.
- Participant feedback study: This questionnaire survey investigates the change process and course success factors from the course participants' (DUI and DUID offenders') point of view. The investigation is carried out in several Member States.

Structure of deliverable WP5.2.1

Deliverable 5.2.1 “Good practice: In-Depth Analysis on Reasons for Recidivism & Participant Feedback Study” contains two research parts: A re-analysis of existing data on DUI offenders who participated in a DR course for the second time due to a repeated drink-driving offence (I) and an actual feedback survey in several European countries with course participants who underwent this measure due DUI or DUID offences (II).

Thus, both research activities deliver essential information on WP5.2 good practice.

The structure of the deliverable will be as follows: In-Depth Analysis on Recidivism Reasons (I) and Participant Feedback Study (II) will be separate parts. Introduction and overall discussion/conclusions (III) will be carried out for both studies.

I. In-depth analysis on recidivism reasons

Birgit Bukasa (KfV), Ulrike Wenninger (KfV), Elisabeth Ponocny-Seliger (EPS), Eveline Braun (KfV), Simone Klipp (BASt)

1. Summary of outcomes on recidivism reasons according to literature analysis in WP5.1

In order to consider the prior research activities in WP5 on this issue, the findings on recidivism from the literature analysis carried out in WP5.1 on the State of the Art on Driver Rehabilitation are mentioned at first. Chapter 1.2 in the according deliverable 5.1.1 focussed on general characteristics on recidivists. This analysis included socio-demographic variables and their impact on recidivism, consumption habits regarding alcohol and/or drug use and recidivism risk, driving history as a predictor of recidivism, personality characteristics connected to recidivism, stages of change and recidivism risk as well as the concept of the “hard core” drinking driver.

Deliverable 5.1.1 summarizes the outcomes in this chapter as follows (p.270-p.271):

“Special attention is drawn to the identification of characteristics of the high risk group of recidivists.

***Characteristics of DUI/DUID recidivists**. Even though the results of the recidivism review seem confounding regarding several aspects, most studies remain clear regarding the following risk factors:*

1. *Prior driving records: driving history is a variable often found to most strongly differentiate between those who will re-offend and those who will not. The higher the amount of prior records, the higher the recidivism risk;*
2. *Gender: males are of higher risk to drive under the influence of alcohol or drugs and they are of higher risk to re-offend;*
3. *Age: drug and alcohol re-offenders tend to be significantly younger at the first offence than those who do not re-offend;*
4. *Education: less educated drivers have a higher risk to be re-convicted for alcohol or drug driving offences.*

It can be stated that special attention should be given to those drivers who combine multiple of the clearly identified risk factors, because according to all scientific knowledge the more risk factors an individual features, the higher the recidivism risk.”

2. Research motivation and aims of the study

In general, drivers with a BAC of 1.6‰ or more are classified as high risk offenders. According to Krüger, Kazenwadel & Vollrath (1995) they have a ¼ higher accident risk. Schützenhöfer & Krainz (1997) analysed the accidents of DUI offenders with different BAC levels at the first case and found that 29.5% of the group with a BAC of 1.6‰ or more had the highest accident rate compared to 13.8% of drivers with a BAC up to 1.19‰ and 26.8% of drivers with a BAC between 1.2‰ and 1.59‰. Moreover, the drivers with a BAC of 1.6‰ and more had the highest recidivism rate, namely 40.2%, while the recidivism rates of drivers with a BAC between 0.8‰ and 1.19‰ and with a BAC between 1.2‰ and 1.59‰ were 31.0% respectively 30.4%.

These facts on drivers with a BAC of 1.6‰ or more led to the decision to focus on this safety critical group. The actual study deals with DUI offenders with repeated DR course participation. It is an

explorative study on potential risk factors for repeated drink-driving offences after the participation in DR courses, derived from data of traffic psychological driver assessment (DA). Yet, it is no evaluation study on the effectiveness of DR courses in general (for this issue see the literature review in Deliverable 5.1.1), but it may provide relevant information on specific variables which need to be paid attention to within the rehabilitation process.
The overall aim of this research is to get a more profound insight into contributing factors for recidivism of a high risk DUI group and thus a better understanding of success or non-success factors of DR courses.
This research is carried out by the WP5.2 partner KfV only.

3. Legal situation in Austria regarding DR and DA

3.1 Linkage between DR and traffic psychological DA

In Austria, according to the Driving Licence Health Act -FSG-GV (BMVIT, 2002), drivers with a BAC of 1.6 ‰ (respectively 0.8 mg/l AAK) or more have to undergo a law enforced traffic psychological DA for the fitness to drive decision as their health-related fitness to drive is no longer given. Thus, for the individual offender, a prerequisite of regaining the driving licence is a positive decision regarding his or her health-related fitness to drive. This decision has to be made by the medical doctor of the (regional) licensing authority whereby the traffic psychological DA serves as a decision aid.
Additionally, this group of drivers who are out of the driving licence on probation period, but with a BAC of 1.6‰ or more is obliged to participate in a DR course according to the Driving Licence Rehabilitation Act – FSG-NV (BMVIT, 2001) regardless the outcomes of the traffic psychological DA (all offenders from 1.2‰). Drivers within the licence on probation period are obliged to undergo a DR course in case of a BAC of more than 0.1‰, whereby the probation period is prolonged for one more year.
In case of another drink-driving offence within 5 years, offenders out of the driving licence on probation period with a BAC of 0.8‰ or more and offenders within the probation period with a BAC level of more than 0.1‰ have to attend another DR course, but prolonged by an additional session.
DR and traffic psychological DA services can be offered by one and the same organisation, provided that the institution is authorized for both activities by the Austrian Ministry of Traffic, Innovation and Technology (BMVIT). Only a separation on the personal level is required, i.e. the responsible psychologist in this organisation is not allowed to lead the driver rehabilitation course with the same offender whom he or she examined in DA. Regarding either DR or DA, the offender him- or herself has the free choice of organisation. A detailed description of the legal system on DR and DA in Austria is included in Deliverable WP5.1.1 on the state of the art.

3.2 Contents and requirements of traffic psychological DA

According to the Driving Licence Health Act - FSG-GV (BMVIT, 2002), driver assessment is a comprehensive traffic psychological examination which covers traffic related performance and willingness to adapt to traffic regulations. Regarding traffic related performance, the following dimensions have to be examined: visual perception and observation capacity, concentration capacity, reaction capacity regarding speed and accuracy of reaction as well as stress resistance, sensomotor coordination, intelligence and memory capacities. Regarding willingness to adapt to traffic, safety oriented personality dimensions and attitudes have to be examined, above all social responsibility, self-control, emotional stability, willingness to take risks, tendency towards aggressive interaction in road traffic, traffic-related norm acceptance, critical deviation from the norm regarding emotional relation to cars. Moreover, an exploration is carried out with the offender. Thereby, socio-

demographic, traffic- and offence-related information as well as information regarding future drinking and driving behaviour is gathered. The exploration is carried out by an authorized traffic psychologist (Bukasa, 2000).
The results of the traffic psychological DA are documented in a traffic psychological expertise according to standards laid down in a guideline (BMVIT, 2003).

4. Concept of the study

4.1 Study design

Due to the legal situation in Austria regarding drink-driving, data for the following two groups are available and thus can be analysed:

1. DUI offenders with a BAC of 1.6‰ or more, who consecutively participated in a DR course but had to undergo another DR course (with one session more) due to a new drink-driving offence, in case of drivers out of the probation period with a BAC of 0.8‰ or more and in case of drivers within the probation period with a BAC of more than 0.1 ‰ ➔ study group.
2. DUI offenders with a BAC of 1.6‰ or more, who consecutively participated in a DR course, but had no new DUI offence ➔ control group.

As all offenders scoring a BAC of 1.6‰ or more have to undergo a traffic psychological DA, the outcomes of these examinations documented in the traffic psychological expertise are available for the study and control group and serve as information source for the analyses.

The observation period of five years is chosen not only to have sufficient numbers of recidivists, but also because three to five years are common follow-up periods in follow-up studies. As the KfV is not only the organisation which developed DR in Austria, but is still a major provider for traffic psychological services in this country, a huge data base of traffic psychological DA expertises for the observation period of five years is available.

In a case-control study design the results of the traffic psychological expertises of both groups can be compared. Thereby, the group with a BAC of 1.6‰ or more and with a second DR course is the study group whereas the group with a BAC of 1.6‰ or more, but with one DR course participation only, serves as the control group. The study group will be labelled “recidivists” or “recidivism group”, while the control group will be called “non-recidivists”, “non-recidivism group” or just “controls”.

4.2 Limitations of the study

The study does not investigate recidivists of the entire group of DUI offenders, but is limited to those in the BAC category of 1.6‰ or more. Moreover, only 1.6‰ or more offenders at the first offence are included. Moreover, data analysis is restricted to those offenders who underwent the DA at the first offence and at least the second DR course at the KfV.

Due to data protection reasons and missing permission by the responsible authority it was impossible to analyse the recidivists’ data of all Austrian DUI offenders from the central driving licence registry, which would have included all providers offering DR and traffic psychological DA services in Austria.

Nevertheless, due to interviews (conducted orally and in written format) with the traffic psychological DA/DR clientele and due to the long-term experience with this target group, it can be observed that

offenders often attend both measures at one and the same organisation (here the KfV). This statement concerns also repeat offenders.

5. Description of DA data

The KfV, the Austrian Road Safety Board, does not only look back upon decades of tradition in traffic psychological DA, but also upon a long-term experience in the development of the according traffic-psychology measurement and testing instruments. The ART2020 test system – Act & React Testsystem is the actual generation of traffic psychological test devices for the DA target group, (Bukasa, Brandstätter & Wenninger, 1997), developed by KfV and daily applied in DA in all regional offices of the KfV all over Austria. Moreover, this test system is applied in many organisations in other European Member States (e.g. Germany, Hungary, Italy), but also in Non-member States (e.g. Switzerland, Turkey).

The ART2020 test system combines science and practice. It is based on traffic psychology research and includes experience from daily driver assessment. It provides highly standardized and objective procedures, guarantees test fairness and has a high user acceptance (Wenninger, 2001). The tests are specially designed to measure the above mentioned traffic-relevant performance and personality dimensions and meet the scientific requirements regarding reliability, norms and validation (Brenner-Hartmann & Bukasa, 2001). All ART2020 tests are validated regarding traffic safety criteria, above all regarding negatively conspicuous behaviour in real traffic (Bukasa 1999, Bukasa & Piringer 2001, Bukasa et al. 2003). At present, the norm sample comprises up to 47.000 drivers of DA at the KfV.

5.1 Traffic specific performance tests

In order to assess the traffic specific performance, the following ART2020 standard test battery is applied:

- MAT – Non-verbal intelligence test
  The test is a screening of logical reasoning, understanding of rules and causal relations.
- Q1 – Test of attention under monotonous conditions
  This test measures continuity of attention regarding quantitative and qualitative aspects.
- LL5 – Test for visual structuring ability
  The test examines dynamic perception functions in a complex visual environment under time pressure.
- TT15 – Test for traffic specific overview
  This test checks visual orientation capacity in a traffic environment under high time pressure.
- DR2 - Test for decision and reaction behaviour in a dynamic driving environment
  The test examines traffic related reaction speed and accuracy.
- RST 3 – Test for reactive stress tolerance
  The test measures resistance to work load determined by different speed levels and information processing complexity.
- SENSO - Test for sensomotor coordination
  The test records traffic-specific eye-hand-foot coordination under free choice and pre-given speed.
- GEMAT – Visual memory test
  This test examines non-verbal short term recall functions.

5.2 Traffic specific personality tests

The traffic specific personality test battery comprises the following questionnaires:

- VPT2 – Traffic related personality test
  This multidimensional questionnaire covers the factors 'openness of self-description (OS)', 'social expressivity – self-confidence (ES)', 'social adjustment (AP)', 'emotional engagement (ES)', 'self control (SK)', 'self-reflection (SR)'.
- FRF – Questionnaire for risk proneness
  The test factors are 'willingness for physical risks (FRF1)', 'willingness for social risks (FRF2)', 'willingness for financial risks (FRF3)'.
- VIP – Traffic-related item pool
  This test consists of the dimensions 'orientation at social expectations (SE)', 'uncritical self-perception (US)', 'aggressive interaction (AI)', 'emotional relationship to car and driving (EA)'.
- TAAK – Test for alcohol conspicuous drivers
  The scales refer to 'alcohol specific dissimulation (DS)', 'information deficits on alcohol-specific issues (ID)', 'awareness of alcohol-specific risks (GF)', 'alcohol-specific norm acceptance (NA)', 'attitudes favouring alcohol consumption (AE)', 'influence of alcohol-related social environment (AU)'. This test was specifically developed for the (non-addicted) DUI clientele in traffic psychological DA at the KfV. The included dimensions represent most relevant contributing factors to DUI offences. The statements were developed by KfV traffic psychologists working in DA and DR whereby the clientele's sayings and expressions, especially during DR courses were taken into account.

5.3 Traffic psychological exploration

The personal interview focuses on traffic-relevant aspects that are laid down in the guidelines for the composition of traffic psychological expertises (BMVIT, 2003). This comprises the following areas:

- Socio-demographic background
  This refers to aspects such as age, gender, education, occupation.
- Traffic-related aspects
  Variables, such as duration of holding a driving licence in years, annual driving distance and necessity of using a car for work are included.
- DUI offence related aspects
  Information on number of DUI offences, alcohol amount at the offence(s), accident, feeling of impairment, etc. is gathered.
- Alcohol and drug/pharmaceutical related variables
  This refers to aspects such as prior and current habitual alcohol consumption, increased alcohol tolerance, change of drinking habits, health problems, prior periods of abstinence, over- or underestimation of the amount of alcohol consumed and enhanced danger of recidivism risk are included.

6. Composition of sample

6.1 Identification of relevant subjects

Due to the observation period of five years, two consecutive data banks with persons having attended a traffic psychological DA and DR at the KfV had been administered and stored. These data bank systems served as sources for the identification of subjects to be included in the study:

- KUK data bank

This data bank contains the data of all drivers having been assessed and having participated in a DR course at the KfV between 2002 to November/December 2005. Regarding DR the recorded data concerned: location, course, name and surname of client, date of birth, type of course, name of the course, course leader, beginning and end of course, assigning authority, BAC level. Further included individual-related data were: confirmation of registration, date, invitation, payment form, referral form, invoice, success yes/no.
Concerning traffic psychological DA the following data were recorded: Name, date of birth, business code (includes year, code for province, case number), assessor, referring authority, reason for assessment.

- SAP data bank
  The SAP data bank provides the traffic psychological DA and DR client data since November/December 2005. Regarding DR the following data were included: order number, name and surname of client, date of birth, client code, date of course, material code, BAC level.
  Concerning traffic psychological DA the following data were available: order number, name and surname of client, date of birth, client code, date of course, material code, and BAC category.

6.2 Selection of study and control group

Based on the KUK and/or SAP data bank data the identification and further selection process for the study and control group was carried out as follows:

1. Identification of subjects who fulfilled the criteria of the study group.
2. Identification and organisation of traffic psychological DA expertises of the study group subjects; most of them were available in an electronic format.
3. Identification of the entire pool of subjects who fulfilled the criteria of the control group.
4. Composition of the control group out of the above pool, taking additional matching criteria in the following priority order into account: 1. federal state, 2. gender, 3. age, 4. education, 5. migration background and 6.assessing psychologist.
5. Identification and organisation of traffic psychological DA expertises for the matched control group subjects.

6.3 Data input

Data from the above mentioned areas (traffic relevant performance, personality and exploration) were extracted from the traffic psychological DA expertises of the study and control group. These data were inserted in separate data files (excel format) for further data processing.

Regarding traffic relevant performance and personality variables measured by ART2020, data were available on objective score level (raw scores, percentage ranges) as well as on interpretative level (carried out by the assessing traffic psychologist). Regarding data from explorations and expertises, qualitative categories were defined by the involved DRUID team members if necessary. In total, nearly 90 variables were considered for the analysis. All variables are listed in the Annex.

7. Methodology

7.1 Matching of the study and control group

First the data (all quantitative and qualitative variables) of all subjects of the study group (drivers with a BAC level of 1.6‰ or more, a related DR course and another DR course in the time period between

January 2002 and September 2007 (see 7.1.1) were inserted into a new data bank. In a next step the group was segmented following the matching variables 1. federal state, 2. gender, 3. age, 4. education, 5. migration background and 6. assessing psychologist. The KUK and SAP data banks entailing a total of around 7000 possible control drivers were segmented according to the above mentioned matching variables. Out of the group of possible perfectly matching control drivers per segment one was selected randomly serving as the 'test-twin'. In case no group or driver perfectly matching all variables could be identified - which was the case only for age and education – the age interval of the 'control segment' was widened to ± 5 years. If it was still impossible to find a 'test-twin', the education category was extended by one step. This process led to a perfect match for all subjects of the study group. The concordance between all categorical matching variables (1., 2., 4., 5., and 6.) was evaluated using the Kappa-coefficient (κ), between the only continuous matching variables – age – by means of the Pearson correlation (r). Generally for a κ>.7 and an r>.8 concordance may be considered satisfactory.

7.2 Statistics

Conventional descriptive statistical measures were calculated, namely the absolute frequencies and percentages in case of categorical variables and mean ± standard deviation, minimum and maximum in case of continuous variables. Quartiles (Q1, Q2=md, Q3) were calculated as well but only displayed in the context of cut-off results for comparison of the outcomes of recidivists and non-recidivists.

Due to the successful matching process the sample was considered as a "paired one"; consequently statistical tests for paired samples were used. In case of continuous variables such as e.g. the test scores, groups were compared using the paired-sample t-test or the exact Wilcoxon-test, the latter in case the difference score was skewly distributed. For categorical data e.g. cut-off scores, study and control group were compared using the exact McNemar test for dichotomous variables or the exact McNemar-Bowker test for variables entailing more than 2 categories.
Nevertheless some of the qualitative variables could only be coded for parts of either the study or control group, which would have resulted in a considerable loss of information when using paired comparisons. Therefore for variables entailing more than 20% missing in each group, study and control groups were considered independent and Fisher-Exact tests were applied. To identify possible predicting variables for the study and control group stepwise binary regression models have been applied. The effect of co-linearity was controlled by exclusion of predictors whose variance inflation factor was 10 or more. Each predictor set was cross-validated by using both a forward and a backward algorithm. For all regression models Nagelkerkes-R2, the overall-significance of the model, odds-ratios (OR) together with their confidence intervals (CI 95) and significances of the predictors as well as the percentage of correct predictions (hits, i.e. correctly predicting the study groups vs. correct rejections, i.e. correctly predicting the control group) are given.

All statistical analyses were performed using SPSS 15.0 including the Exact-test module and R. Generally all results are discussed at an error level of 5% but due to a possible inflation of the error type I - because of multiple testing - only p-values <.001 may be considered strong indicators.

8. Results

8.1 Description of sample

8.1.1 Study group

In the time period between January 2002 and September 2007 a sample of n= 7011 DUI offenders with a BAC of 1.6 ‰ or more were found in the KfV data banks (see 6.1). Thereof n=303 recidivists were identified.

Regarding gender 95.7% (n=290) of the recidivist group are male and 4.3% (n=13) are female. The average age is 38.4 years ranging from 19 to 66. Although recidivists of all Austrian provinces are identified, most of them came from Styria (20.5%) followed by Tyrol (18.8%), Lower Austria (16.5%) and Upper Austria (15.5%). Less frequent recidivists were found in the provinces Vienna (8.3%), Salzburg (5.0%), Burgenland (3.6%) and Vorarlberg (2.6%). The descriptive data on the study group are included in Table 1.

Table 1: Description of the recidivist group

Variable		Categories
Age, years (%)		Mv=38.4, Sd=10.3, Min=19.0, Max=66.0
Gender, n (%)		Male=290 (95.7%), Female=13 (4.3%)
Austrian province, n (%)	Burgenland	11 (3.6%)
	Carinthia	28 (9.2%)
	Lower Austria	50 (16.5%)
	Upper Austria	47 (15.5%)
	Salzburg	15 (5.0%)
	Styria	62 (20.5%)
	Tyrol	57 (18.8%)
	Vorarlberg	8 (2.6%)
	Vienna	25 (8.3%)
Total number, n		303

Mv=mean value, Sd=standard deviation, Min=minimum, Max=maximum

8.1.2 Control group

From the n=7011 DUI offenders who were found in the time period between January 2002 and September 2007 in the KfV data banks (see 6.1) n=303 non-recidivists were identified showing a very good fit regarding the regarding the matching criteria with the study group (see 7.1). For the parallelisation variables province, age, gender and education the concordance coefficient (κ) was highly significant (see Table 2). Regarding the last parallelisation criteria, the diagnostician, a 100% match was realized. Thus, study and control are almost identical regarding the matching criteria.

Table 2: Concordance of recidivist and non-recidivist group regarding matching criteria

Variable		Recidivists	Non-Recidivists	Statistic	p-value
Total number, n		303	303		
Austrian province, n (%)	Burgenland	11 (3.6%)	11 (3.6%)	κ=1	<.001***
	Carinthia	28 (9.2%)	28 (9.2%)		
	Lower Austria	50 (16.5%)	50 (16.5%)		
	Upper Austria	47 (15.5%)	47 (15.5%)		

Variable		Recidivists	Non-Recidivists	Statistic	p-value
	Salzburg	15 (5.0%)	15 (5.0%)		
	Styria	62 (20.5%)	62 (20.5%)		
	Tyrol	57 (18.8%)	57 (18.8%)		
	Vorarlberg	8 (2.6%)	8 (2.6%)		
	Vienna	25 (8.3%)	25 (8.3%)		
Age, years		Mv=38.4, Sd=10.3 Min=19.0, Max=66.0	Mv=37.9, Sd=10.4 Min=18.0, Max=68.0	T_{301}=3.68 R=.979	<.001*** <.001***
Gender, n (%)	Male	290 (95.7%)	290 (95.7%)	κ=1	κ=1
	Female	13 (4.3%)	13 (4.3%)		
Education, n (%)	No	3 (1.0%)	0 (0.0%)	κ=.782	<.001***
	Compulsory	34 (11.2%)	27 (8.9%)		
	Apprenticeship	218 (71.9%)	250 (82.5%)		
	A-level	27 (8.9%)	20 (6.6%)		
	Academic	7 (2.3%)	5 (1.7%)		
	Missing	14 (4.6%)	1 (0.3%)		
Job (ISCO-88), n (%)	0…armed force	2 (0.7%)	1 (0.3%)	‡	.465
	1…professional	3 (1.0%)	1 (0.3%)	κ=.118	<.001***
	2…academic position	3 (1.0%)	2 (0.7%)		
	3…technicians & associate professional	19 (6.3%)	20 (6.6%)		
	4…clerk	23 (7.6%)	29 (9.6%)		
	5…service, shop & market sales worker	31 (10.2%)	34 (11.2%)		
	6…skilled agricultural & fishery worker	11 (3.6%)	11 (3.6%)		
	7…craft & related trade worker	122 (40.3%)	116 (38.3%)		
	8…plant & machine operator & assembler	9 (3.0%)	9 (3.0%)		
	9…elementary occupation	15 (5.0%)	11 (3.6%)		
	Unemployed	37 (12.2%)	36 (11.9%)		
	self-employed	13 (4.3%)	11 (3.6%)		
	Retirement	10 (3.3%)	17 (5.6%)		
	sick-leave	1 (0.3%)	1 (0.3%)		
	maternity-leave	1 (0.3%)	0 (0.0%)		
	articled	1 (0.3%)	2 (0.7%)		
	Housewife	1 (0.3%)	0 (0.0%)		
	Missing	1 (0.3%)	2 (0.7%)		
Migration background, n (%)…..……	no	285 (94.1%)	286 (94.4%)	κ=.909	<.001***
	yes	18 (5.9%)	17 (5.6%)		
Total number, n		303	303		

Mv=mean value, Sd=standard deviation, Min=minimum, Max=maximum; ***…p<.001
‡=Fisher-ExactTest

8.2 Comparisons of recidivists and non-recidivists regarding DA data

In the first step of data analysis, univariate group comparisons regarding differences in DA data between recidivists and non-recidivists were carried out. Due to missing data, the sample sizes are reduced in certain cases.

8.2.1 Differences in socio-demographic and driving experience related variables

The evaluation of socio-demographic and driving record related variables reveal some differences between the study and control group.

8.2.1.1 Partnership

Recidivists are less often living in a partnership than non-recidivists (see Table 3).

Table 3: Partnership status of recidivist and non-recidivist group

Variable	Recidivists	Non-Recidivists	Statistic	p-value
Partner, n (%).....no	134 (44.2%)	108 (35.6%)	κ=.029	.618
yes	142 (46.9%)	192 (63.4%)	McNemar	.005**
Missing	27 (8.9%)	3 (1.0%)		
Total number, n	303	303		

**…p<.01

8.2.1.2 Driving licence on probation

Concerning the driving licence on probation status, no differences are found between the two groups (see Table 4). In general, drivers who are still in the licence on probation period are a very small segment – less than five percent - of the entire recidivist sample.

Table 4: Driving licence on probation status of recidivist and non-recidivist group

Variable	Recidivists	Non-Recidivists	Statistic	p-value
Driving licence on probation, n (%)…….no	290 (95.7%)	293 (96.7%)	‡	.260
yes	13 (4.3%)	9 (3.0%)		
missing	0 (0.0%)	1 (0.3%)		
Total number, n	303	303		

‡=Fisher-ExactTest

8.2.1.3 Moped licence with 16 years

No significant differences between the recidivists and non-recidivists are found as regards the moped driving licence (see Table 5). In general, the number of recidivists who made a moped licence with 16 years is very small.

Table 5: Motor-scooter driving licence with 16 of recidivist and non-recidivist group

Variable	Recidivists	Non-Recidivists	Statistic	p-value
Moped licence with 16, n (%)……..…no	296 (97.7%)	288 (95.0%)	‡	.124
yes	7 (2.3%)	13 (4.3%)		
missing	0 (0.0%)	2 (0.7%)		
Total number, n	303	303		

‡=Fisher-ExactTest

8.2.1.4 Years of holding driving licence class B

Concerning the duration of holding a driving licence class B, there are highly significant differences between both groups (these data only cover the time period prior to the traffic psychological DA in case of a BAC of 1.6‰ or more offence): Recidivists have a significantly shorter possession period (about two years in average) compared to the non-recidivists (see Table 6).

Table 6: Duration of holding a driving licence of recidivist and non-recidivist group

Variable	Recidivists	Non-Recidivists	Statistic	p-value
Driving licence B, years	Mv=16.1, Sd=10.1 Min=0.7, Max=66.0	Mv=18.4, Sd=10.3 Min=0.1, Max=50.3	T_{295}=6.757	<.001***
Total number, n	297	302		

Mv=mean value, Sd=standard deviation, Min=minimum, Max=maximum; ***…p<.001

8.2.1.5 Annual mileage

The annual mileage with all types of vehicles does not differ significantly between the recidivists and non-recidivists, whereby both groups are characterized by extensive driving experience (see Table 7).

Table 7: Annual mileage of recidivist and non-recidivist group

Variable	Recidivists	Non-Recidivists	Statistic	p-value
Annual driving record, km	Mv=21985.0, Sd=15917.4 Min=1000.0, Max=90000.0	Mv=22390.7, Sd=14293.8 Min=1500.0, Max=70000.0	T_{270}=.115	.908
Total number, n	280	291		

Mv=mean value, Sd=standard deviation, Min=minimum, Max=maximum

8.2.1.6 Need of car for work

The necessity of using a vehicle for professional reasons does not differ significantly between the study and control group (see Table 8). However, due to the high number of missing data on this issue the result is based on a rather small sample.

Table 8: Need of car for work of recidivist and non-recidivist group

Variable	Recidivists	Non-Recidivists	Statistic	p-value
Need of car for work, n (%)…..……..no	23 (7.6%)	33 (10.9%)	‡	.871
yes	52 (17.2%)	82 (27.1%)		
missing	228 (75.2%)	188 (62.0%)		
Total number, n	303	303		

‡=Fisher-ExactTest

8.2.2 Differences in traffic-specific performance tests

Eight traffic-specific performance tests were included in the analysis: LL5, TT15, DR2, RST3, Q1, SENSO, MAT, GEMAT. The tests are described in 5.1.

As the following Table 9, Table 10, Table 11, Table 12, Table 13, Table 14, Table 15, Table 16 show, there are no significant differences between the recidivists and non-recidivists in any of the performance tests (only the outcomes of the higher order paired sample analyses are documented).

As these outcomes reveal recidivists do not show worse traffic related performance compared to non-recidivists. Taking the high matching fit of the control group into account it can be deduced from the results that recidivist's alcohol consumption did not cause chronical performance impairments yet.

Table 9: Visual perception (LL5)

Variable	Recidivists	Non-Recidivists	Statistic	p-value
Total	Mv=30.2, Sd=5.8	Mv=29.5, Sd=6.0	T_{244}=1.540	.125
% Incorrect	Mv=3.0, Sd=4.7	Mv=3.5, Sd=5.1	T_{244}=1.043	.298
Total number, n	245	245		

Mv=mean value, Sd=standard deviation, Min=minimum, Max=maximum

Table 10: Traffic-specific overview (TT15)

Variable	Recidivists	Non-Recidivists	Statistic	p-value
Correct	Mv=34.7, Sd=3.9	Mv=34.5, Sd=3.7	T_{231}=.776	.438
Total number, n	232	232		

Mv=mean value, Sd=standard deviation, Min=minimum, Max=maximum

Table 11: Reaction behaviour, particularly speed and accuracy of decision and reaction (DR2)

Variable	Recidivists	Non-Recidivists	Statistic	p-value
Decision Time	Mv=0.6, Sd=0.1	Mv=0.6, Sd=0.1	T_{241}=.488	.626
Reaction Time	Mv=0.8, Sd=0.1	Mv=0.8, Sd=0.1	T_{241}=.818	.414
Decision Errors	Mv=1.6, Sd=2.0	Mv=1.4, Sd=1.5	T_{241}=1.313	.191
Reaction Errors	Mv=0.2, Sd=0.7	Mv=0.2, Sd=0.6	T_{241}=.228	.820
Omissions	Mv=0.2, Sd=8.8	Mv=0.2, Sd=0.6	T_{241}=1.004	.316
Total number, n	242	242		

Mv=mean value, Sd=standard deviation, Min=minimum, Max=maximum

Table 12: Reactive stress-resistance (RST3)

Variable	Recidivists	Non-Recidivists	Statistic	p-value
Stage 1				
Correct	Mv=106.5, Sd=3.7	Mv=106.3, Sd=3.5	T_{244}=.379	.705
% Delayed	Mv=2.2, Sd=3.8	Mv=2.6, Sd=3.6	T_{244}=1.183	.238
% Incorrect	Mv=1.7, Sd=3.0	Mv=1.9, Sd=2.7	T_{244}=.404	.686
Omissions	Mv=0.9, Sd=2.2	Mv=1.0, Sd=2.3	T_{244}=.500	.618
Stage 2				
Correct	Mv=96.9, Sd=11.8	Mv=96.3, Sd=11.9	T_{244}=.620	.536
% Delayed	Mv=33.2, Sd=23.3	Mv=35.3, Sd=23.0	T_{244}=1.357	.176
% Incorrect	Mv=5.1, Sd=4.3	Mv=5.2, Sd=3.8	T_{244}=378	.706
Omissions	Mv=9.1, Sd=10.2	Mv=9.8, Sd=10.7	T_{244}=.860	.391
Stage 3				
Correct	Mv=102.8, Sd=9.0	Mv=103.0, Sd=7.4	T_{244}=.306	.760
% Delayed	Mv=15.0, Sd=16.8	Mv=16.5, Sd=17.1	T_{244}=1.282	.201
% Incorrect	Mv=3.2, Sd=4.5	Mv=3.1, Sd=3.1	T_{244}=.292	.770
Omissions	Mv=3.8, Sd=7.7	Mv=3.9, Sd=6.5	T_{244}=.197	.844
Total number, n	245	245		

Mv=mean value, Sd=standard deviation, Min=minimum, Max=maximum

Table 13: Concentration capacity (Q1)

Variable	Recidivists	Non-Recidivists	Statistic	p-value
Total	Mv=629.9, Sd=128.9	Mv=614.8, Sd=106.0	T_{240}=1.504	.134
% Incorrect	Mv=1.1, Sd=2.0	Mv=1.0, Sd=1.0	T_{240}=.658	.511
Total number, n	241	241		

Mv=mean value, Sd=standard deviation, Min=minimum, Max=maximum

Table 14: Sensor-motor coordination (SENSO)

Variable	Recidivists	Non-Recidivists	Statistic	p-value
Total time	Mv=81.5, Sd=25.7	Mv=81.6, Sd=26.9	T_{180}=.023	.982
Total number, n	181	181		
Duration of big errors	Mv=2.7, Sd=2.5	Mv=2.9, Sd=2.9	T_{210}=.636	.525

Variable	Recidivists	Non-Recidivists	Statistic	p-value
Duration of small errors	Mv=5.9, Sd=2.2	Mv=5.9, Sd=2.3	T_{210}=.011	.991
Total number, n	211	211		

Mv=mean value, Sd=standard deviation, Min=minimum, Max=maximum

Table 15: Intelligence (MAT)

Variable	Recidivists	Non-Recidivists	Statistic	p-value
Correct	Mv=9.5, Sd=3.2	Mv=9.3, Sd=3.2	T_{267}=.822	.412
Total number, n	268	268		

Mv=mean value, Sd=standard deviation, Min=minimum, Max=maximum

Table 16: Memory (GEMAT)

Variable	Recidivists	Non-Recidivists	Statistic	p-value
Correct	Mv=20.7,Sd= 2.6	Mv=20.5, Sd=2.3	T_{216}=1.019	.309
Total number, n	217	217		

Mv=mean value, Sd=standard deviation, Min=minimum, Max=maximum

8.2.3 Differences in traffic-specific personality tests

Four traffic-specific questionnaires were included in the analyses: VPT2, FRF, VIP and TAAK. These tools are described in 5.2. Due to the fact that high and/or low values in certain personality scales may be conspicuous results, not only mean values (Mv), but also percentage ranges outcomes, i.e. the cut-offs <PR(25) and ≥PR(75) are considered.

In the VPT2 significant differences are found in two scales (see Table 17). Regarding openness of self-description (OS) recidivists tend to show a more open answering behaviour. Taking the percentage range evaluations into account, this refers to both extreme parts of the scale: Compared to non-recidivists, the recidivists are more frequently represented in the ≥PR(75)-group and less frequently in the <PR(25)-group. Concerning the significant VPT2-scale self-reflection (SR) the results reveal that non-recidivists show a higher self-reflection compared to the recidivists. This can be confirmed on mean value level as well as on percentage range value level. These VPT2 results indicate that compared to non-recidivists, recidivists more often answer openly about personal attitudes and behaviour but are at the same time less self-critical and reflective on these issues.

Table 17: VPT2 - Traffic-specific personality questionnaire

Variable	Recidivists	Non-Recidivists	Statistic	p-value
OS - openness of self-description	Mv=21.1, Sd=4.1	Mv=20.0, Sd=3.5	T_{256}=3.106	.002**
	<PR(25)=47 (18.3%) ≥PR(25) ∧ ≤ PR(75)= 145 (56.4%) ≥PR(75)=65 (25.3%)	<PR(25)=63 (24.5%) ≥PR(25) ∧ ≤ PR(75)= 154 (59.9%) ≥PR(75)=40 (15.6%)	‡	.019*
ES - social expressivity	Mv=32.9, Sd=4.5	Mv=33.0, Sd=4.6	T_{256}=.208	.835
	<PR(25)=42 (16.3%) ≥PR(25) ∧ ≤ PR(75)= 162 (63.0%) ≥PR(75)=53 (20.6%)	<PR(25)=44 (17.1%) ≥PR(25) ∧ ≤ PR(75)= 160 (62.3%) ≥PR(75)=53 (20.6%)	‡	.952
AP - social adjustment	Mv=32.5, Sd=4.3	Mv=32.9, Sd=4.5	T_{256}=.869	.385
	<PR(25)=33 (12.8%) ≥PR(25) ∧ ≤ PR(75)= 142 (55.3%)	<PR(25)=30 (11.7%) ≥PR(25) ∧ ≤ PR(75)= 140 (54.5%)	‡	.508

Variable	Recidivists	Non-Recidivists	Statistic	p-value
	≥PR(75)=82 (31.9%)	≥PR(75)=87 (33.9%)		
AS - emotional engagement	Mv=23.6, Sd=5.0	Mv=23.1,Sd= 4.7	T_{256}= 1.341	.181
	<PR(25)=42 (16.3%) ≥PR(25) ∧ ≤ PR(75)= 147 (57.2%) ≥PR(75)=68 (26.5%)	<PR(25)=45 (17.5%) ≥PR(25) ∧ ≤ PR(75)= 151 (58.8%) ≥PR(75)=61 (23.7%)	‡	.867
SK - self control	Mv=38.6, Sd=4.9	Mv=38.9, Sd=4.5	T_{256}=.747	.456
	<PR(25)=30 (11.8%) ≥PR(25) ∧ ≤ PR(75)= 134 (52.5%) ≥PR(75)=91 (35.7%)	<PR(25)=16 (6.3%) ≥PR(25) ∧ ≤ PR(75)= 136 (53.3%) ≥PR(75)=103 (40.4%)	‡	.173
SR - self reflection	Mv=37.8, Sd=3.7	Mv=38.6, Sd=3.7	T_{256}=2.373	.018*
	<PR(25)=29 (11.3%) ≥PR(25) ∧ ≤ PR(75)= 145 (56.4%) ≥PR(75)=83 (32.3%)	<PR(25)=19 (7.4%) ≥PR(25) ∧ ≤ PR(75)= 128 (49.8%) ≥PR(75)=110 (42.8%)	‡	.049*
Total number, n	257	257		

Mv=mean value, Sd=standard deviation, Min=minimum, Max=maximum, PR=percentage range
‡=Fisher-ExactTest; *…p<.05; **…p<.01

In the TAAK questionnaire, study and control group differ significantly in several dimensions. Again recidivists show a more open self-description (DS) on the alcohol topic. Besides, recidivists are less aware of the alcohol-specific risks (GF) while driving intoxicated. But these differences are confirmed on mean value level only and not on the less precise cut-off level. Moreover recidivists have a lower alcohol-specific norm acceptance (NA) in traffic compared to non-recidivists. As for information deficits (ID), attitudes favouring alcohol consumption (AE) and influence of alcohol related social environment (AU) both groups show similar results (see Table 18).

Table 18: TAAK - Test for alcohol conspicuous drivers

Variable	Recidivists	Non-Recidivists	Statistic	p-value
DS - alcohol specific dissimulation	Mv=24.6, Sd=5.1	Mv=25.8, Sd=4.6	T_{249}=3.026	.003**
	<PR(25)=55 (22.0%) ≥PR(25) ∧ ≤ PR(75)= 129 (51.6%) ≥PR(75)=66 (26.4%)	<PR(25)=24 (9.6%) ≥PR(25) ∧ ≤ PR(75)= 142 (56.8%) ≥PR(75)=84 (33.6%)	‡	.001**
ID - information deficits on alcohol specific issues	Mv=18.9, Sd=4.8	Mv=18.8, Sd=4.4	T_{249}=.326	.745
	<PR(25)=39 (15.6%) ≥PR(25) ∧ ≤ PR(75)= 140 (56.0%) ≥PR(75)=71 (28.4%)	<PR(25)=36 (14.4%) ≥PR(25) ∧ ≤ PR(75)= 144 (57.6%) ≥PR(75)=70 (28.0%)	‡	.955
GF - awareness of alcohol specific risks	Mv= 35.8, Sd=6.9	Mv=37.6, Sd=6.8	T_{249}=3.048	.003**
	<PR(25)=49 (19.6%) ≥PR(25) ∧ ≤ PR(75)= 142 (56.8%) ≥PR(75)=59 (23.6%)	<PR(25)=34 (13.6%) ≥PR(25) ∧ ≤ PR(75)= 137 (54.8%) ≥PR(75)=79 (31.6%)	‡	.133
NA - alcohol specific norm acceptance	Mv= 36.6, Sd=4.5	Mv= 37.3, Sd=4.7	T_{249}=2.113	.036*
	<PR(25)=43 (17.2%) ≥PR(25) ∧ ≤ PR(75)= 155 (62.0%)	<PR(25)=43 (17.2%) ≥PR(25) ∧ ≤ PR(75)= 129 (51.6%)	‡	.041*

Variable	Recidivists	Non-Recidivists	Statistic	p-value
	≥PR(75)= 52 (20.8%)	≥PR(75)= 78 (31.2%)		
AE - attitudes favouring alcohol consumption	Mv=22.9, Sd=5.5	Mv=22.5, Sd=5.0	T_{249}=.715	.475
	<PR(25)=26 (10.4%) ≥PR(25) ∧ ≤ PR(75)= 159 (63.6%) ≥PR(75)=65 (26.0%)	<PR(25)=34 (13.6%) ≥PR(25) ∧ ≤ PR(75)= 157 (62.8%) ≥PR(75)=59 (23.6%)	‡	.650
AU - influence of alcohol related social environment	Mv=25.5, Sd=6.0	Mv=25.0, Sd=5.3	T_{249}=1.176	.241
	<PR(25)=31 (12.4%) ≥PR(25) ∧ ≤ PR(75)= 120 (48.0%) ≥PR(75)=99 (39.6%)	<PR(25)=28 (11.2%) ≥PR(25) ∧ ≤ PR(75)= 139 (55.6%) ≥PR(75)=83 (33.2%)	‡	.309
Total number, n	250	250		

Mv=mean value, Sd=standard deviation, Min=minimum, Max=maximum, PR=percentage range
‡=Fisher-ExactTest; *…p<.05; **…p<.01

No significant differences between recidivists and non-recidivists are identifiable in the questionnaire for risk proneness (FRF; see Table 19) and the traffic-related itempool (VIP; see Table 20).

Table 19: FRF - Questionnaire measuring risk proneness

Variable	Recidivists	Non-Recidivists	Statistic	p-value
FRF-1 - physical risk proneness				
	<PR(25)=38 (16.5%) ≥PR(25) ∧ ≤ PR(75)= 126 (54.8%) ≥PR(75)=66 (28.7%)	<PR(25)=40 (17.4%) ≥PR(25) ∧ ≤ PR(75)= 141 (61.3%) ≥PR(75)=49 (21.3%)	‡	.148
FRF-2 - social risk proneness				
	<PR(25)= 31 (13.5%) ≥PR(25) ∧ ≤ PR(75)= 139 (60.4%) ≥PR(75)= 60 (26.1%)	<PR(25)= 36 (15.7%) ≥PR(25) ∧ ≤ PR(75)= 128 (55.7%) ≥PR(75)= 66 (28.7%)	‡	.507
FRF-3 - financial risk proneness				
	<PR(25)=23 (10.0%) ≥PR(25) ∧ ≤ PR(75)= 140 (60.9%) ≥PR(75)=67 (29.1%)	<PR(25)=30 (13.0%) ≥PR(25) ∧ ≤ PR(75)= 151 (65.7%) ≥PR(75)=49 (21.3%)	‡	.229
Total number, n	230	230		

Mv=mean value, Sd=standard deviation, Min=minimum, Max=maximum, PR=percentage range
‡=Fisher-ExactTest

Table 20: VIP - Traffic-specific itempool

Variable	Recidivists	Non-Recidivists	Statistic	p-value
SE - orientation at socially desired answering	Mv=3.4, Sd=2.0	Mv=3.6, Sd=1.9	T_{256}=1.058	.291
	<PR(25)=5 (1.9%) ≥PR(25) ∧ ≤ PR(75)= 177 (68.9%) ≥PR(75)=75 (29.2%)	<PR(25)=2 (0.8%) ≥PR(25) ∧ ≤ PR(75)= 175 (68.1%) ≥PR(75)=80 (31.1%)	‡	.539
US - uncritical self-perception	Mv=9.4, Sd=3.8	Mv=9.5, Sd=4.1	T_{256}=.057	.955
	<PR(25)=39 (15.2%)	<PR(25)=46 (17.9%)	‡	.283

Variable	Recidivists	Non-Recidivists	Statistic	p-value
	≥PR(25) ∧ ≤ PR(75)= 159 (61.9%) ≥PR(75)=59 (23.0%)	≥PR(25) ∧ ≤ PR(75)= 149 (58.0%) ≥PR(75)=62 (24.1%)		
AI - aggressive interaction	Mv=1.0, Sd=1.5	Mv=1.1, Sd=1.5	T_{256}=.522	.602
	<PR(25)=113 (44.0%) ≥PR(25) ∧ ≤ PR(75)= 78 (30.4%) ≥PR(75)=66 (25.7%)	<PR(25)=104 (40.5%) ≥PR(25) ∧ ≤ PR(75)= 80 (31.1%) ≥PR(75)=73 (28.4%)	‡	.833
EA - emotional relation to car and driving	Mv=2.0, Sd=1.5	Mv=1.8, Sd=1.5	T_{256}=1.710	.089
	<PR(25)=38 (14.8%) ≥PR(25) ∧ ≤ PR(75)= 128 (49.8%) ≥PR(75)=91 (35.4%)	<PR(25)=53 (20.6%) ≥PR(25) ∧ ≤ PR(75)= 120 (46.7%) ≥PR(75)=84 (32.7%)	‡	.282
Total number, n	257	257		

Mv=mean value, Sd=standard deviation, Min=minimum, Max=maximum, PR=percentage range
‡=Fisher-ExactTest

8.2.4 Differences in traffic-specific exploration data

8.2.4.1 Analysis of actual and prior DUI offences

Data related to the actual and prior DUI offences which were collected in the diagnostic interview and documented in the traffic-psychological expertise reveal significant differences in several variables.

BAC level at actual offence

Recidivists have an averaged BAC of 1.92‰ while non-recidivists have an averaged BAC of 1.87‰ at the actual offence which led to traffic psychological DA (see Table 21).

Table 21: BAC-level at actual offence

Variable	Recidivists	Non-Recidivists	Statistic	p-value
BAC (‰) at the actual offence	Mv= 1.92, Sd= 0.34 Min= 1.60, Max= 2.90	Mv= 1.87, Sd= 0.28 Min= 1.60, Max= 3.50	†‡	.049*
Total number, n	282	299		

Mv=mean value, Sd=standard deviation, Min=minimum, Max=maximum; †‡=Wilcoxon-ExactTest; *…p<.05

Refusal of breath test at actual offence

Although the number of offenders refusing the breathalyser test at the actual offence is very small, there is a highly significant difference between both groups. Much more persons who refused breath test belong to the recidivist than to the non-recidivist group (see Table 22).

Table 22: Refusal of breathalyser test at actual offence

Variable	Recidivists	Non-Recidivists	Statistic	p-value
Breath test refused yes	19 (6.3)	2 (0.7%)	‡	<.001***
Total number, n	303	303		

‡=Fisher-ExactTest; ***…p<.001

Additional prior DUI offences

Another significant difference between the two groups refers to prior alcohol offences: Recidivists already have additional DUI offences (mainly between one and three) before the current offence,

which lead to traffic-psychological DA. The non-recidivist group has no prior offence at all (see Table 23).

Table 23: Prior alcohol offences

Variable		Recidivists	Non-Recidivists	Statistic	p-value
Number of prior alcohol offences, n (%)	1	71 (23.4%)	0	†‡	<.001***
	2	150 (49.5%)	0		
	3	54 (17.8%)	0		
	4	15 (5.0%)	0		
	5	11 (3.6%)	0		
	7	1 (0.3%)	0		
	missing	1 (0.3%)			
Total number, n		303	303		

†‡=Wilcoxon-ExactTest; ***…p<.001

Licence suspension period due to actual offence

Recidivists have a remarkably longer licence suspension period as a consequence of the actual offence than the non-recidivist group (see Table 24). This result is related to the before mentioned outcomes as additional prior DUI offences usually lead to a longer suspension period in case of a re-offence.

Table 24: Months of licence suspension due to actual offence

Variable	Recidivists	Non-Recidivists	Statistic	p-value
Months of licence suspension due to the actual offence	Mv= 8.6, Sd= 4.6 Min= 1.0, Max= 36.0	Mv= 5.1, Sd= 1.9 Min= 3.0, Max= 14.0	†‡	<.001***
Total number, n	282	296		

Mv=mean value, Sd=standard deviation, Min=minimum, Max=maximum;
†‡=Wilcoxon-ExactTest; ***…p<.001

Accident at actual DUI offence

An accident happened in both groups to almost one third of the drivers, although no differences between recidivists and non-recidivists can be observed (see Table 25).

Table 25: Accident at actual offence

Variable		Recidivists	Non-Recidivists	Statistic	p-value
Accident at the actual offence	no	210 (69.3%)	197 (65.0%)	‡	.133
	yes	83 (27.4%)	102 (33.7%)		
	missing	10 (3.3%)	4 (1.3%)		
Total number, n		303	303		

‡=Fisher-ExactTest

Felt impaired at actual DUI offence

The category “having felt impaired at the actual offence” shows a very high number of missing data for both groups (60%-70%). Therefore the available results are of restricted value. Nevertheless, they indicate, that more non-recidivists felt impaired at the DUI offence compared to the recidivists (see Table 26).

Table 26: Impairment at actual offence

Variable		Recidivists	Non-Recidivists	Statistic	p-value
Having felt impaired at actual offence	no	18 (5.9%)	55 (18.2%)	‡	<.001***
	yes	67 (22.1%)	64 (21.1%)		
	probable	0 (0.0%)	1 (0.3%)		

Variable		Recidivists	Non-Recidivists	Statistic	p-value
	missing	218 (71.9%)	183 (60.4%)		
Total number, n		303	303		

‡=Fisher-ExactTest; ***…p<.001

Enhanced recidivism risk assessed by traffic psychologist

An enhanced recidivism risk regarding new DUI offences in traffic was significantly more often diagnosed in traffic psychological DA for the study group than for the control group (see Table 27).

Table 27: Enhanced danger of recidivism based on the psychological evaluation during DA

Variable		Recidivists	Non-Recidivists	Statistic	p-value
Enhanced danger of recidivism	No	15 (5.0%)	14 (4.6%)	‡	.030*
	Yes	134 (44.2%)	75 (24.8%)		
	Probable	0 (0.0%)	3 (1.0%)		
	Missing	154 (50.8%)	211 (69.6%)		
Total number, n		303	303		

‡=Fisher-ExactTest; *…p<.05

8.2.4.2 Analysis of alcohol consumption pattern

As DUI offences are strongly linked to the general alcohol consumption pattern of a person, this area is checked in the traffic psychological exploration as well. Comparisons between recidivists and non-recidivists reveal several significant differences.

Prior habitual alcohol consumption

Recidivists show more often habitual alcohol drinking patterns in the past compared to the non-recidivists (see Table 28).

Table 28: Habitual alcohol consumption in the past

Variable		Recidivists	Non-Recidivists	Statistic	p-value
Prior habitual alcohol consumption	no	1 (0.3%)	5 (1.7%)	‡	.004**
	yes	232 (76.6%)	189 (62.4%)		
	probable	3 (1.0%)	12 (4.0%)		
	missing	67 (22.1%)	97 (32.0%)		
Total number, n		303	303		

‡=Fisher-ExactTest; **…p<.01

Prior periods of abstinence

Concerning prior periods of abstinence, there are highly significant differences between study and control group. Only a very small proportion of recidivists deny to have had periods of abstinence in the past compared to the non-recidivists (see Table 29). But the high number of missing data especially in the recidivist group is worth mentioning.

Table 29: Periods of abstinence in the past

Variable		Recidivists	Non-Recidivists	Statistic	p-value
Prior periods of abstinence	no	69 (22.8%)	243 (80.2%)	‡	<.001***
	yes	46 (15.2%)	36 (11.9%)		
	probable	0 (0.0%)	0 (0.0%)		
	Missing	188 (62.0%)	24 (7.9%)		
Total number, n		303	303		

‡=Fisher-ExactTest; ***…p<.001

Negative consequences of alcohol

Regarding negative consequences of alcohol, no significant differences between study and control group are found (see Table 30). But this result is based on the very small number of subjects.

Table 30: Negative consequences of alcohol

Variable		Recidivists	Non-Recidivists	Statistic	p-value
Client has already negative consequences due to alcohol misuse according to diagnostician	no	20 (6.6%)	16 (5.3%)	‡	.119
	yes	17 (5.6%)	29 (9.6%)		
	probable	0 (0.0%)	0 (0.0%)		
	missing	266 (87.8%)	258 (85.1%)		
Total number, n		303	303		

‡=Fisher-ExactTest

Alcohol related health problems

Having no alcohol related health problems is significantly less often admitted by the recidivists than by the non-recidivists (see Table 31).

Table 31: Alcohol related health problems

Variable		Recidivists	Non-Recidivists	Statistic	p-value
Alcohol related health problems	no	181 (59.7%)	254 (83.8%)	‡	.045*
	yes	27 (8.9%)	27 (8.9%)		
	probable	0 (0.0%)	6 (2.0%)		
	missing	95 (31.4%)	16 (5.3%)		
Total number, n		303	303		

‡=Fisher-ExactTest; *…p<.05

Increased alcohol tolerance

There is a highly significant difference between both groups whereby an increased alcohol tolerance is more often found for recidivists than for non-recidivists (see Table 32).

Table 32: Increased alcohol tolerance

Variable		Recidivists	Non-Recidivists	Statistic	p-value
Increased alcohol tolerance	no	20 (6.6%)	41 (13.5%)	‡	<.001***
	yes	149 (49.2%)	124 (40.9%)		
	probable	3 (1.0%)	21 (6.9%)		
	missing	131 (43.2%)	117 (38.6%)		
Total number, n		303	303		

‡=Fisher-ExactTest; ***…p<.001

Continuation of drinking habits

Regarding current habitual alcohol consumption which means that no change in drinking habits took place, the results are slightly below the significance level (see Table 33).

Table 33: Current habitual alcohol consumption

Variable		Recidivists	Non-Recidivists	Statistic	p-value
Current habitual alcohol consumption = no change of drinking habits	no	85 (28.1%)	98 (32.3%)	‡	.052
	Yes	81 (26.7%)	75 (24.8%)		
	Probable	61 (20.1%)	38 (12.5%)		
	missing	76 (25.1%)	92 (30.4%)		

Variable	Recidivists	Non-Recidivists	Statistic	p-value
Total number, n	303	303		

‡=Fisher-ExactTest

Reduction of alcohol consumption quantity

In line with the above result, both groups do not differ significantly regarding a reduction of the consumed alcohol quantity, although non-recidivists show slightly more changes (see Table 34).

Table 34: Relevant reduction of alcohol quanta

Variable	Recidivists	Non-Recidivists	Statistic	p-value
Alcohol quanta have been reduced relevantly no	87 (28.7%)	103 (34.0%)	‡	.059
yes	96 (31.7%)	128 (42.2%)		
probable	57 (18.8%)	43 (14.2%)		
missing	63 (20.8%)	29 (9.6%)		
Total number, n	303	303		

‡=Fisher-ExactTest

Belittlement of alcohol consumption quantity

Moreover, study and control group have similar results on the belittlement of their drinking quantity. Both, recidivists and non-recidivists show a strong tendency to underestimate or deny their problematic alcohol consumption pattern; yet a large number of missing data on this issue is found in both groups (see Table 35).

Table 35: Belittlement of alcohol quanta

Variable	Recidivists	Non-Recidivists	Statistic	p-value
Alcohol quanta is denied/underestimated no	19 (6.3%)	14 (4.6%)	‡	.092
yes	98 (32.3%)	90 (29.7%)		
probable	0 (0.0%)	4 (1.3%)		
missing	186 (61.4%)	195 (64.4%)		
Total number, n	303	303		

Duration of current abstinence

Significant differences between study and control group are found in the duration of current abstinence (see Table 36). Thereby, in the recidivist group the average abstinence period is longer than in the non-recidivist sample.

Table 36: Months of current abstinence

Variable	Recidivists	Non-Recidivists	Statistic	p-value
Duration of current abstinence (months)	Mv= 4.9, Sd= 5.5 Min= 0.3, Max= 36.0	Mv= 3.0, Sd= 3.0 Min= 0.5, Max= 18.0	‡	.007**
Total number, n	71	78		

Mv=mean value, Sd=standard deviation, Min=minimum, Max=maximum
‡=Fisher-ExactTest; **…p<.01

Plausibility of reported alcohol consumption

No significant difference between the recidivist and non-recidivist group is found as regards the psychologist's evaluation of the plausibility of the alcohol consumption pattern reported by the offender (see Table 37).

Table 37: Credibility concerning alcohol consumption

Variable		Recidivists	Non-Recidivists	Statistic	p-value
Psychologist's rating concerning client's credibility concerning alcohol	not reliable	15 (5.0%)	8 (2.6%)	‡	.258
	supposedly	21 (6.9%)	22 (7.3%)		
	reliable	44 (14.5%)	52 (17.2%)		
	missing	223 (73.6%)	82 (27.1%)		
Total number, n		303	303		

‡=Fisher-ExactTest

8.2.4.3 Analysis of additional health related issues

The analysis of additional health related issues in the explorative interview refers to three main areas: nicotine smoking, consumption of illegal drugs and pharmaceutical intake due to a medical treatment.

Nicotine

Although there are no differences in the number of cigarettes per day, the distinction between both groups lies in the question whether subjects are smoking or not smoking. Thereby less recidivists are non-smokers (see Table 38).

Table 38: Nicotine smoking pattern

Variable		Recidivists	Non-Recidivists	Statistic	p-value
Nicotine	no	34 (11.2%)	86 (28.4%)	‡	.001**
	≤10	39 (12.9%)	40 (13.2%)		
	11-20	95 (31.4%)	98 (32.3%)		
	21-30	24 (7.9%)	24 (7.9%)		
	>31	13 (4.3%)	10 (3.3%)		
	missing	98 (32.3%)	45 (14.9%)		
Total number, n		303	303		

‡=Fisher-ExactTest; **…p<.01

Drugs

As far as the consumption of illegal drugs is concerned, no differences between both groups neither in the past nor at present can be revealed. In general, drug use is almost not confirmed by both groups (see Table 39 and Table 40).

Table 39: Illegal drug use in the past

Variable		Recidivists	Non-Recidivists	Statistic	p-value
Former consumption of illegal drugs	yes	9 (3.0%)	9 (3.0%)	‡	1.000
Total number, n		303	303		

‡=Fisher-ExactTest

Table 40: Illegal drug use at present

Variable		Recidivists	Non-Recidivists	Statistic	p-value
Current consumption of illegal drugs	yes	1 (0.3%)	1 (0.3%)	‡	1.000
Total number, n		303	303		

‡=Fisher-ExactTest

Pharmaceuticals

Regarding pharmaceuticals the outcomes are different. Though there are no group differences on the intake of medication in the past, there are highly significant differences as regards the present time:

Recidivists take less pharmaceuticals, compared to the non-recidivists. But in general, the intake of pharmaceuticals is seldom mentioned (see Table 41 and Table 42).

Table 41: Intake of pharmaceuticals in the past

Variable	Recidivists	Non-Recidivists	Statistic	p-value
Former consumption of pharmaceuticals yes	0 (0%)	4 (1.3%)	‡	.124
Total number, n	303	303		

‡=Fisher-ExactTest

Table 42: Intake of pharmaceuticals at present

Variable	Recidivists	Non-Recidivists	Statistic	p-value
Current consumption of pharmaceuticals yes	8 (2.6%)	28 (9.2%)	‡	.001**
Total number, n	303	303		

‡=Fisher-ExactTest; **…p<.01

8.2.5 Overview on significant differences between recidivists and non-recidivists on univariate group comparison level

In the following all differences between recidivists and non-recidivists revealed on univariate group comparison level are summarized.

Socio-demographic and general driving experience related variables

In total, six variables were analysed whereby two show significant differences. Compared to non-recidivists, recidivists are / have

- less often living in a partnership;
- a shorter period of holding driving licence B.

Traffic specific performance and personality tests related variables

In total, 27 traffic specific performance test variables and 19 personality questionnaire variables were analysed. Thereby, none of the performance tests data led to significant outcomes. But five variables from two personality questionnaires, one of them focussing on the drink-driving issues, show significant differences between both groups. Compared to non-recidivists, recidivists show

- more uncritical self description (VPT2-OS);
- less self-reflection (VPT2-SR);
- less alcohol-specific dissimulation (TAAK-DS);
- less alcohol-specific risk awareness in traffic (TAAK-GF);
- reduced norm acceptance regarding alcohol in traffic (TAAK-NA).

Actual and additional prior DUI offences related variables

In total, seven variables of this area were included in the group comparisons whereby six of them reveal significance. Compared to non-recidivists, recidivists are / have

- higher BAC values at the current DUI offence;
- more often refusing the breath test at the actual DUI offence;
- additional prior DUI offences;
- longer suspension period as a consequence of the actual DUI offence;
- felt less impaired at the offence;
- more often an enhanced recidivism risk according to the diagnosticians' evaluation.

Alcohol consumption and additional health related variables

In total, 15 variables of this area were considered in the analyses. Seven of them differ significantly between both groups. Compared to non-recidivists, recidivists are / have

- had more often a habitual alcohol consumption pattern in the past;
- less often denying of having had abstinence periods in the past;
- less often abnegating alcohol related health problems;
- an increased alcohol tolerance;
- longer duration of current abstinence;
- actually less often intake of pharmaceuticals;
- less often non-smokers.

These above mentioned offence and alcohol related differences are displayed in the following Figure 1, Figure 2.

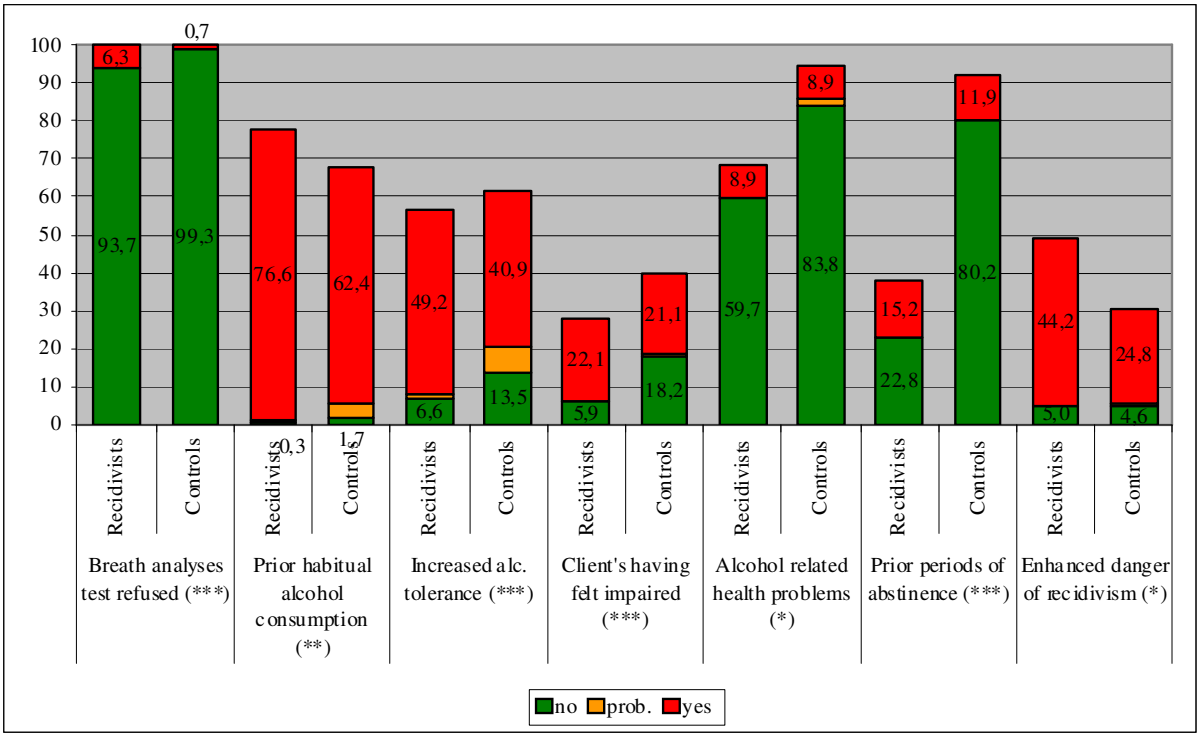

Figure 1: Summary of significant differences in traffic and alcohol related variables
*…p<.05; **…p<.01, ***…p<.001

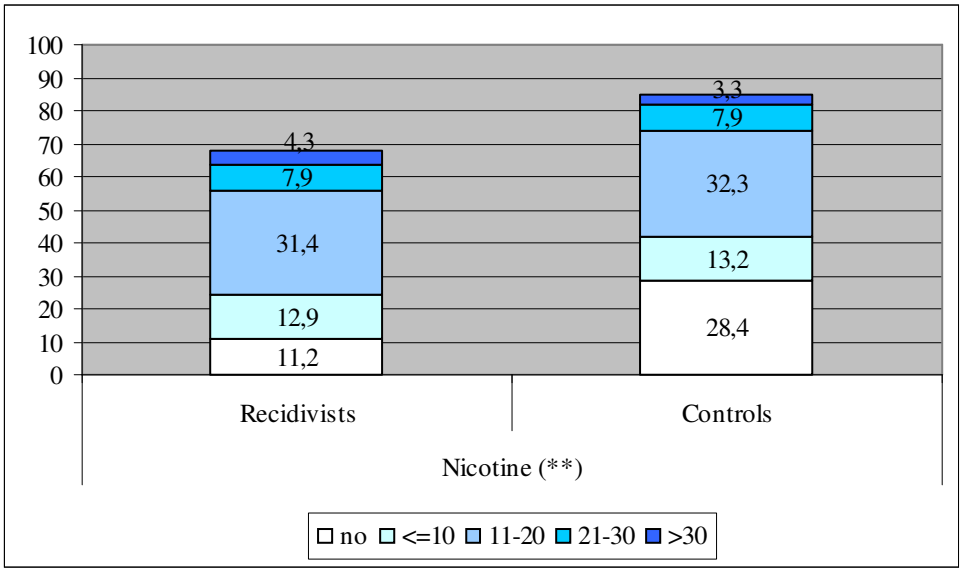

Figure 2: Nicotine
**…p<.01

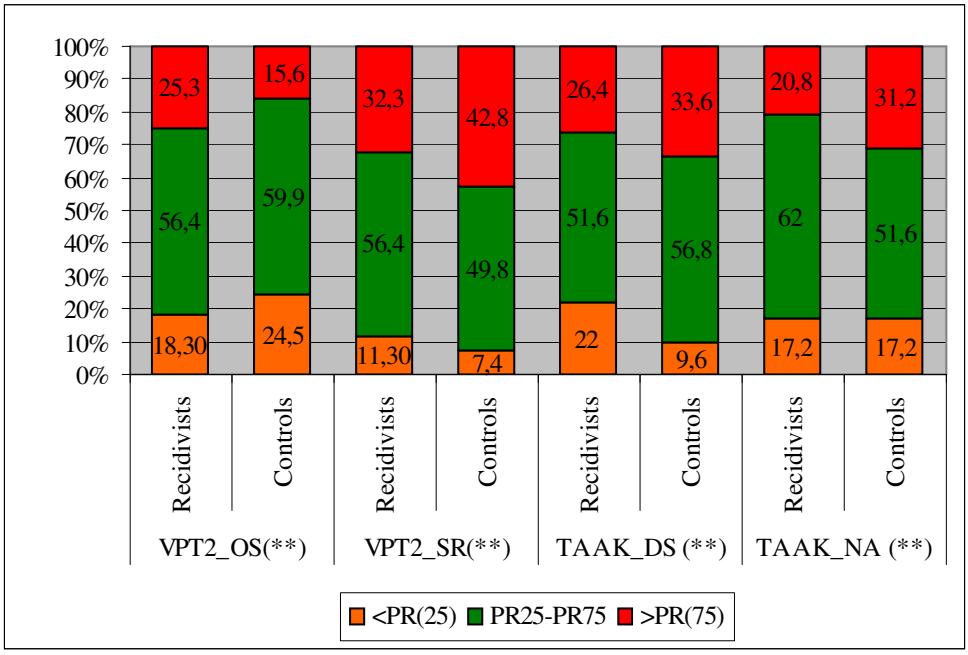

Figure 3: Summary of significant differences in traffic-specific personality test variables
**…p<.01

In general, data derived from the diagnostic interview are of greatest importance to identify recidivists as most of the variables with significant differences between recidivists and non-recidivists come from this information source. Test data are less important whereby only traffic specific personality, above all drink-driving related questionnaires are of certain relevance.

8.3 Prediction of recidivism

In the last step of analysis a stepwise regression analysis procedure was carried out based on all variables derived from the traffic psychological DA expertises as documented in the preceding chapters. Thereby all 'probable' codings were set to 1=yes and all 'missing' codings were set to 0=no.

The identified regression model (R^2=.485, p<.001) lead to 79.5% correct predictions in total. Thereby, the prediction of non-recidivism is more accurate (88.5% hits) compared to the prediction of recidivism (68.9% hits). The following nine significant predictors can be identified (see Table 43).

Table 43: Predictors in regression model

Predictor	Statistical values	Recidivism risk
Partner (yes/no)	exp (B)=.461 [.291-.732], p=.001	approximately half risk
BAC level at the actual offence	exp (B)=1.004 [1.001-1.008], p=.013	higher BAC means higher risk
Months of suspension due to actual offence	exp (B)= 1.682 [1.493-1.896], p<.001	the longer the higher the risk
Assessed enhanced recidivism probability (yes/no)	exp (B) 2.086 [1.271-3.424]; p=.004	double risk
Pharmaceuticals, current (yes/no)	exp (B)=.510 [.300-.868], p=.013	half risk
Openness in self-description (VPT2_OS)	exp (B)=1.124 [1.056-1.196], p<.001	the higher the higher the risk
Aggressive interaction in traffic (VIP_AI)	exp (B)=.814 [.671-.988], p=.037	the higher the lower the risk
Accident at the actual DUI offence (yes/no)	exp (B)=.202 [.109-.373], p<.001	1/5 risk
Need of car for work (yes/no)	exp (B)=.460 [.257-.823], p=.009	half risk

It has to be mentioned that none of the traffic related performance variables contribute to the prediction of recidivism.

Taking into account that meaningful results in the regression analysis should be confirmed on univariate level, three of these nine predictors will not be considered further, as none of them show significant differences on univariate level (group comparisons) and thus its significance has to be seen as mere statistical effects. This refers to the variables “VIP_AI”, “Accident at the actual DUI offence” and “Need of car for work”, which are marked in grey colour in the table.

Concerning the remaining six predictors, ‘negative’ and ‘positive’ risk indicators can be distinguished.

Negative recidivism risk indicators are:

- higher BAC-levels at the actual DUI offence;
- longer suspension periods along with the actual DUI offence (caused by additional prior drink-driving offences);
- psychologist’s evaluation of an enhanced recidivism risk;
- VPT2-scale OS (openness of self description).

Openness of self description (VPT2-OS) as a risk factor needs an explanation: The observed higher values in the recidivist group generally indicate that repeated offenders have a more unrealistic self-perception compared to non-recidivists. This can either mean that no awareness of the problem was developed or that adjustment is pretended.

Positive recidivism risk indicators are:

- living in a partnership;
- actual intake of pharmaceuticals.

The protecting effect of partnership regarding recidivism goes along with research results in other health areas. The second protective factor against recidivism, namely pharmaceuticals, can be seen in the context of a current better health awareness as it implies a medical treatment.

8.4 Comparative analysis of recidivism study outcomes on univariate and multivariate level

In order to evaluate the explanatory power of the results all significant outcomes are grouped and listed distinguishing between uni- and multivariate level (see Table 44).

Table 44: Overview on significant outcomes (x=significant result; blank=no significant result)

Significant DA variables	Univariate group comparisons	Multivariate regression analysis
Socio-demographic and driving experience related data		
Partnership	**X**	**X**
Period of holding driving licence B	**X**	
Actual and prior DUI offences related data		
BAC level at the actual offence	**X**	**X**
Refusal of the breathalyser test	**X**	
Months of suspension due to actual offence	**X**	**X**
Felt impaired at actual offence	**X**	
Additional prior DUI offences	**X**	
Assessed enhanced recidivism probability	**X**	**X**
Traffic-specific personality and alcohol related test data		
Openness in self-description (VPT2-OS)	**X**	**X**
Self-reflection (VPT2-SR)	**X**	

Significant DA variables	Univariate group comparisons	Multivariate regression analysis
Alcohol specific dissimulation (TAAK-DS)	X	
Alcohol specific risk awareness in traffic (TAAK-GF)	X	
Norm acceptance on alcohol in traffic (TAAK-NA)	X	
Alcohol consumption and additional health related data		
Prior habitual alcohol consumption	X	
Prior previous abstinence periods	X	
Alcohol related health problems	X	
Increased alcohol tolerance	X	
Current abstinence period	X	
Nicotine smoker	X	
Current intake of pharmaceuticals	X	X

As evident the outcomes related to the actual DUI offence and additional prior cases have the strongest explanatory power as three out of the six significant variables can be confirmed on both levels of analysis. The second area of importance refers to major aspects of past and present alcohol consumption including additional health related issues. Seven significant differences on univariate level were found whereby one could be confirmed on multivariate level as well. The third area of importance is covered by personality and alcohol related data measured by objective tests. Five significant differences resulted from the univariate group comparisons whereby one of them could be confirmed also on multivariate level. The last area of importance are socio-demographic and general driving experience related variables, whereby one of the two significant variables can be confirmed on uni- and multivariate level. Yet it has to be taken into account that essential socio-demographic variables, such as gender or education had to be excluded from further analyses as they served as matching criteria for the composition of the control group. Moreover the predictive value of the diagnostician has to be mentioned. Of course his/her assessment of a higher recidivism risk in the study group than in the control group is based on the relevant information gathered by the explorative interview and the psychometric tests.

In sum, recidivists differ from non-recidivists in 20 variables. While traffic-specific performance does not play any significant role in identifying re-offenders, almost all personality questionnaire variables show discriminative power on univariate level only. The multivariate predictive variables are mainly stemming from the explorative interview. Thereby six are of major importance as their contribution to predict recidivism can be confirmed on both levels of analyses. Amongst them is the diagnostician's judgement of enhanced recidivism risk which is a result of an overall evaluation of the entire assessment data.

As regards the non-successful first DR course participation of the recidivist group, the following can be deduced according to their risk profile: Referring to the TTM (Transtheoretical Model of Change) recidivists do not have (sufficient) problem awareness yet regarding their specific situation, which implies that they do not have (sufficient) change motivation at the time of their first DR course participation. Due to course participation they were only able to quit the first, namely the precontemplation stage for a short time period before turning back or they still remain in this first stage without readiness to change as they were (unrealistically) convinced that they can reliably separate drinking and driving with out any further changes. Thus, drinking and driving and re-offences were pre-programmed.

II. Analyses of change process and components in driver rehabilitation courses

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1. Study aims

The aim of the study at hand is to gather information on major aspects of successful vs. non successful interventions for different drivers under the influence of psychoactive substances with a special focus on recidivists. As DR (driver rehabilitation) aims at avoiding recidivism, but some participants do not profit sufficiently from these interventions and tend to re-offend although they participated in such a measure, it is necessary to analyse the course processes and occurrences. Thus, the main underlying idea was to assess the outcomes of group interventions in order to gain insight in change processes that take place during the course participation, to define cognitive, motivational and behavioural alterations within the individual participants and to identify the relevant variables which initiate and support the change process.

Feedback studies are one of the most often used methods to evaluate DR measures which have been confirmed in the state of the art provider survey (see Deliverable 5.1.1). Although no direct information on re-offences in traffic can be gained, its value is unquestioned as information about success factors from the targets' group point of view can be provided.

In contrast to the feedback study conducted within the EU-project ANDREA (Bartl et al., 2002), the actual DRUID WP5.2 analysis of change study implies:

- A major focus on the change processes in DR courses and to a less extend on specific content-related aspects as in ANDREA whereby a theoretical frame was applied
- A systematic composition and analysis of the key elements of change in DR courses based on theoretical considerations and practical experience from course conduction
- A conduction on an enlarged European level including more Member States and more participants than the ANDREA study
- An inclusion of another problem group, namely DUID offenders participating in DR courses.

Similar to ANDREA the WP5.2 study

- included an overall evaluation of the DR courses by the participants and
- focuses only on courses in a group and not in a single setting.

2. Research concept

The research concept of the DRUID WP5.2 change analyses study is a prospective cohort design. A defined minimum number of DR participants from several Member States will be included. Data collection will be done by means of a questionnaire survey in a well defined time frame. Different to other feedback studies, e.g. ANDREA, a pre-post approach is not required as the actual survey is based on a theoretical framework. This allows a one time data collection only, namely at the end of the DR intervention.

2.1 Transtheoretical model of change

The Transtheoretical Model of Change (TTM, Prochaska & DiClemente, 1984) describes the underlying cognitive, affective and behavioural processes of an intentional change of unhealthy or risky behaviour in a detailed way. Since its development it has been approved in the field of diagnostic and treatment of alcohol problems (e.g. DiClemente & Hughes, 1990; DiClemente et al., 2004; Marlatt & Donovan, 2005). Furthermore its application became famous for the diagnostic of DUI offenders (Ferguson et al., 1998; Wells-Parker, 1998; Wieczorek et al., 1997, Klipp et al., 2005) and the evaluation of DUI rehabilitation (Klipp et al., 2007; Rider et al., 2006; Polascek et al., 2001; Wells-Parker et al., 2000).
The TTM is a stage model describing the motivation and readiness to change and modifying the process from substance abuse or addiction to healthier target behaviour.

2.1.1 Temporal dimension: the stages of change

The TTM assumes that an intentional change of a problematic behaviour proceeds via five stages. They are named and characterised as follows:

Precontemplation or Precontamplative Stage

The individual is not aware of the problem behaviour and thus is not intending to take action in the foreseeable future. This might be due to un- or under-information about the consequences of the problem behaviour or due to demoralisation of the ability to change successfully. People in this stage usually ignore, underestimate or deny the problem, even though others give advice for a change.

Contemplation or Contemplative Stage

The person starts to think about the problem and ambivalence about the pros and cons of changing is emerging. A behavioural change is seriously taken into account, but plans about concrete actions are still missing. The individual weighs up the benefits and costs and seeks for solutions.

Preparation or Preparative Stage

People in this stage are highly motivated to take action within the immediate future. At least they have concrete plans of action; in some cases the individual already has made efforts to change but without reaching the target behaviour successfully.

Action or Action Stage

In this stage an overt modification of behaviour takes place. The person invests time and energy to make necessary steps for an actual behavioural change and the initial intention is actively transformed into action.

Maintenance or Maintenance Stage

Persons have to work steadily to hold up the achieved change and prevent relapse to an earlier stage. They must cope with the new life-style and situation, but with time running on they become less tempted and more confident. This stage may last long, in some cases even lifelong.
An individual runs sequential through the stages; relapse from a higher stage to a lower one may occur at any time. The stages display the temporal dimension of the change.

2.1.2 Progression through the stages: the ten processes

The TTM postulates ten Processes of Change that people use to progress from one stage to another. The use of these overt or covert activities determines the movement from stage to stage.

Distinguishable are five cognitive-affective processes, called Experiential Processes, and five Behavioural Processes.

Cognitive-affective Processes ("Experiential Processes"):

"Consciousness raising" [increasing awareness] is characterized by an active gathering of information about oneself and the problem behaviour. The individual makes efforts to gain understanding and feedback about the problem. Awareness about the consequences and cures increases.
"Dramatic relief" [emotional arousal] is the process of experiencing and expressing feelings about the problem behaviour and possible solutions.
"Environmental re-evaluation" [social reappraisal] means the consideration and assessment of how the problem behaviour affects the physical and social environment.
"Self-re-evaluation" [self reappraisal] is the emotional and rational analysis of how the problem behaviour or the behaviour change affects the self and self-perception.
"Social liberation" [environmental opportunities] is featured by the awareness, availability and acceptance of alternative lifestyles and cues that support the change.

Behavioural Processes:

"Self-liberation" [committing] means the choice and commitment to change the problem behaviour, including the belief in the ability to change successfully.
"Stimulus control" [re-engineering] involves the control or avoidance of situations, persons or other cues that trigger the problem behaviour to support the occurrence of new behaviour.
"Counter conditioning" [substituting] is the act of substituting an alternative and healthier behaviour for the problem behaviour.
"Helping relationships" [supporting] implies the active use of social support to make the attempts to change more easily.
"Reinforcement management" [rewarding] is the systematic use of reinforcement and (self-) rewarding strategies to reach and stabilise the target behaviour.

2.1.3 Integration of stages and processes

The cognitive-affective processes play an important role on the earlier stages when an intention to change is created (motivation + volition). The behavioural processes are more important on the later stages, representing the implementation of an intention. By these processes the intention is translated into a concrete behaviour (volition + action):

Precontemplation	Contemplation	Preparation	Action	Maintenance
	Consciousness raising			
	Dramatic relief			
	Environmental re-evaluation			
		Self-re-evaluation		
			Self-liberation	
				Reinforcement management
				Helping relationships
				Counter conditioning
				Stimulus control
				Social liberation

Figure 4: Integration of stages and processes (Fig. freely adapted from Prochaska et al., 1997)

2.2 Diamond of Change

The concept of the Diamond of Change was invented by the WP5 team itself, as certain key elements of existing rehabilitation measures were identified. Sources were some topics of the ANDREA project, above all the importance of the client trainer relationship, the contents and methods of courses as well as results of evaluation studies in psychotherapy and addiction research, especially the importance of emotions. In addition to that practical experiences from rehabilitation courses were taken into account as several WP5 team members are course leaders for many years.

The following five key elements or contributing factors to change are considered to be important and to initiate the motivational and behavioural change in the participants of DR courses:

I = Individual; this key element is defined as the participant's self-worth, self-acceptance and self-efficacy;

PTR = Participant – trainer relation; meaning the interpersonal relationship between DR-participant and trainer;

PPR = Participant – participant relations; this element concerns the interpersonal relationship between the course participants;

C = Contents; defined as the modules of the DR-measure;

M = Methods; this element takes the ways and means of how the contents are presented into account and how the course is conducted.

As all five factors are understood as key elements of equal importance interacting with each other and being intertwined in a complex way, the structure of a diamond was chosen to illustrate this and the name 'Diamond of Change' was created (see figure below).

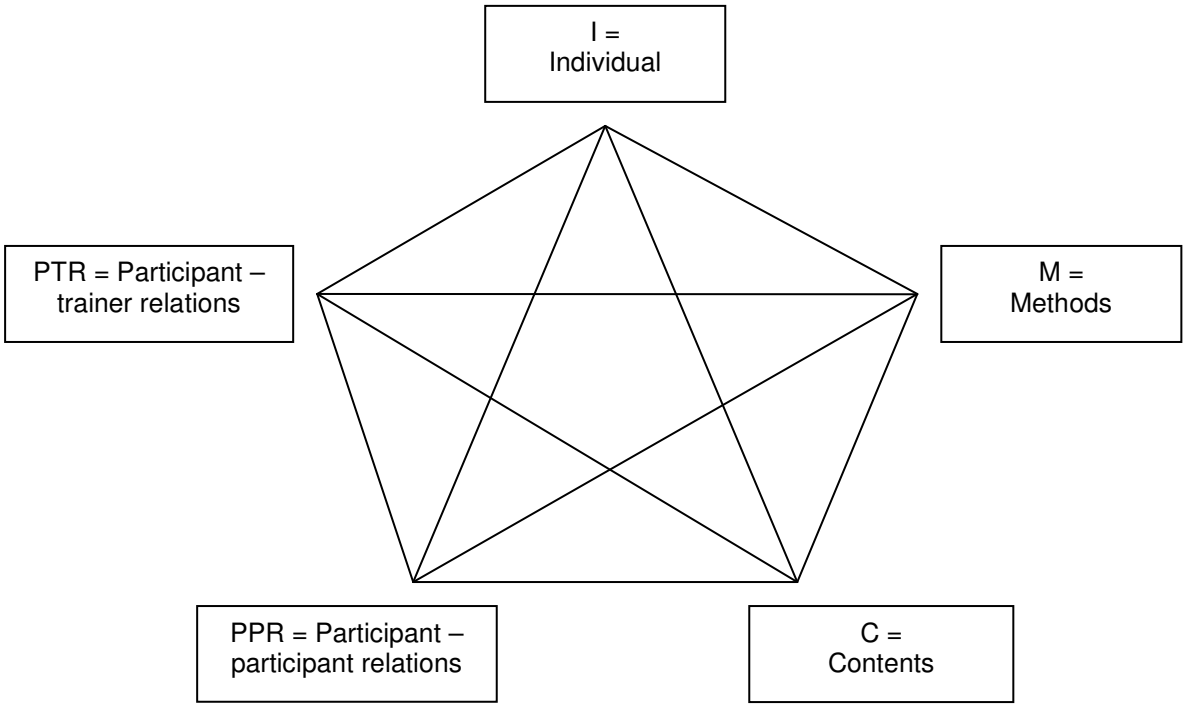


Figure 5: The Diamond of Change

Moreover, it was emphasized that change processes in all key elements are driven by the following four fundamental forces: Emotions (receptiveness on an emotional level, feelings along with the RH measure), motivation (willingness to change behaviour, to establish and strengthen motivation in order to reach personal goals regarding drinking and driving), cognitions (knowledge based level, change is based on reasoning and logical arguments), behaviour (behaviour based level, to be in a position to realize a certain behaviour).

3. Development of questionnaire

3.1 General procedure

The questionnaire for analysing the process and elements of change including an overall course evaluation based on the course participant's evaluation was developed and designed in several working steps. In the first place it was discussed to do telephone interviews with participants of rehabilitation measures. As this was considered to be impossible due to data protection reasons in most of the European countries, the idea of a questionnaire survey aroused. It was decided to integrate as much programmes in different European countries as possible in order to gain the most comprehensive information possible. The theoretical concept and the questionnaires were developed in several meetings and additional telephone sessions.
The following table provides a chronological overview of the steps of development of the questionnaires.

Table 45: Timeframe and tasks in development process

Time frame	Task
11th – 12th January 07 DRUID WP5 meeting Vienna	Discussion on possible options for an in-depth-analysis of reasons for recidivism. Considerations of telephone interviews with programme participants. Decision on making a questionnaire survey instead.
31st January and 2nd February 07 Internal KfV workshop	Development of the Diamond of Change concept. First draft on possible items.
12th -15th February 07 DRUID WP5 meeting Brussels	Presentation on the Transtheoretical Model and the Diamond of Change as possible theoretical concepts for the study questionnaire. Discussion on the integration of both concepts.
Until end of February 07 Telephone sessions and e-mail exchange mainly between KfV and BASt; internet and literature searches by BASt	Elaborations of the integrative concept. Collection of specific information from already existing questionnaires with similar topics. First drafts on possible questionnaire items integrating both concepts.
5th – 6th March 07 Special DRUID WP5 meeting Vienna of KfV and BASt	Further elaboration of the questionnaire items. Additional composition of socio-demographic and traffic-related items and its integration into the new questionnaire.
15th – 17th March 07 Participation at the Conference of the German Society for Traffic Medicine by BASt	First promotion and recruitment phase regarding the participation of DR providers in the study on analysis of change process and components in Germany.
March until May 07 Telephone sessions and e-mail exchange by KfV and BASt	Further elaboration of the questionnaire items and finalisation of the English questionnaire version.
14th – 15th June 07 Participation at the 2nd Fit to Drive Conference by BASt and KfV	Further promotion of participation of the study to attending providers.
June until August 07 Feedback via telephone and e-mail by BASt and KfV	Composition of other language versions of the DUI questionnaire. Composition of the DUID questionnaire.

3.2 Content related information

3.2.1 Information from ANDREA feedback questionnaire

While ANDREA focussed on the contribution of single course elements to the effectiveness of the entire course, the DRUID survey at hand analyses which stage of change the course participants reach due to course and which are the driving forces for this change. Thus, the input from ANDREA for the DRUID questionnaire was on a more general level, on one hand regarding the overall course evaluation by the participants and on the other hand to get ideas how to formulate questions on the main elements that constitute the success in DR courses.

3.2.2 Information from former KfV questionnaires

At the KfV, two former questionnaires were available which were developed several years ago in the frame of further development of the DR courses and accompanying research. One questionnaire focused on the driving history, including socio-demographic, driving experience and offence related data. This information was helpful for composing the additional questions on the offender, the offence, the substance, etc. which should not only serve to describe the sample but also to include it in the data analyses. The second questionnaire focused on the participant's judgement of DR courses at KfV. The twelve questions in total considered the group process and its quality, the importance of the other course participants, the openness of speaking out in the presence of a psychologist, the influence of the psychologist's behaviour on self-assurance, the feelings during the course sessions, the course's impact on growing of self-confidence, on problem insight and problem solution.

3.2.3 Information from existing model of change related questionnaires

As decided by the WP5 team that the items of the participant feedback questionnaire should cover the ten processes of the Transtheoretical Model in order to gain insight into the changing processes that took place due the participation in the DR programmes, already available questionnaires related to the model were taken into account.
The review of the following questionnaires in German and English language supported the development of the items of the feedback questionnaire:

Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES, Miller & Tonigan, 1996)

The Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES Version 8) is a tool to measure the readiness to change and can be used for treatment planning. It was developed by Miller & Tonigan in 1996.
The SOCRATES Version 8 has two different forms: the Personal Drinking Questionnaire (SOCRATES 8A) and the Personal Drinking Questionnaire (SOCRATES 8B). Both forms are structured in the same way and assess with 19 self-reporting items the readiness to change in alcohol/drug-dependent individuals. The instrument can be administered in pencil-paper or interview format in about 5-10 minutes.

Readiness to Change Questionnaire (RTCQ; Heather et al., 1991)

The Readiness to Change Questionnaire (RTCQ) developed by Heather et al. (1991) is an inventory that provides information on the readiness to change in order to plan the rehabilitation. The RTCQ has 12 items and can be administered in paper-and-pencil format within 2-3 minutes. No special administration training is required. Three different outcomes are possible: Precontemplation,

Contemplation, or Action stage of change. Sample items include "I don't think I drink too much", "I enjoy my drinking, but sometimes I drink too much", and "I am actually changing my drinking habits right now".

University of Rhode Island Change Assessment Scale (URICA; McConnaughy et al., 1983)

The URICA provides a continuous measure of attitudes representing each of the stages of change and takes into account the attitudinal differences that could identify within or between stage categories. The scale consists of 32 items which are written so that they identify variables relevant to change. Responses can be given on a five-point Likert format (1 = strong disagreement to 5 = strong agreement). By using a cluster analytic technique the subjects can be classified due to their specific answering profile.

Processes of Change Alcohol (POCA-G; DiClemente et al., 1996)

The POCA-G is a questionnaire consisting of 65 items and aiming at depicting the processes that take place in an individual while changing problem behaviour. The items describe specific strategies that an individual uses in order to reach healthy behaviour. The subject answering the questionnaire can indicate how often he or she uses the mentioned strategies (1 = never, 2 = seldom, 3 = occasionally, 4 = frequently, 5 = repeatedly). From analysing the answers and reviewing which strategies are used conclusions can be drawn on the processes and thus stages the subject already went through.

3.3 First version of questionnaire

The first version of the WP5.2 analysis of change questionnaire was composed for DUI offenders. It consisted of 35 items on the change process and components. Moreover on the first page information for the participant on the intent of the survey as well as on ethical issues above all confidentiality and voluntariness was given plus an overall judgement of the course. At the end relevant socio-demographic, offence, BAC level and prior DR course participation related items were queried. While the answering alternatives for the change questions comprised four possibilities (agree completely, agree mostly, disagree mostly, disagree completely), the general course judgement consisted of five answering possibilities (very good, good, fair, poor, very poor).

As the sequence of the change items is concerned, the succession of the statements from one and the same change process was avoided. Additionally the pre- and proceeding items were arranged in such way that highly divergent contents did not occur and thus the entire questionnaire had a well-balanced setting of items.

3.3.1 Field testing of first questionnaire version

The first version of the study questionnaire was evaluated in the scope of three DR courses at KfV in Vienna in April 07. Both course leaders were WP5 team members and had different foci. At the end of the course the questionnaires were distributed to the participants. One course leader's task was to check content-related issues. Therefore the participants of two courses were informed that this is still a preliminary version which would serve for a European study on DR courses in future. Firstly they were asked to fill out the survey. Secondly they should comment on how they understood the statements, on how easy it was to fill out the survey, if and regarding which item they had problems and how the specific issue could be asked in a more clear and understandable way. The second course leader's task was to present the feedback questionnaires like in the final setting and to measure the needed time for filling out the complete file.

3.4 Revision of questionnaire

Based on the experience, the information and the answering of the first questionnaire version from the first field phase a revision took place which concerned the following areas:
The arrangement was changed in so far as the general judgement/evaluation of the course was placed to the last page, while offence, DUI level and prior DUI related issues were put to the first page. Moreover, all socio-demographic data moved to the last page in order to ease a correct answering of this group of items.
Due to time problems, which might occur in certain course settings, an additional questionnaire version consisting of three content related parallel forms (A, B, C) was composed. These three questionnaire forms were reduced to three pages each. The first and the last page were equivalent to the long version consisting of all other questions than the change related ones.
Some statements were revised in order to be better understandable. Furthermore the overall course judgement/evaluation was reduced to four answering alternatives. The intention was to avoid participant's tendency to the middle and to force to set judgements in either the more good or the more bad direction (very good, good, poor, very poor).

3.4.1 Field testing of second version

In the second field phase, which took place in May/June 07, the revised participant feedback questionnaire, namely the three form version was tested in rural areas of the Austrian federal states Styria and Tyrol. The course leaders received an instruction sheet only; they were no WP5 team members. The focus was to evaluate the final presentation of the questionnaires.
The feedback of both course leaders was in sum very positive. There were only two changes mentioned in order to improve the comprehensibility.
Based on these first evaluations with DUI offenders an analogous feedback questionnaire was composed for DUID offenders. Thereby the content-related statements were adapted to the drug and drug-driving context. Moreover regarding the frame questions, the specific drug at the offence was asked by choosing from main substance categories.

3.5 Composition of multi-language versions

As Member States with different national languages agree upon joining the participant feedback survey several language versions had to be composed. The following language versions were needed: German, German (German), German (Austrian), English (British), French (French), French (Belgian), Dutch (Dutch), Dutch (Flemish), Hungarian and Polish.
The process was as follows: Based on the English version composed by the WP5 team the translations were either carried out by team members themselves or they supported and supervised psychologists in the specific countries when translating.

4. Description of final study questionnaire

4.1 Entire questionnaire set

4.1.1 Alcohol

The first page of the entire questionnaire set included a short introduction and information about the aim of the study. In addition to that a short instruction on how to fill out the questionnaire was given and a contact person for the specific country was announced and the email address for further

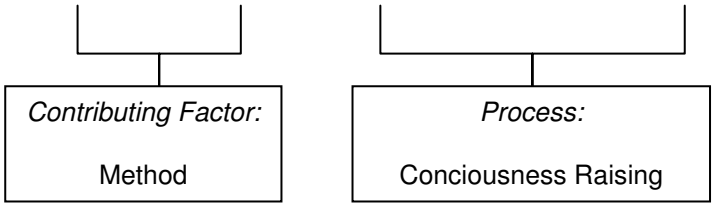
information was mentioned. It was explicitly pointed out that the participation is on a voluntary base. The first page furthermore comprised mainly items on traffic related variables:

- Actual date;
- Date of the actual drink-driving offence (month/year);
- BAC level (per mill);
- Detection of the offence (general traffic control, accident, others);
- Prior DUI convictions (no/yes);
- Year and BAC level in case of prior convictions;
- Prior participation in a rehabilitation course (no/yes);
- Year of participation in case of prior attendance.

The next pages of the entire questionnaire set consisted of 35 items which are presented as statements that represent the described processes of the Transtheoretical Model in order to draw conclusions about the stage that the individual has reached. Within each item always one of the corners of the Diamond of Change was presented as well to identify the factor which contributed to the specific processes („Contributing Factors“). Thus the items consist of two elements: the „Contributing Factor“ (mainly in the beginning of the sentence) and a statement representing the potentially proceeded process.

Example-item:

„The way the course got along raised my interest on the topic.”



Subjects who answered the questionnaire could mark on a 4 point scale if they agree completely, agree, mostly disagree or disagree completely.

The following amount of items was represented within the entire questionnaire set:

Cognitive-affective Processes ("Experiential Processes"; 19 items):

- "Consciousness raising": 7 items, thereof 5 for the individual and one for the content and one for methods;
- "Dramatic relief": 3 items, thereof one for the participant-participant relationship and 2 for the contents;
- "Environmental re-evaluation": 3 items, all of them for the individual;
- "Self-re-evaluation": 3 items, thereof one for the methods, one for the individual and one for the participant-participant relationship;
- "Social liberation": 3 items, thereof 2 for the participant-trainer relationship and one for the participant-participant relationship.

Behavioural Processes (16 items):

- "Self-liberation": 4 items, thereof 2 for the individual, one for the participant-trainer relationship and one for the content;
- "Stimulus control": 3 items, all for the individual;

- "Counter conditioning": 3 items, thereof one for content, one for the methods and one for the individual;
- "Helping relationships": 3 items, thereof one for participant-trainer relationship, one for the participant-participant relationship and one for the individual;
- "Reinforcement management": 3 items, all for the individual.

The last page of the questionnaire contained variables asking for an overall evaluation of the course and gathering socio-demographic information:

- Overall evaluation (very good, good, poor, very poor);
- Driving licence class (A=motorcycle, B=passenger car, C=lorry, D=bus);
- Licence on probation (yes/no);
- Gender (male/female);
- Age;
- Living status (living alone/cohabitating);
- Inhabitants of place of residence (< 100.000/100.000-500.000/>500.000);
- Educational level;
- Actual occupation.

The questionnaire was closed by thanking the subjects for the participation.

4.1.2 Drugs

The questionnaire for the change analysis of the drug courses was mostly concordant to the alcohol questionnaire. The first page contained the same introduction and information about the aim of the study. In addition to that a short instruction on how to fill out the questionnaire was given and a contact person for the specific country was announced and the email address for further information was mentioned. It was explicitly pointed out that the participation is on a voluntary base. Furthermore the first page comprised mainly items on traffic-related variables, yet adapted to the DUID offence:

- Actual date;
- Date of the actual DUID offence (month/year);
- Detected substances (marihuana/cannabis, heroine, cocaine, ecstasy, speed, LSD, others);
- Detection of the offence (general traffic control, accident, others);
- Prior DUID convictions (no/yes);
- Year and substances in case of prior convictions;
- Prior participation in a rehabilitation course (no/yes);
- Reason (alcohol, drugs, others) and year of participation in case of prior attendance.

The items measuring the change process and contributing factors of DUID course participants were equivalent to the items of the alcohol questionnaire. Some items had to be rephrased so that they were fitting to drug consumers. The amount of items and the meaning were the same as in the alcohol questionnaire (see above).
It was not necessary to make any changes on socio-demographic issues on the last page in order to adapt it to drug users.

4.2 Questionnaire forms

After the test runs it was decided to compose an additional questionnaire version by splitting the entire form into three quasi parallel forms. This was done in order to reduce the time amount needed for filling out the questionnaire. Thus it was possible to treat and evaluate the three forms alike the entire form providing that the distribution of forms were consecutively.

4.2.1 Form A

The first page included introduction, information, instructions and comprised items on traffic-related variables as mentioned above.
The items presented within Form A represented the following processes and contributing factors:

Table 46: Form A - processes and contributing factors

Item No.	Process of change	Contributing factor
1	Self liberation	Individual
2	Counter conditioning	Content
3	Self-re-evaluation	Methods
4	Consciousness raising	Individual (same item in form A, B & C)
5	Environmental re-evaluation	Individual
6	Social liberation	Participant-trainer relationship
7	Stimulus control	Individual
8	Helping relationships	Participant-trainer relationship
9	Dramatic relief	Participant-participant relationship
10	Consciousness raising	Individual
11	Reinforcement management	Individual
12	Consciousness raising	Individual
13	Self liberation	Individual (same item in form A, B & C)

The last page of Form A contained variables asking for an overall evaluation of the course and gathering socio-demographic information as mentioned above. The questionnaire was closed by thanking the subjects for the participation.

4.2.2 Form B

The first page included introduction, information, instructions and comprised items on traffic related variables as mentioned above.
The items presented within Form B represented the following processes and contributing factors:

Table 47: Form B - processes and contributing factors

Item No.	Process of change	Contributing factor
1	Self liberation	Participant-trainer relationship
2	Counter conditioning	Methods
3	Self-re-evaluation	Individual
4	Consciousness raising	Individual (same item in form A, B & C)
5	Environmental re-evaluation	Individual
6	Social liberation	Participant-participant relationship
7	Stimulus control	Individual
8	Helping relationships	Participant-participant relationship
9	Dramatic relief	Contents
10	Consciousness raising	Contents
11	Reinforcement management	Individual

Item No.	Process of change	Contributing factor
12	Consciousness raising	Individual
13	Self liberation	Individual (same item in form A, B & C)

The last page of Form B contained variables asking for an overall evaluation of the course and gathering socio-demographic information as mentioned above. The questionnaire was closed by thanking the subjects for the participation.

4.2.3 Form C

The first page included introduction, information, instructions and comprised items on traffic related variables as mentioned above.
The items presented within Form C represented the following processes and contributing factors:

Table 48: Form C - processes and contributing factors

Item No.	Process of change	Contributing factor
1	Self liberation	Contents
2	Counter conditioning	Methods
3	Self re-evaluation	Participant-participant relationship
4	Consciousness raising	Individual (same item in form A, B & C)
5	Environmental re-evaluation	Individual
6	Social liberation	Participant-trainer relationship
7	Stimulus control	Individual
8	Helping relationships	Individual
9	Dramatic relief	Contents
10	Consciousness raising	Methods
11	Reinforcement management	Individual
12	Consciousness raising	Individual
13	Self liberation	Individual (same item in form A, B & C)

The last page of Form C contained variables asking for an overall evaluation of the course and gathering socio-demographic information as mentioned above. The questionnaire was closed by thanking the subjects for the participation.

5. Organisation and conduction of study

5.1 Identification and motivation of DR providers for participation

Based on the information gathered from the provider questionnaire in WP5 Task 1 (state of the art) European countries and providers carrying out DR courses were identified. This was accomplished by knowledge of the WP5 team members on this issue as well as professional contacts and networks. By means of face-to-face contacts, via telephone and/or e-mail information was given about the planned research activities and its importance for future solutions regarding DR on EU-level. Moreover the importance of participating in the questionnaire survey on change process and components in DR courses was strongly advertised above all at conferences and professional meetings.
As no financial compensation for participation was possible, the following two incentives were announced for those providers willing to take part: Being listed in the respective deliverable and being invited to an expert workshop on the presentation and discussion of the research results.

5.2 Support to DR providers

It was decided to give support to the providers during the conduction of the survey. For this reason, responsible persons of the WP5 research team were nominated to organize the survey for specific countries (see following table). In some Member States, like Great Britain or France, a responsible national co-operator was named or established, who co-ordinated the survey activities within the country and who was the direct contact person for the responsible WP5 team member.
The following table shows which WP5 partners supported providers in which country.

Table 49: Responsible DRUID WP5 partner for contacting and supporting countries respectively providers

Country	KfV	BAST	IBSR	INRETS
Austria	X			
Belgium			X	
France				X
Germany		X		
Hungary	X			
Italy	X			
Netherlands			X	
Poland	X			
United Kingdom	X			

Furthermore, an information sheet for every participating provider was designed. The sheet contained information regarding the following issues:

- General information about the EU-project DRUID and specific aims and activities of the WP5;
- General information about the study, labelled as participant feedback study;
- Explanations of the theoretical concept;
- Realization of the study (distribution of questionnaire forms, time frame of data collection);
- Ethical issues and data protection;
- Practical arrangements;
- Responsible person with contact data.

In addition to the information for course providers an instruction sheet for the course leaders was composed in order to assure a uniform performance of the survey in each country. The course providers were advised to hand them out to any course leader willing to support the study. This hand-out included mainly practical information on how to conduct the survey:

- Conduction only in alcohol or drug group courses;
- Distribution at the end of the last session, e.g. after handing out the certificates of attendance;
- Time amount of filling out (10 minutes);
- Introduction of the study to the participants:
    - Evaluation in the frame of an EU project;
    - Voluntary participation;
    - Anonymous status;
    - Instructions after filling out / self-enveloping of the questionnaires by the participants;

- Distribution of equal amounts of Form A, B and C in each course;
- Distribution of the alcohol forms in alcohol courses and the drug forms in the drug courses, use of the drug forms in case of more substances detected;
- Support to the participants in case of language problems;
- Collection of the small envelopes with the questionnaires and further enveloping into a larger cover with the name of the course model (only in Germany);
- Name and contact data of the person in charge.

5.3 Forwarding of questionnaire material

The data collection started in August 2007. Each WP5 partner had to care for the provision of sufficient material for the participating providers having been responsible for. To assure the highest response rate possible, the providers received:

- Information for the provider;
- Instructions for the course leaders;
- Sufficient amount of questionnaire copies Form A, B and C;
- Sufficient amount of small envelopes for the participants;
- Sufficient amount of large envelopes for the course leaders (only Germany).

The providers were advised to contact the person in charge in case of an insufficient material supply, thus the responsible person delivered the needed material. Some organizations asked for a permission to copy the questionnaires themselves and even offered to support the study by using their own envelopes.

5.4 Organization of return run

For the return run of the questionnaires, the WP5 responsible team members started to contact the providers or national co-operators from November 2007 on to remind them of the deadline of the survey. Each participating provider sent the filled out questionnaires of Form A, B and C to the responsible team member, who then cared for the electronic data input into an especially prepared excel file. In case that national co-operating persons were responsible of conducting the feedback study in their countries, they were also responsible for the data input, respectively collected all envelopes, realized the data input and produced the final data file for further evaluation. All excel files were forwarded to the KfV for further data processing.
The foreseen deadline of 31st of December 2007 was postponed to the 9th of February 2008 in order to receive as much filled out feedback questionnaires as possible.

6. Methodology

Data have been analyzed over the total sample and for all 9 countries separately. Besides conventional descriptive statistical measures as absolute frequencies and percentages for categorical variables and mean ± standard deviation, minimum and maximum, as well as the quartiles (Q_1, Q_2=md, Q_3) for continuous variables, statistical group comparisons have been applied. In case of continuous variables ANOVA models with post-hoc Scheffé-tests or post-hoc Tamhane-tests – in case of heterogeneous variances – were used to compare more than two groups and t-tests for independent samples or Mann & Whitney-U-tests (the latter again in case of heterogeneous variables) when comparing only two groups. Comparison of categorical variables was done using Fisher-Exact

test. Interrelations of continuous variables have been analyzed using Pearson's correlation coefficient and that of rank-ordered variables using Spearman's rank correlation coefficient. Due to the large sample size all significant p-values are supplemented by the respective effect sizes.
All statistical analyses were performed using SPSS 15.0 including the Exact-test module. Generally all results are discussed at an error level of 5%, but due to a possible inflation of the error type I - because of multiple testing - only p-values <.001 may be considered strong indicators.

7. Results

In total, nine Member States (Austria, Belgium, France, Germany, Hungary, Italy, the Netherlands, Poland, United Kingdom) participated in this study. The names of the participating DR providers are on one hand listed in the corresponding country results and on the other hand are listed in the annex. A detailed characteristic of the samples are separately documented on country level as well (see 7.4).

7.1 Outcomes on European level for DUI participants

The ultimate purpose of the WP5 research activities is to help prepare uniform recommendations of preventive measures aimed at drivers under the influence of alcohol and/or drugs. This is why the result's presentation starts from the highest, namely the EU-level. Thus, firstly the outcomes of the analysis of change process and components in DR courses based on the responses of DUI offenders who participated in this measure are documented for all Member States together. Then the study results are given separately on country level.
Data collection took place from midst of May 2007 till midst of February 2008, whereby the conduction phases differed between Member States due to organisational reasons. The time frame of data collection on country level is documented in the respective Member State (see 7.3).

Due to the fact, that no systematic differences between the questionnaire forms (Total, A, B, C) were found, the outcomes are always documented for the total questionnaire. Due to missing data in certain variables sample sizes can differ.

7.1.1 Description of entire sample

In total 7.339 questionnaires were filled out by participants of DUI courses in 9 European countries, namely Austria, Belgium, France, Germany, Great Britain, Hungary, Italy, Poland and the Netherlands. The mean age of the sample is 34 years, with a standard deviation of 12.6. The youngest participant is 16, the oldest 80. Regarding gender 9 out of 10 DUI offenders are male. Almost 60% come from small towns and concerning the educational background it can be stated that only one fourth of the whole study population has completed an A-level degree or higher. Detailed results regarding socio-demographics are presented in the tables below.

Table 50: DUI Europe - Sample size and age

Variable	Result
Total sample size, n	7339
Age, years, mean± sd, min-max, n	34.1±12.6, 16.0-80.0, n=6727

Table 51: DUI Europe - Socio-demographic variables

Variables	Result, n (%),
Gender	
male	6356 (86.6%)
female	788 (10.7%)
missing	195 (2.7%)
Cohabitation	
no	3036 (41.4%)
yes	3299 (45.0%)
missing	1004 (13.7%)

Variables	Result, n (%),
Residence	
< 100.000	4274 (58.2%)
100.000-500.000	1368 (18.6%)
> 500.000	1099 (15.0%)
missing	598 (8.1%)
Education	
No compulsory school	140 (1.9%)
Compulsory school	1312 (17.9%)
Secondary school	2612 (35.6%)
A-level	804 (11.0%)
Vocational school	395 (5.4%)
College	263 (3.6%)
Academic	487 (6.6%)
missing	1326 (18.1%)
Occupation	
Armed forces	64 (0.9%)
Managers	257 (3.5%)
Professionals	418 (5.7%)
Technicians and associated professionals	599 (8.2%)
Clerical support workers	451 (6.1%)
Service and sales workers	456 (6.2%)
Skilled agricultural, forestry and fishery workers	61 (0.8%)
Craft and related trades workers	1552 (21.1%)
Plant and machine operators, and assemblers	587 (8.0%)
Elementary occupations	282 (3.8%)
unemployed	373 (5.1%)
Self-employed	369 (5.0%)
On retirement	267 (3.6%)
On sick-leave	12 (0.2%)
On maternity-leave	4 (0.1%)
Students	569 (7.8%)
Housewife/-man	38 (0.5%)
Missing	980 (13.4%)

The results regarding traffic-related variables show an average BAC of 1.43 ‰ with a standard deviation of 0.58. Almost one fourth of the sample was detected due to an accident and almost the same amount is recidivists. Nearly 12% had already participated in a DR programme. The outcomes for the total European sample on traffic-related variables are displayed in the tables below.

Table 52: DUI Europe - BAC level of sample

Variable	Result
BAC level, promille, mean± sd, n	1.43±0.58, n=6804

Table 53: DUI Europe - Alcohol offence related variables

Variables	Result, n (%)
Detection of actual DUI offence: control	
no	2706 (36.9%)
yes	4461 (60.8%)
missing	172 (2.3%)
Detection of actual DUI offence: accident	
no	5372 (73.2%)
yes	1751 (23.9%)
missing	216 (2.9%)
Prior drinking and driving convictions	
no	5428 (74.0%)
yes	1706 (23.2%)
missing	205 (2.8%)
Prior drink driving rehabilitation course	
no	5828 (79.4%)
yes	856 (11.7%)
missing	655 (8.9%)

7.1.2 DUI offenders' overall evaluation of DR courses

7.1.2.1 Overall evaluation – Total European sample

All European DR courses receive a very positive overall feedback by the DUI participants. Almost 95% of the course attendees rate the course as good or even better. Only a small number of subjects (2.2%) give a negative feedback by evaluating the course as bad or worse. All frequencies of the ratings are shown in table and figure below.

Table 54: DUI Europe - Overall DR course evaluation

Variables	Result, n (%)
Overall evaluation of course	
Very good	3574 (48.7%)
good	3378 (46.0%)
bad	122 (1.7%)
Very bad	34 (0.5%)
Missing	231 (3.1%)
	mean± sd, n
Average	1.52±0.56, n=7108

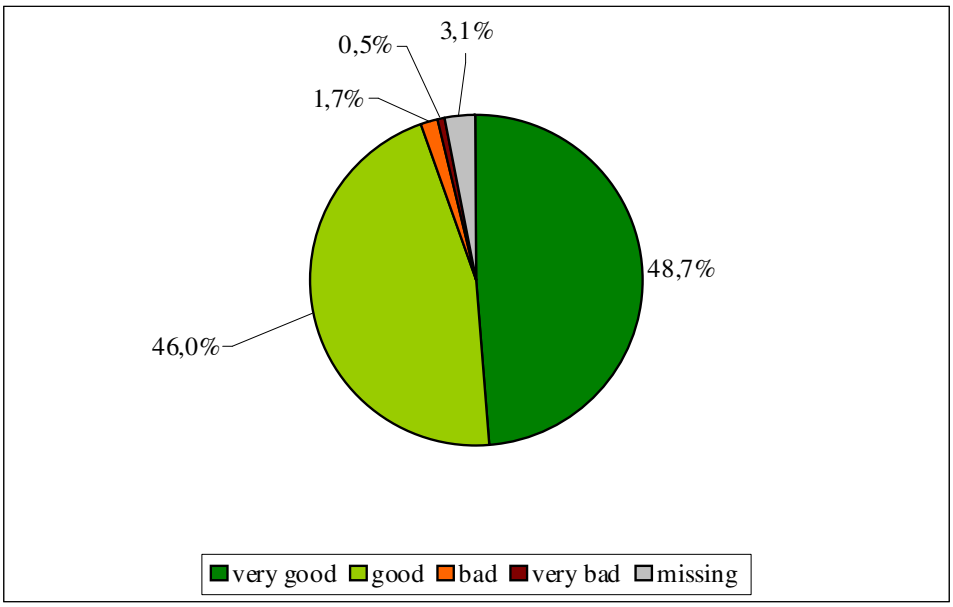


Figure 6: DUI Europe - Overall evaluation of DR course

7.1.2.2 Overall evaluation – Comparison of countries

When comparing the overall evaluations across the Member States, it can be seen that all countries reach very positive feedback ranging from 1.26 to 1.76 (1=very good, 2=good), although the countries' evaluations differ highly significant (p<.001) which is due to the big sample size. Thereby, the British courses reach the best results, followed by the Polish and Austrian. Nevertheless, it should be pointed out that on average no programmes in any country was evaluated worse than in between very good and good.

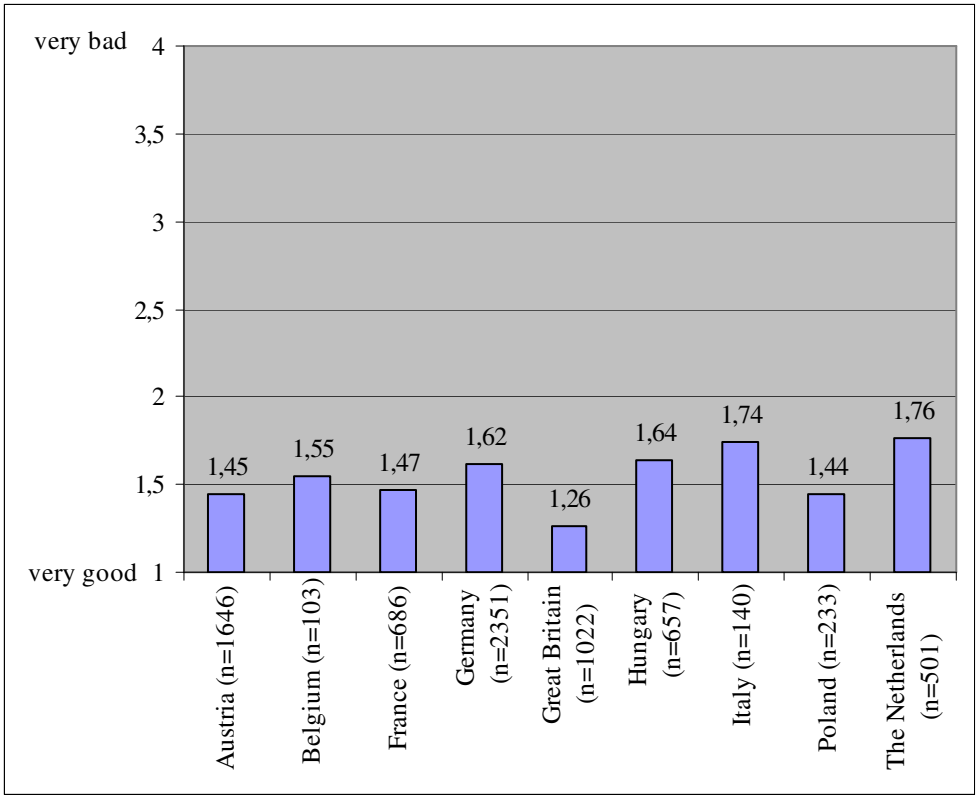


Figure 7: DUI Europe - Evaluations (1...very good, 4...very bad)

7.1.3 TTM scales and processes

7.1.3.1 TTM scales and processes – Total European sample

The results for the overall means on each scale of the TTM based on the answering format in the questionnaire (1=agree completely, 2=agree mostly, 3= disagree mostly, 4=disagree completely) reveal that in general the majority of the DUI course participants have gone through all stages of change successfully according to their assessments (mean estimation score ranging from 1.39 to 1.92 for the TTM scales). Especially changes in 'Self-liberation' were confirmed, whereas changes concerning 'Environmental re-evaluation' were less strongly indicated. Thereby especially behavioural related change processes took place compared to the cognitive affective ones according to the participants' assessments (mean estimation score for TTM cognitive-affective processes is 1.69 and for the TTM behavioural processes 1.50).

All in all most participants agree that the course supports the choice and the commitment to change the DUI behaviour, including the belief in the ability to change successfully.

The means for the total sample on the TTM scales are presented in the following table and curve.

Table 55: DUI Europe - Outcomes in TTM scales and processes

Variable	Result mean± sd, n
TTM scales	
Conscious raising	1.65±0.59, n=7220
Dramatic relief	1.89±0.85, n=7059
Environmental re-evaluation	1.92±0.97, n=7108
Self re-evaluation	1.69±0.79, n=7046
Social liberation	1.42±0.64, n=7130

Variable	Result mean± sd, n
Self-liberation	1.39±0.56, n=7233
Stimulus control	1.53±0.76, n=7117
Counter conditioning	1.48±0.65, n=7165
Helping relationships	1.51±0.68, n=7145
Reinforcement management	1.69±0.87, n=7096
TTM processes	
Cognitive affective processes	1.69±0.49, n=7237
Behavioural processes	1.50±0.50, n=7247

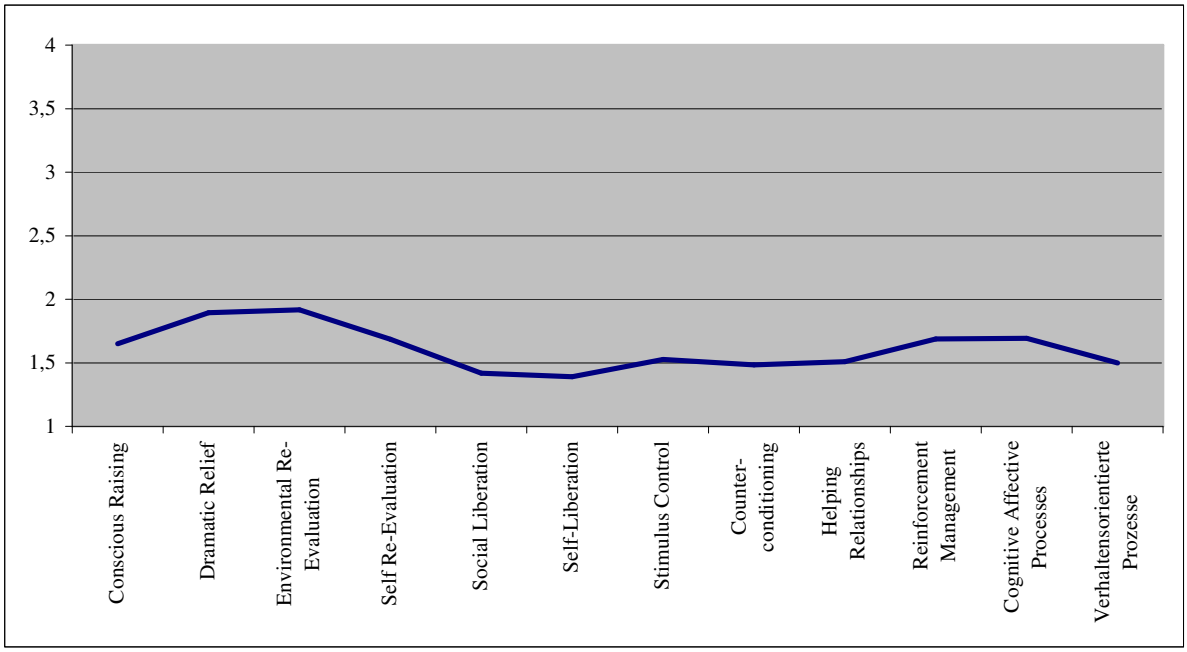


Figure 8: DUI Europe - Overall results in TTM scales and processes

7.1.3.2 TTM scales and processes - Comparison of countries

Consciousness raising

The means on a country level show that DUI participants in all countries agree that the course supported them in gathering change relevant information about themselves and their problem behaviour, ranging from 1.43 to 1.86 (1=agree completely, 2=agree mostly). Thus, their awareness about the consequences of the problem behaviour increased. Again Great Britain reached the best result followed by Poland and Germany. The country means differ highly significant ($p<.001$). The Scheffè test checks, if homogenous groups can be found, meaning if some countries form a uniform class according to their mean scores. Homogeneous subgroups are in ascending order):

- Great Britain, Poland;
- Poland, Germany, the Netherlands, Austria, Belgium, France;
- Germany, the Netherlands, Austria, Belgium, France, Italy;
- Belgium, France, Italy, Hungary.

The results of the Scheffé tests reveal overlaps and that some countries appear two or even three times in different groups and thus are not distinctively belonging to one group. This indicates that the average scores do not vary as much as the p-value is supposing. As a consequence it can be presumed that significant differences appear mainly due to the big sample sizes.

All means are presented in the figure below.

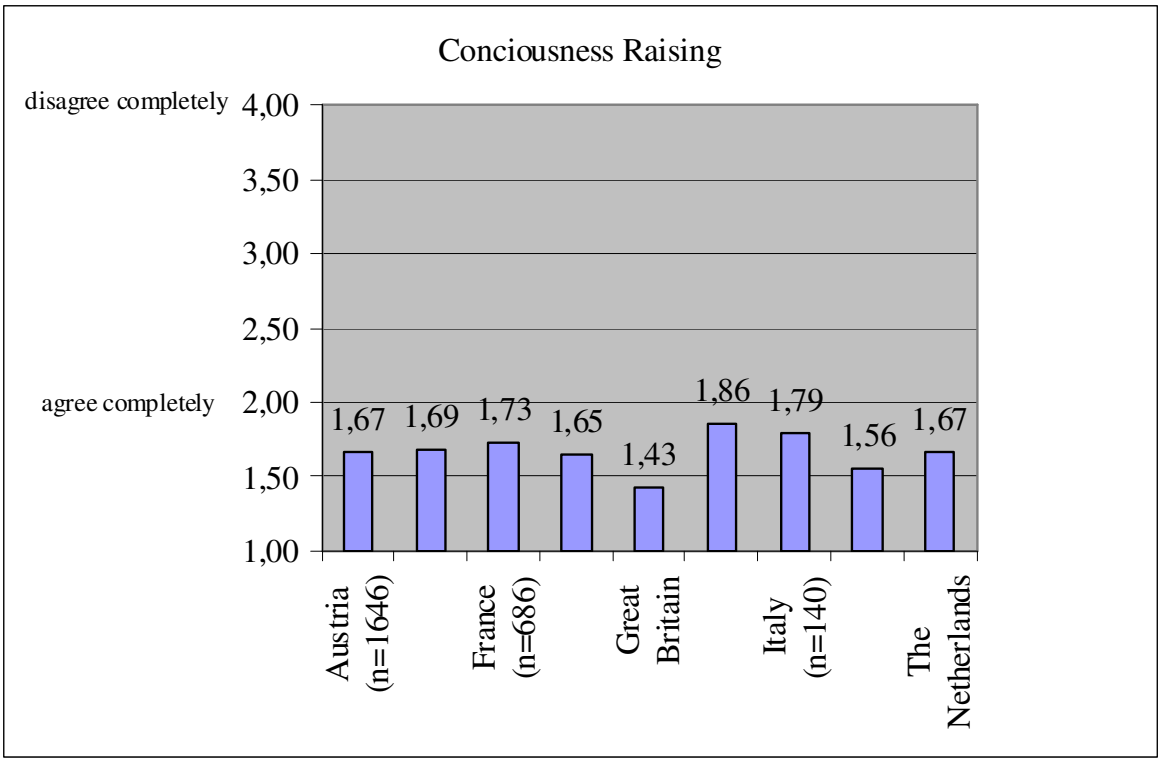


Figure 9: DUI Europe - Consciousness Raising, mean values per country

Dramatic relief

Compared to 'Consciousness raising', the change in 'Dramatic relief' is less strong ranging from 1.74 to 2.29 (1=agree completely, 2=agree mostly, 3=disagree mostly). Although the values are still more on the positive side, the attendees feel not so much support regarding the experiencing and expressing of feelings about the problem behaviour and possible solutions due to course participation. Most successful changes in the scale 'Consciousness raising' are reported by the Italian DUI participants, followed by Germany and Austria. Again the countries' means differ highly significant ($p<.001$) on these scales. As homogeneous subgroups according to Scheffé-test the following were identified (in ascending order):

- Italy, Germany, Austria, Great Britain, France;
- Germany, Austria, Great Britain, France, Hungary;
- Austria, Great Britain, France, Hungary, Belgium, Poland;
- Belgium, Poland, the Netherlands.

Again the results of the Scheffé tests reveal overlaps and that some countries appear two or even three times in different groups and thus are not distinctively belonging to one group. This indicates that the average scores do not vary as much as the p-value is supposing. As a consequence it is presumable that significant differences appear due to the big sample sizes.

All means are shown in the figure below.

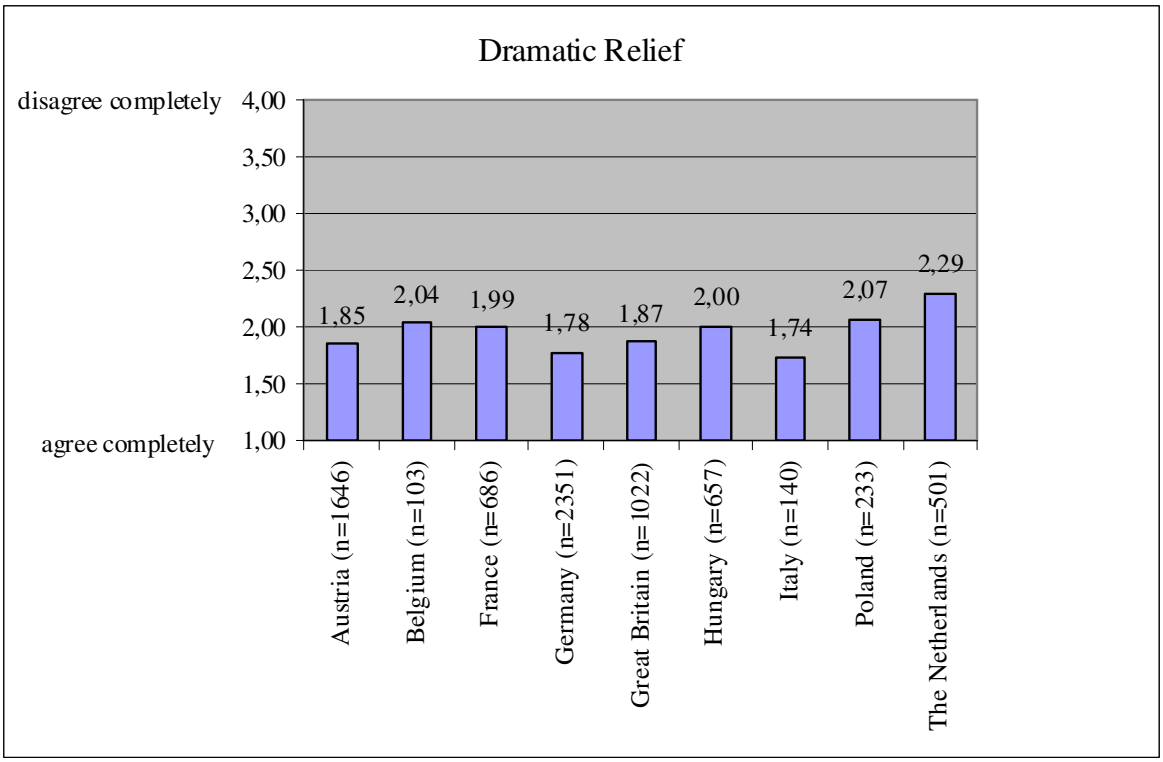


Figure 10: DUI Europe - Dramatic Relief, mean values per country

Environmental re-evaluation:

Regarding the comparisons of the participating countries the results for the 'Environmental re-evaluation' scale range from 1.58 to 2.21 (1=agree completely, 2= agree mostly, 3=disagree mostly). This indicates that successful passing of this stage of change differs between the participating countries ($p<.001$). Most agreement was reported by the Polish DUI offenders, the French and British which form a homogeneous subgroup (Scheffé-test). All homogeneous subgroups are (in ascending order):

- Poland, France, Great Britain;
- France, Great Britain, Italy, Germany, Austria, Hungary;
- Italy, Germany, Austria, Hungary, the Netherlands;
- Germany, Austria, Hungary, the Netherlands, Belgium.

As already stated above, the results of the Scheffé tests reveal overlaps and that some countries appear two or even three times in different groups and thus are not distinctively belonging to one group. This indicates that the average scores do not vary as much as the p-value is supposing. As a consequence it is presumable that significant differences appear due to the big sample sizes.

All country means can be viewed in the figure below.

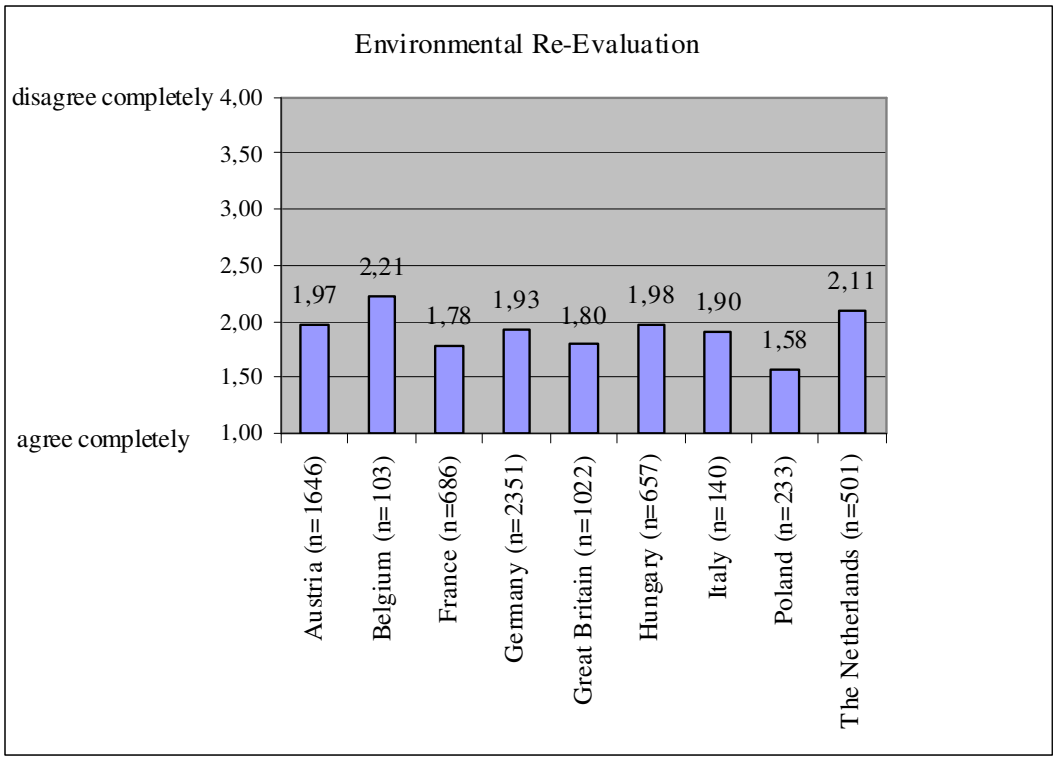


Figure 11: DUI Europe - Environmental Re-Evaluation; mean values per country

Self re-evaluation

The assessments in the TTM scale 'Self re-evaluation' with agreement scores varying from 1.49 to 1.79 (1=agree completely, 2=agree mostly) between the countries reveal that the courses strongly support the self-reflection process. This is especially the case for the DUI offenders in the Polish, British and Belgian courses. As homogeneous subgroups (Scheffé-test) the following were identified (in ascending order):

- Poland, Great Britain, Belgium, Germany, Hungary, the Netherlands, Austria;
- Great Britain, Belgium, Germany, Hungary, the Netherlands, Austria, France;
- Belgium, Germany, Hungary, the Netherlands, Austria, France, Italy.

As already mentioned, the results of the Scheffé tests reveal overlaps and that some countries appear two or even three times in different groups and thus are not distinctively belonging to one group. This indicates that the average scores do not vary as much as the p-value is supposing. As a consequence it is presumable that significant differences appear due to the big sample sizes.

The averages for all countries are displayed in the figure below.

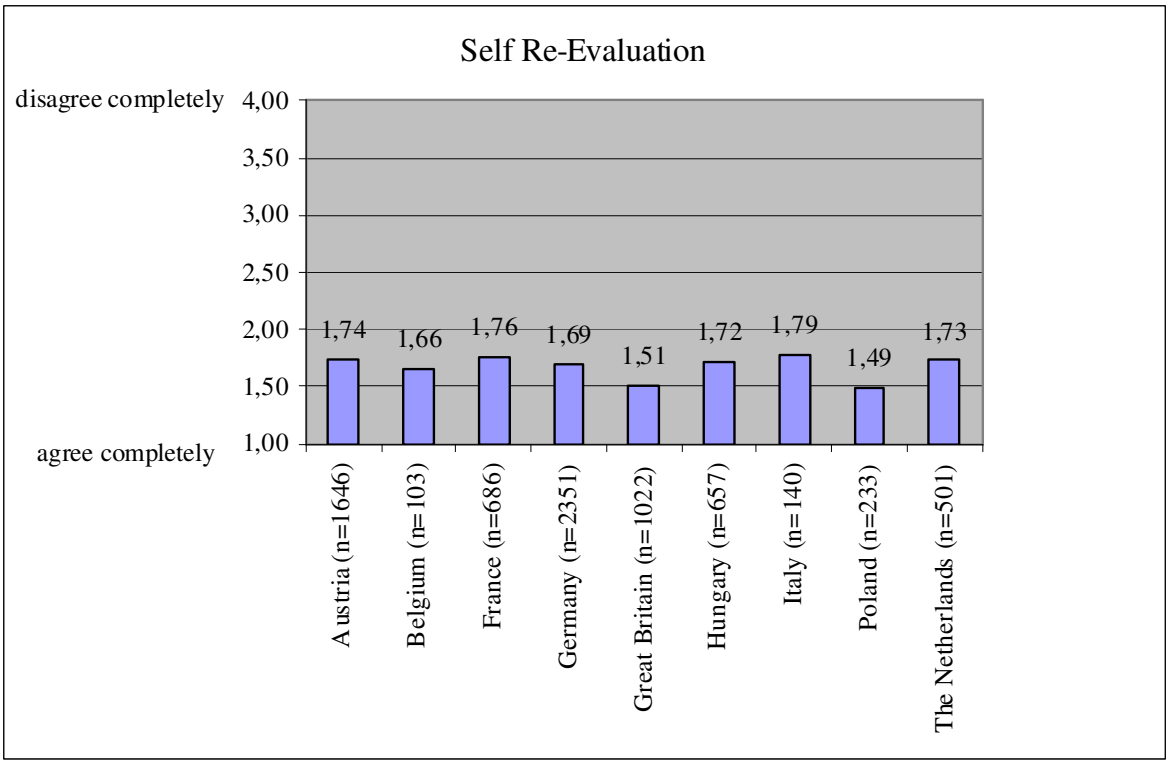


Figure 12: DUI Europe - Self Re-Evaluation; mean values per country

Social liberation

The high agreement scores in the social liberation scale across all countries ranging from 1.34 to 1.62 (1=agree completely, 2=agree mostly) document that due to course participation the DUI offenders become more aware of alternative lifestyles and cues that support their change and agree to it. Nevertheless, the differences between the countries are highly significant ($p<.001$). Homogeneous subgroups (Scheffé-test) are (in ascending order):

- Great Britain, Austria, Germany, Belgium, Hungary, Poland, the Netherlands, France;
- Austria, Germany, Belgium, Hungary, Poland, the Netherlands, France, Italy.

As already mentioned, the results of the Scheffé tests reveal overlaps and that some countries appear double in the two groups and thus are not distinctively belonging to one group. This indicates that the average scores do not vary as much as the p-value is supposing. As a consequence it is presumable that significant differences appear due to the big sample sizes.

The averages for all countries are displayed in the figure below.

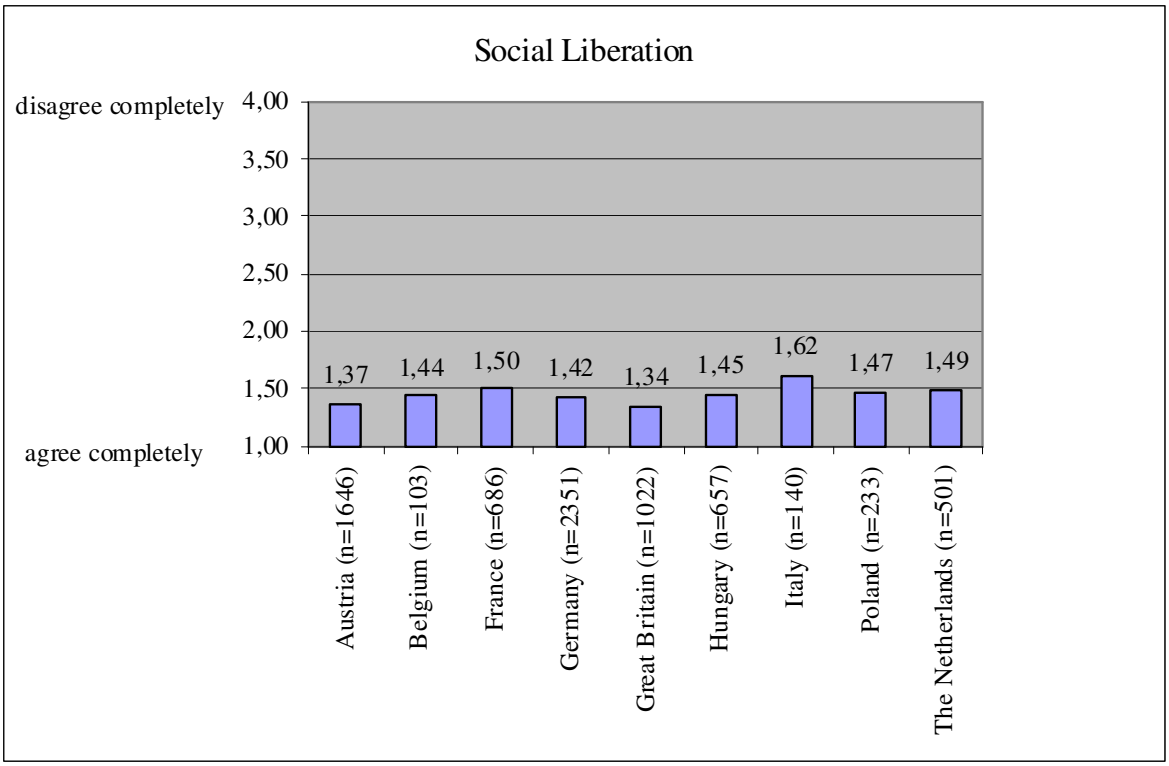


Figure 13: DUI Europe - Social Liberation; mean values per country

Self-liberation

The highest agreement of the participants in almost each country is on the self-liberation scale, ranging from 1.22 to 1.58 (1=agree completely, 2=agree mostly). This indicates that the particular strength of the courses is to help the DUI offenders in the decision to change the problem behaviour and to commit to new goals. Furthermore the participants feel a support of their self-efficacy, mainly the belief in the ability to change successfully.

Nevertheless, the countries differ highly significant in this scale ($p<.001$) and Great Britain, Poland and Austria are ranking in the front. All homogeneous subgroups (Scheffé-test) are (in ascending order):

- Great Britain, Poland, Austria;
- Poland, Austria, the Netherlands, Belgium, Germany, France;
- Austria, the Netherlands, Belgium, Germany, France, Hungary;
- Belgium, Germany, France, Hungary, Italy.

Again, the overlaps of countries appearing in more than one group and thus are not distinctively belonging to one group indicate that the average scores do not vary as much as the p-value is supposing. As a consequence it is presumable that significant differences appear due to the big sample sizes.

The averages for all countries are displayed in the figure below.

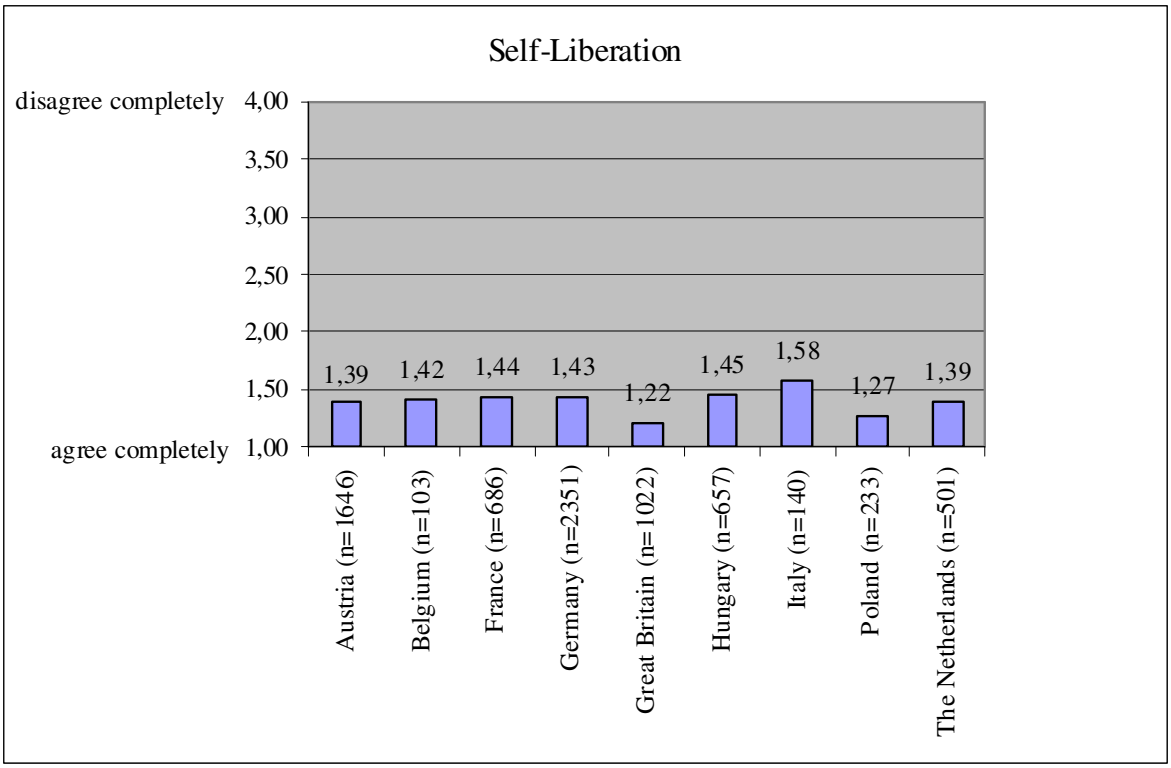


Figure 14: DUI Europe - Self Liberation; mean values per country

Stimulus control

In addition, the subjects report that the course also helps them to control or avoid situations, persons or other cues that trigger the problem behaviour and to support the occurrence of new behaviour. The participants' answers in this scale range from 1.33 to 1.71 (1=agree completely, 2=agree mostly). Countries differ highly significant (p<.001) and again the Polish and the British courses received the best feedback regarding this process, followed by Hungary. Homogeneous subgroups (Scheffé-test) are (in ascending order):

- Poland, Great Britain, Hungary, the Netherlands, Germany, Austria;
- Hungary, the Netherlands, Germany, Austria, France, Italy;
- The Netherlands, Germany, Austria, France, Italy, Belgium.

Again it must be mentioned that the overlaps of countries appearing in more than one group and thus are not distinctively belonging to one group, indicate that the average scores do not vary as much as the p-value is supposing. As a consequence it is presumable that significant differences appear due to the big sample sizes.

The averages for all countries are shown in the figure below.

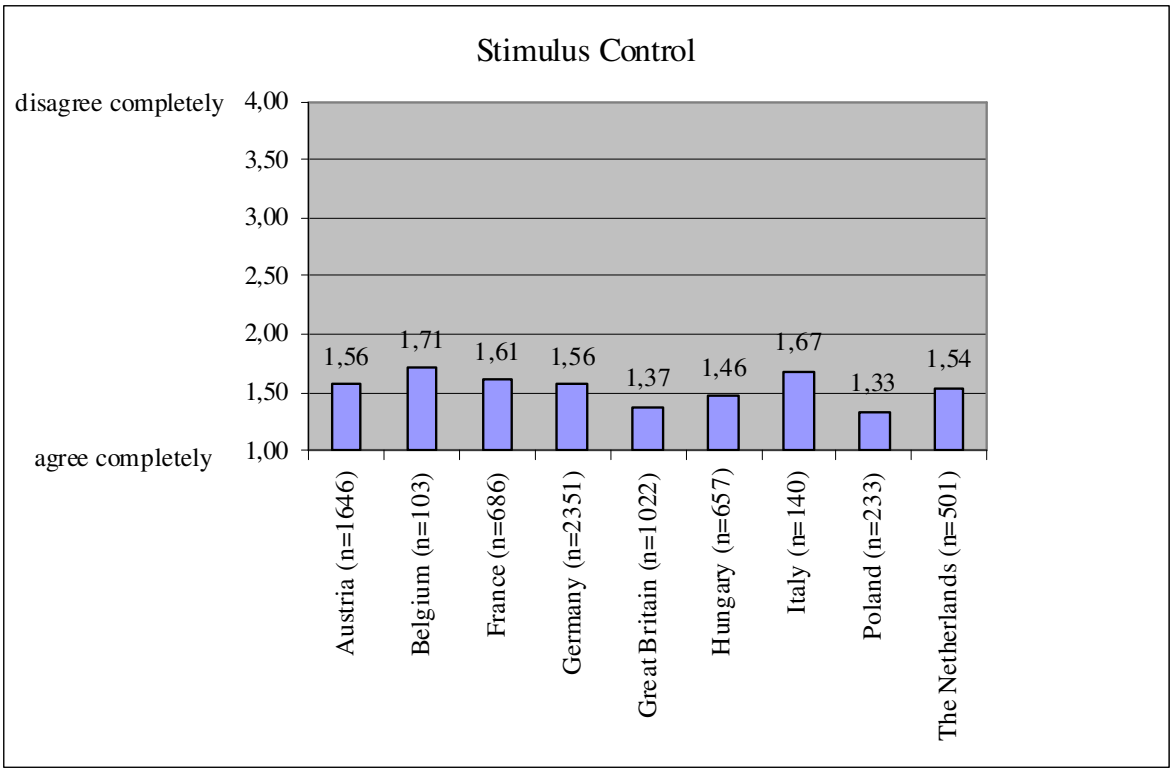


Figure 15: DUI Europe - Stimulus Control; mean values per country

Counter conditioning

In every country the participants mostly agree that the course participation helps to develop alternative strategies and substitute healthier behaviour for the problem behaviour. The results range from 1.27 to 1.63 (1=agree completely, 2= agree mostly). Most agreement regarding changes on this aspect is expressed by the British, Polish and Dutch participants. Although the countries differ highly significant ($p<.001$), as homogeneous subgroups (Scheffé-test) the following were identified (in ascending order):

- Great Britain, Poland, the Netherlands;
- Poland, the Netherlands, Austria, Belgium, Germany, Hungary;
- The Netherlands, Austria, Belgium, Germany, Hungary, France, Italy.

Once again the overlaps of countries indicate that the average scores do not vary as much as the p-value is supposing. As a consequence it is presumable that significant differences appear due to the big sample sizes.

The averages for all countries are shown in the figure below.

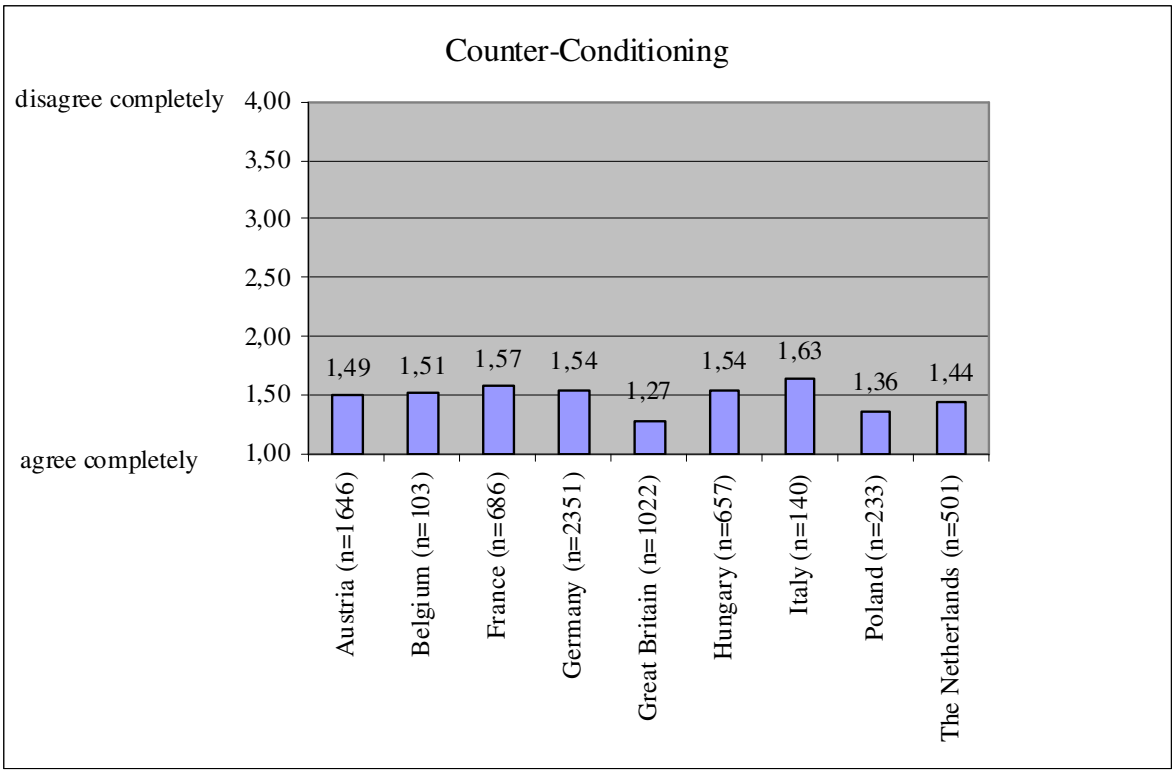


Figure 16: DUI Europe - Counter-Conditioning; mean values per country

Helping relationships

Furthermore the participants do agree that they gain active social support within the course to make the attempts to change more easily, ranging from 1.40 to 1.82 (1=agree completely, 2=agree mostly). The most positive results can be found in the British, Polish and German samples.
Significant differences ($p<.001$) exist on the country level. All country means are depicted below. Homogeneous Subgroups (Scheffé-test) are (in ascending order):

- Great Britain, Poland, Germany, Austria, France, Belgium, the Netherlands;
- Germany, Austria, France, Belgium, the Netherlands, Hungary;
- Hungary, Italy.

As already mentioned the results of the Scheffé tests reveal overlaps and that some countries appear double in different groups and thus are not distinctively belonging to one group. This indicates that the average scores do not vary as much as the p-value is supposing. As a consequence it is presumable that significant differences appear due to the big sample sizes.

All country means are depicted below.

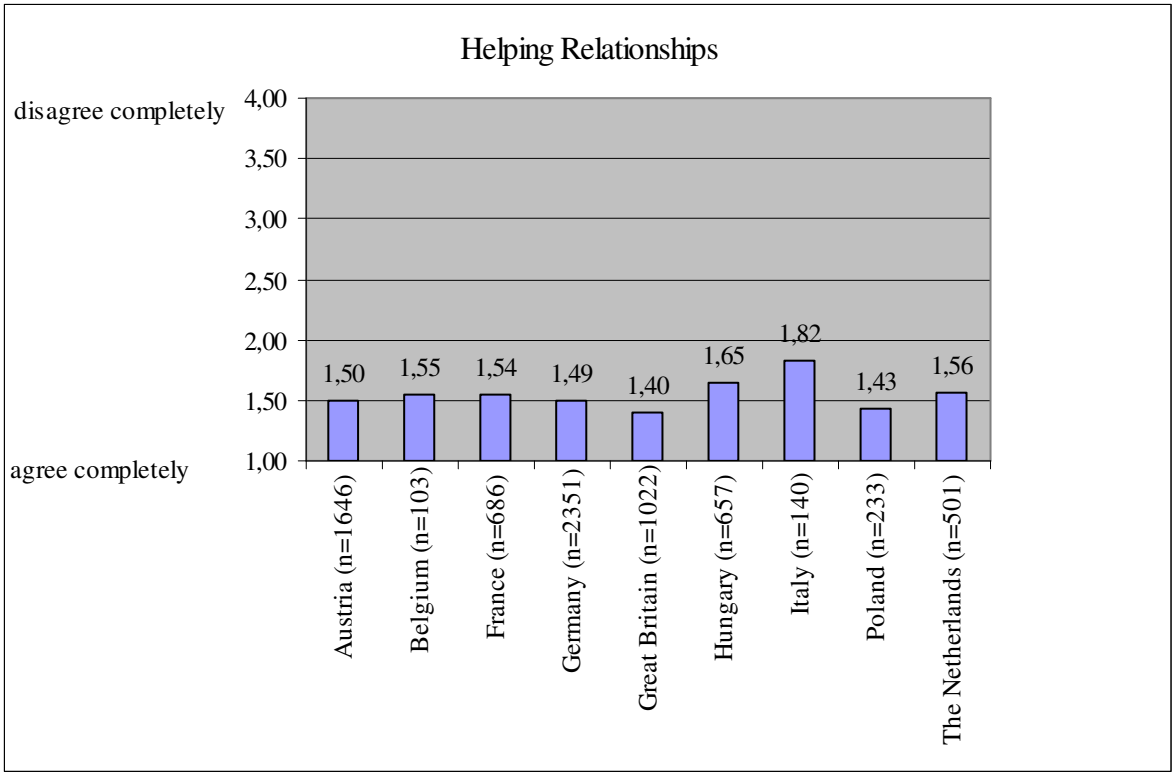


Figure 17: DUI Europe - Help Relationships; mean values per country

Reinforcement management

The outcomes on this TTM scale range from 1.44 to 2.00 (1=agree completely, 2=agree mostly). Although regarding all behavioural processes the least agreement is reported on this scale, the results still indicate that a lot of the participants feel supported in the systematic use of reinforcement and (self-)rewarding strategies to reach and stabilise the target behaviour. Again the Polish and British, and furthermore the Italian courses reach high agreement scores. Countries differ highly significant ($p<.001$), but can be divided in the following homogeneous subgroups (Scheffé-test; in ascending order):

- Poland, Great Britain, Italy, Hungary, Austria, Germany;
- Great Britain, Italy, Hungary, Austria, Germany, France;
- France, the Netherlands, Belgium.

Again, the results of the Scheffé tests reveal overlaps and that some countries appear double in the different and thus are not distinctively belonging to one group. This indicates that the average scores do not vary as much as the p-value is supposing. As a consequence it is presumable that significant differences appear due to the big sample sizes.

All country means are shown below.

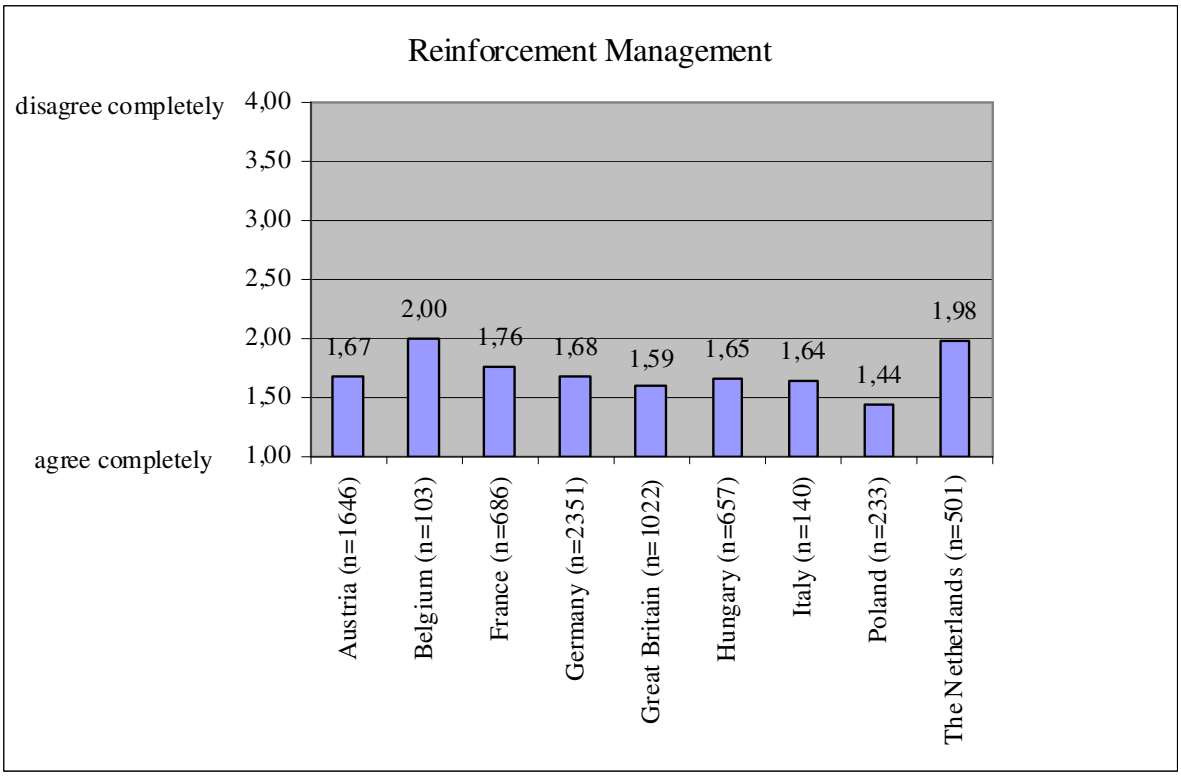


Figure 18: DUI Europe - Reinforcement Management¸ mean values per country

Cognitive affective processes

The overall sum score means for all cognitive affective change processes taken together ranges from 1.54 to 1.82 (1=agree completely, 2=agree mostly). Thereby, the British, Polish and German courses are supposed to be most effective in these processes. Significant differences exist between the countries ($p<.001$), but homogeneous subgroups (Scheffé-test) can be identified as well (in ascending order):

- Great Britain, Poland, Germany;
- Poland, Germany, Austria, France, Belgium;
- Germany, Austria, France, Belgium, Italy, the Netherlands, Hungary.

Again, the results of the Scheffé tests reveal overlaps and that some countries appear double in different groups and thus are not distinctively belonging to one group. This indicates that the average scores do not vary as much as the p-value is supposing. As a consequence it is presumable that significant differences appear due to the big sample sizes.

All country means are pictured in the figure below.

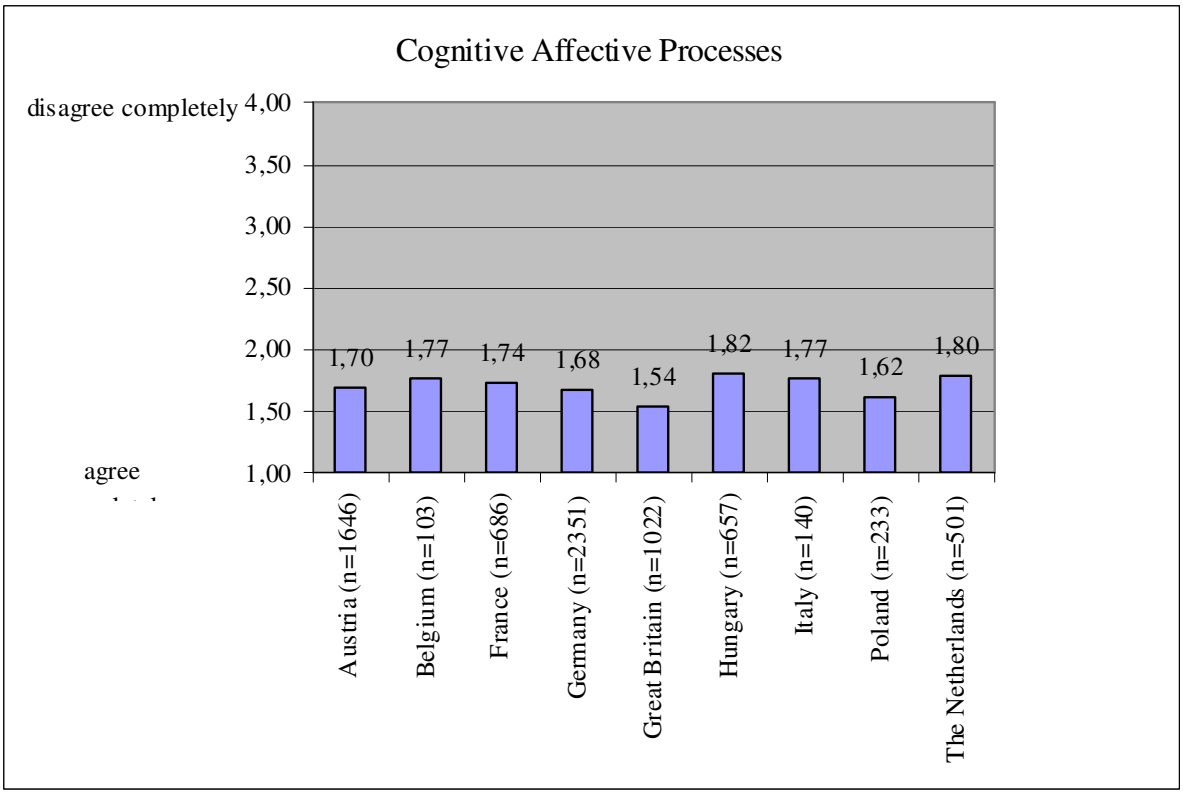


Figure 19: DUI Europe - Cognitive Affective Process; mean values per country

Behavioural processes

The sum score means on a country level for all behavioural processes taken together range from 1.34 to 1.66 (1=agree completely, 2=agree mostly) and show a similar and positive picture. Again the British and the Polish participants express the highest agreement on all items stating support of behavioural strategies, followed by Austria and Germany. All in all the agreement is higher on these scales compared to the cognitive affective scales. The countries differ highly significant ($p<.001$) and homogeneous subgroups (Scheffé-test) are (in ascending order):

- Great Britain, Poland;
- Poland, Austria;
- Austria, Germany, Hungary, the Netherlands, France, Belgium;
- Germany, Hungary, the Netherlands, France, Belgium, Italy.

Again, the results of the Scheffé tests reveal overlaps and that some countries appear double in different groups and thus are not distinctively belonging to one group. This indicates that the average scores do not vary as much as the p-value is supposing. As a consequence it is presumable that significant differences appear due to the big sample sizes.

All country means are depicted in the figure below.

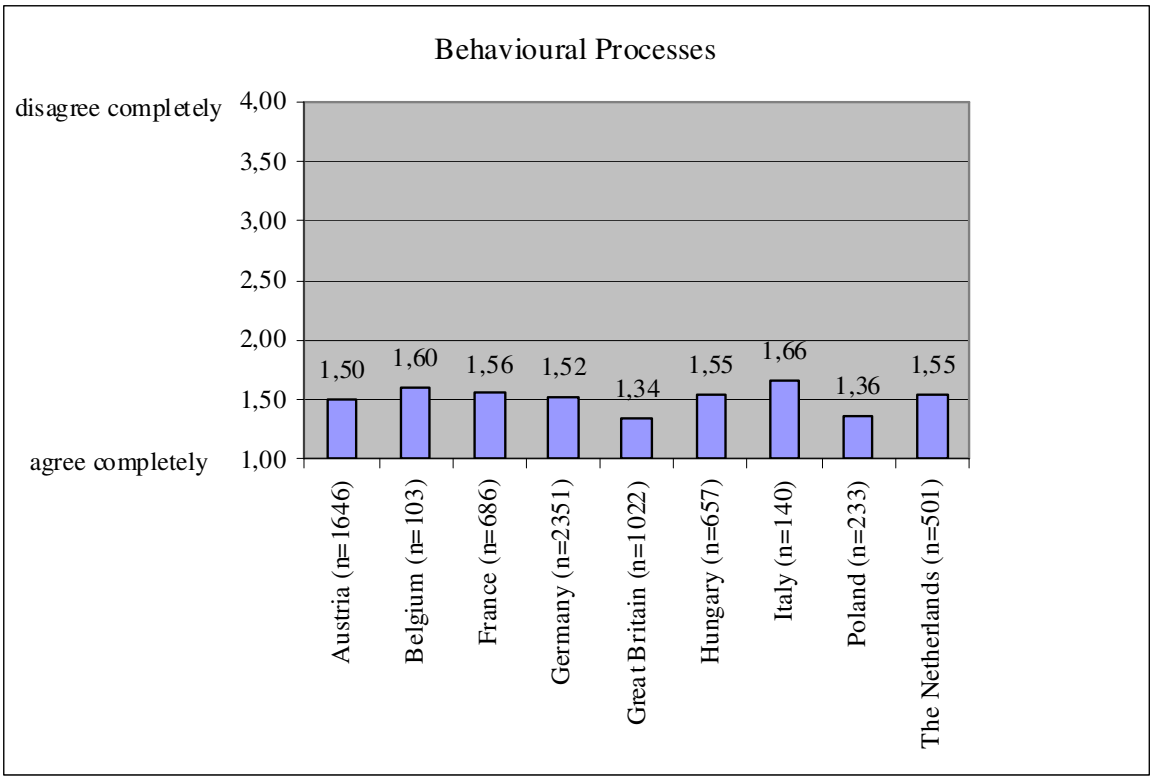


Figure 20: DUI Europe - Behavioural Processes; mean values per country

7.1.4 Diamond of Change

7.1.4.1 Diamond of Change – total European sample

All contributing factors (or corners of the diamond) defined to be relevant for the change process find strong agreement in the total sample, ranging from 1.33 to 1.67 (1=agree completely, 2=agree mostly). Thereby the trainer-participant-relationship is identified to be the most supportive factor as the agreement is highest on the items related to it. The methods and the other participants are evaluated as least important, but still gain relatively high scores for agreement.

The detailed data are shown in the following table and figures.

Table 56: DUI Europe - Outcomes in Diamond of Change key elements

Key elements	Result mean± sd, n
Individual	1.63±0.51, n=7239
Methods	1.67±0.77, n=7116
Contents	1.57±0.59, n=7194
Participant-Participant Relations	1.67±0.70, n=7115
Participant-Trainer Relations	1.33±0.52, n=7177

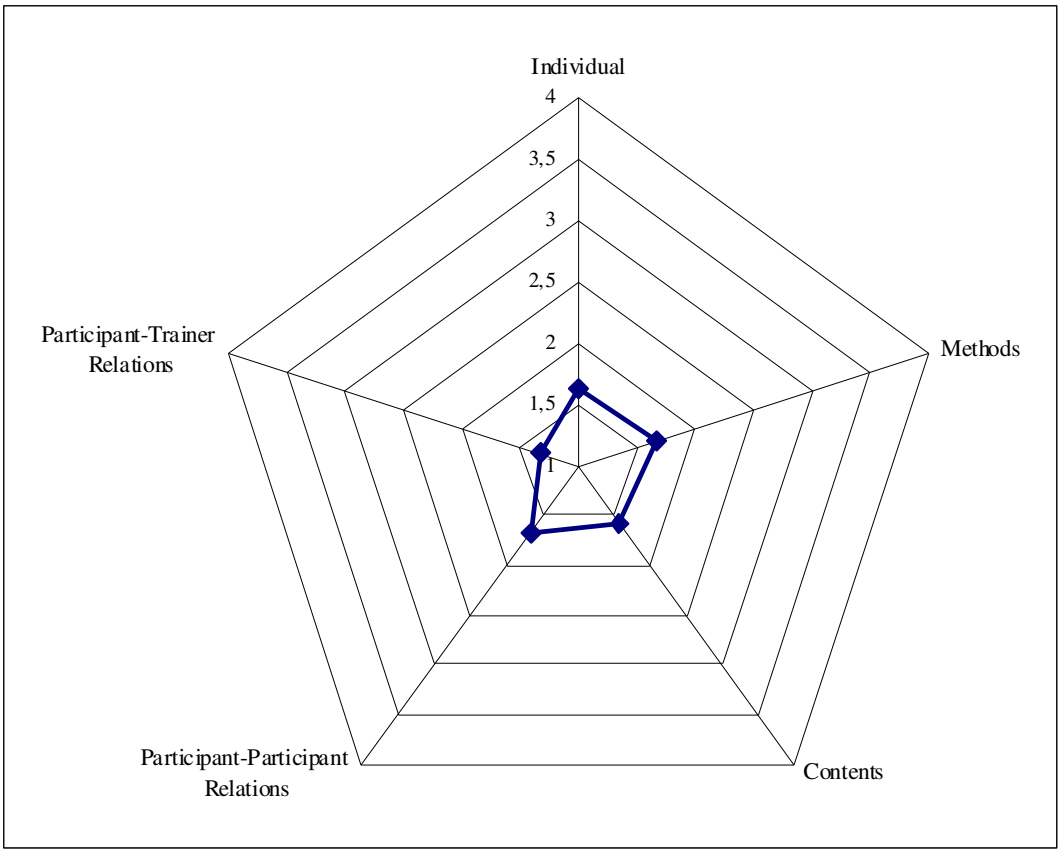


Figure 21: DUI Europe - Overall result in Diamond of Change key elements

7.1.4.2 Diamond of Change – comparison of countries

Individual

Regarding the evaluation of the individual itself the assessment results range from 1.46 to 1.76 (1=agree completely, 2=agree mostly) indicating that after the DR course, the participants feel strongly self-efficient to realise change. This key element of the Diamond of Change is particularly important by the British and Polish course participants. Significant differences are found on country level ($p<.001$). Homogeneous Subgroups (Scheffé-test) are (in ascending order):

- Great Britain, Poland;
- Poland, Germany;
- Germany, Austria, France, the Netherlands, Hungary, Italy, Belgium.

The results of the Scheffé tests reveal overlaps and that some countries appear double in different groups and thus are not distinctively belonging to one group. This indicates that the average scores do not vary as much as the p-value is supposing. As a consequence it is presumable that significant differences appear due to the big sample sizes.

All means are presented below.

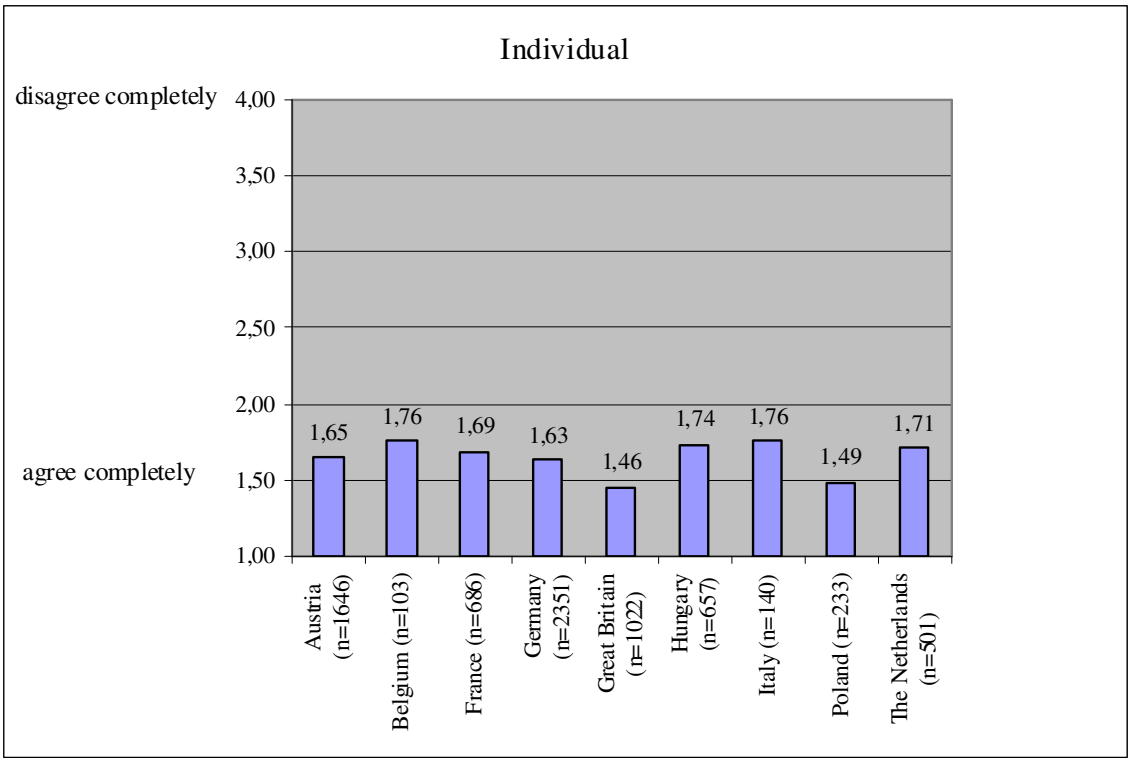


Figure 22: DUI Europe - Diamond of Change – Individual; mean values per country

Methods

The outcomes on this Diamond of Change key element ranges from 1.38 to 1.82 (1=agree completely, 2=agree mostly). This means that according to the participants the way the DR course was conducted support their changes. Thereby, the British and Polish courses again receive the highest agreement. Significant differences are found on country level ($p<.001$). As homogeneous subgroups (Scheffé-test) the following are identifiable (in ascending order):

- Great Britain, Poland;
- Poland, France;
- France, Austria, the Netherlands, Belgium, Germany, Italy, Hungary.

The results of the Scheffé tests reveal overlaps and that some countries appear double in different groups and thus are not distinctively belonging to one group. This indicates that the average scores do not vary as much as the p-value is supposing. As a consequence it is presumable that significant differences appear due to the big sample sizes.

All means are shown in the figure below.

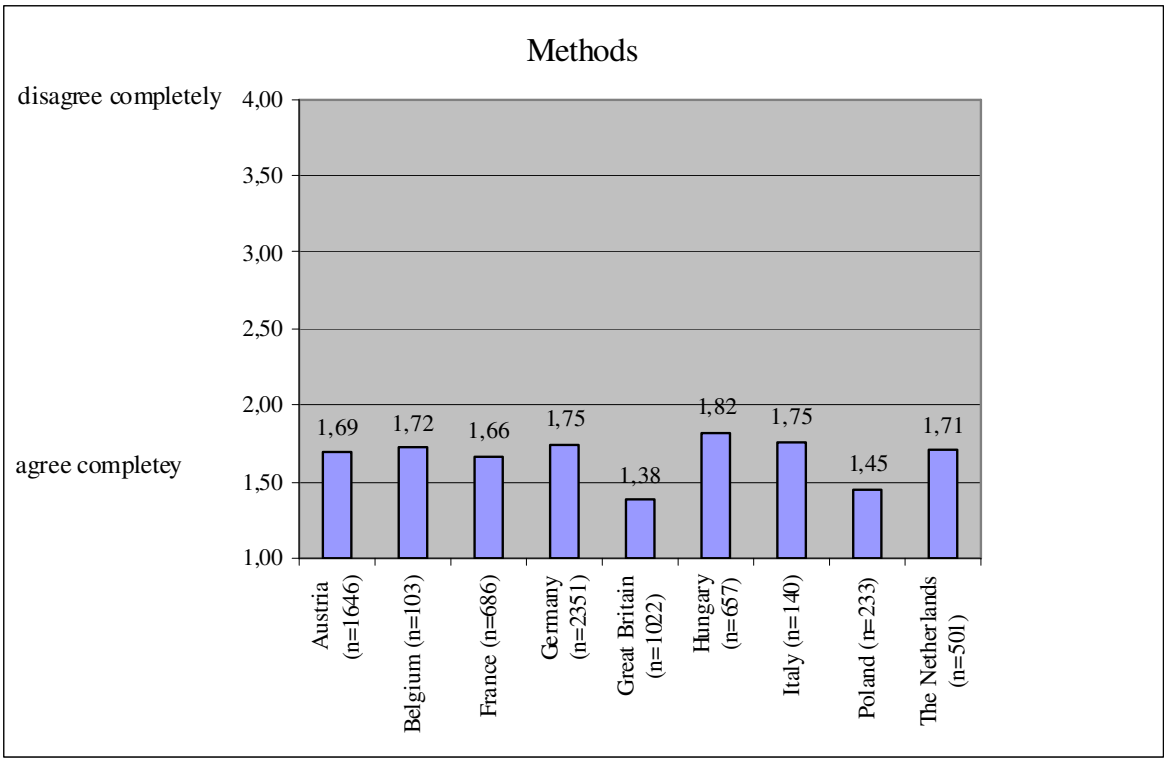


Figure 23: DUI Europe - Diamond of Change – Methods; mean values per country

Contents

As regards the DUI participants' evaluations the contents of the DR courses is an important element for the change process as well (1.47 to 1.70; 1=agree completely, 2= agree mostly). Thereby, the British participants regard this contributing factor as more important than the participants in other countries.

Significant differences are found on country level ($p<.001$). As homogeneous subgroups (Scheffé-test) the following can be defined (in ascending order):

- Great Britain, Poland, Germany, Italy, Austria, Hungary, Belgium, France;
- Poland, Germany, Italy, Austria, Hungary, Belgium, France, the Netherlands.

The results of the Scheffé tests reveal overlaps and that some countries appear double in the two groups and thus are not distinctively belonging to one group. This indicates that the average scores do not vary as much as the p-value is supposing. As a consequence it is presumable that significant differences appear due to the big sample sizes.

The results on mean value level for all countries are presented below.

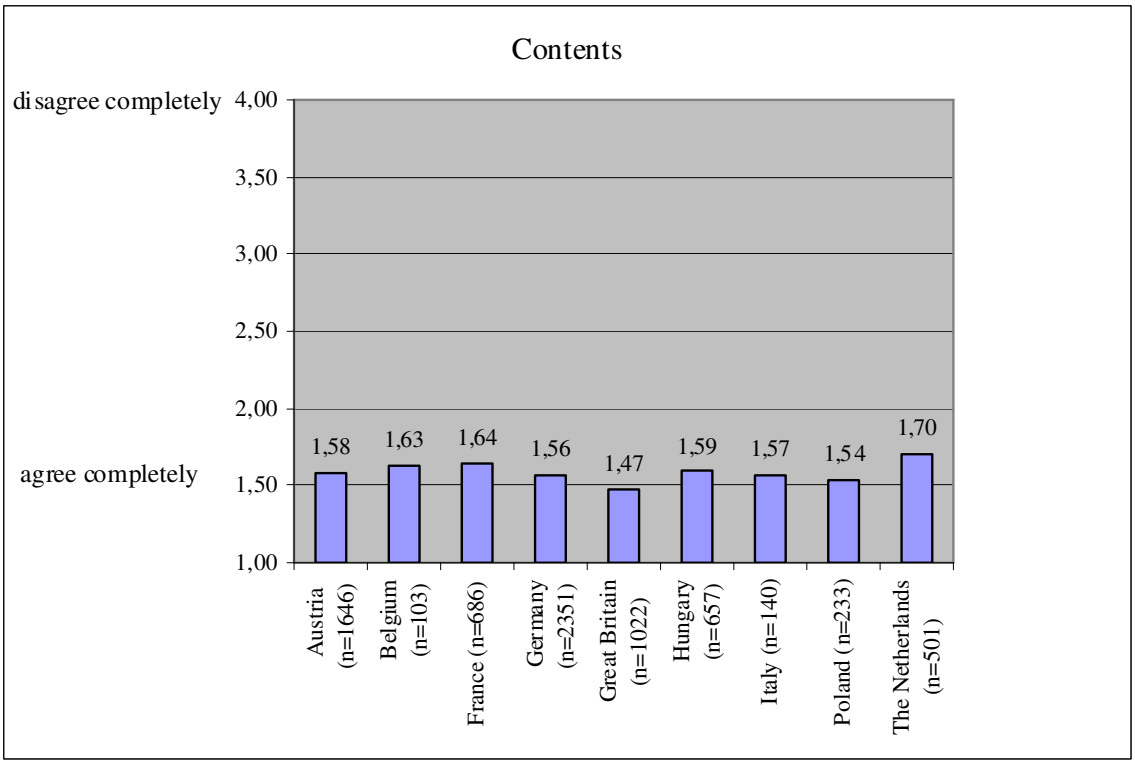


Figure 24: DUI Europe - Diamond of Change – Contents; mean values per country

Participant-participant relations

The participant-participant relation is evaluated as an important factor supporting a motivational and behavioural change in DR courses for DUI offenders, although this aspect takes the last range compared to all other elements of the Diamond of Change (judgements from 1.56 to 1.82; 1=agree completely, 2= agree mostly).

As on all other variables the countries differ highly significant ($p<.001$) regarding this as well. Homogeneous subgroups which can be distinguished according to the Scheffé-test are the following (in ascending order):

- Great Britain, Belgium, Germany, Austria, the Netherlands, France, Hungary, Poland;
- Germany, Austria, the Netherlands, France, Hungary, Poland, Italy.

The results of the Scheffé tests reveal overlaps and that some countries appear double in the two groups and thus are not distinctively belonging to one group. This indicates that the average scores do not vary as much as the p-value is supposing. As a consequence it is presumable that significant differences appear due to the big sample sizes.

The means for all countries are displayed below.

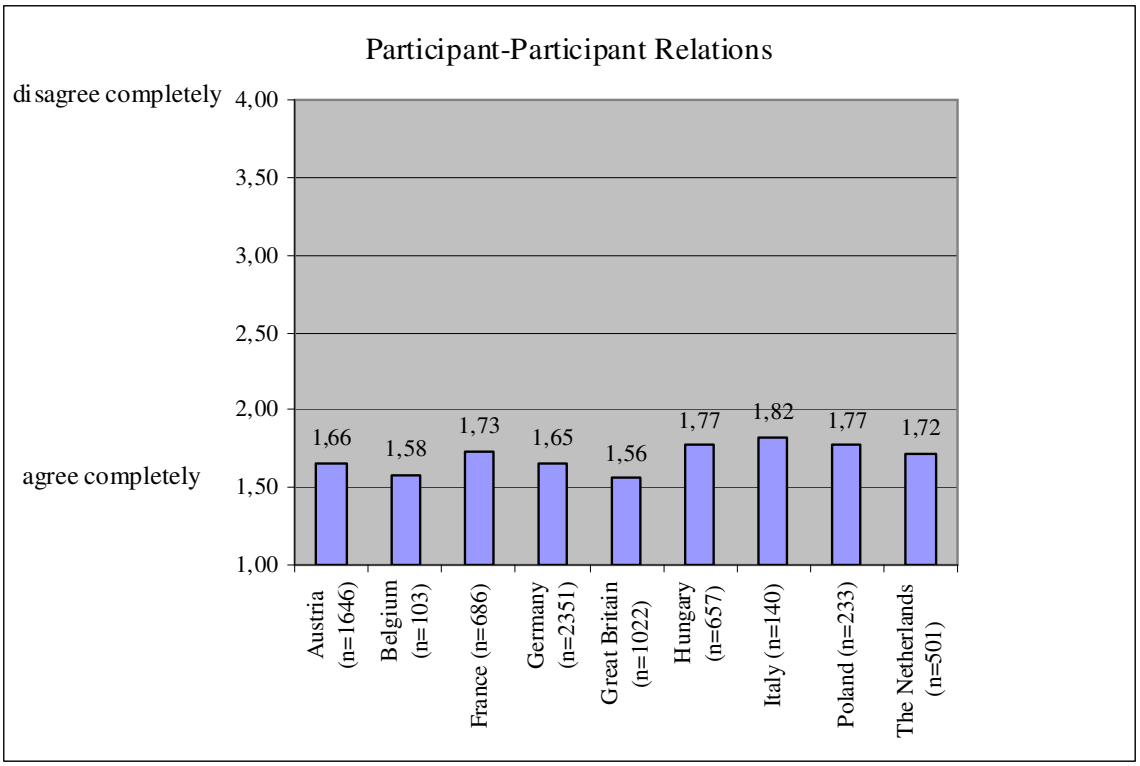


Figure 25: DUI Europe - Diamond of Change – Participant-Participant Relations; mean values per country

Participant-trainer relations

As the results reveal, the participant-trainer relationship is assessed to be of major importance for changing in almost every country (1.21 to 1.63; 1=agree completely, 2= agree mostly), although the countries differ highly significant regarding this as well ($p<.001$). Homogeneous subgroups (Scheffé-test) are (in ascending order):

- Great Britain, Austria, Poland, France, the Netherlands, Germany;
- Austria, Poland, France, the Netherlands, Germany, Belgium, Hungary;
- Italy.

Again it must be mentioned that the overlaps of countries appearing in more than one group and thus are not distinctively belonging to one group, indicate that the average scores do not vary as much as the p-value is supposing. As a consequence it is presumable that significant differences appear due to the big sample sizes.

The means for all countries are displayed below.

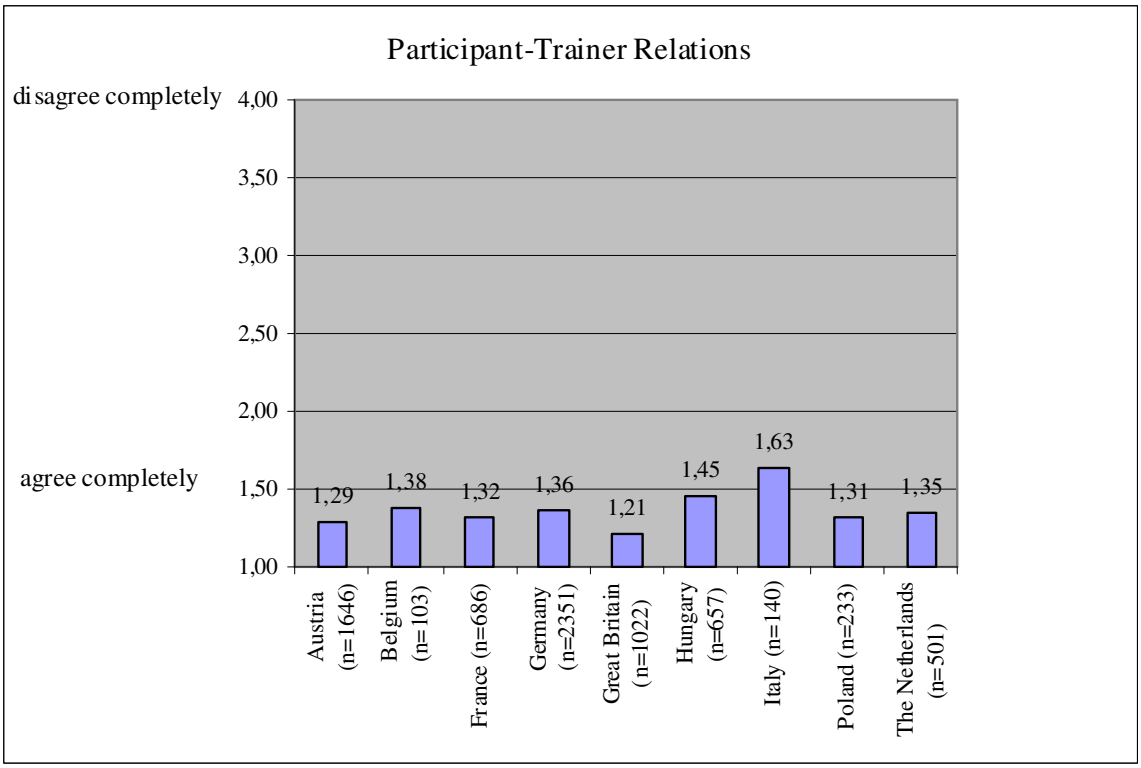


Figure 26: DUI Europe - Diamond of Change – Participant-Trainer Relations; mean values per country

7.1.5 Relation between TTM scales, Diamond of Change and overall evaluation

The investigation of the interrelation between the TTM scales and the Diamond of Change key elements on one hand and the overall DR course evaluation on the other hand was possible as the participant questionnaire does not contain any statements directly related to the overall course evaluation carried out by the attendees. Moreover, in order to avoid overlap judgement effects the overall evaluation item is located at a different part and new page of the questionnaire.

7.1.5.1 TTM scales and processes vs. overall DR course evaluation

The correlation analysis shows that all TTM scales and processes are correlated with the overall evaluations of the course done by the DUI attendees in the nine participating Member States. On scale level all correlations are highly significant with medium effect sizes except the correlation between the 'self-liberation' scale and the overall evaluation which is even higher with a large effect size (r=.431; p<.000). Large effect sizes are found for the correlation between the cognitive affective processes taken together (r=.468; p<.000) as well as for the behavioural processes taken together (r=.473; p<.000).

The results are displayed below.

Table 57: Correlations of the TTM scales and processes with the overall evaluation

	Overall course evaluation
TTM scales	
Conscious Raising	r=.398, p<.000***
Dramatic Relief	r=.226, p<.000***
Environment Re-Evaluation	r=.244, p<.000***
Self Re-Evaluation	r=.311, p<.000***
Social Liberation	r=.337, p<.000***
Self-Liberation	r=.431, p<.000***

	Overall course evaluation
Stimulus Control	r=.324, p<.000***
Counter Conditioning	r=.394, p<.000***
Helping Relations	r=.318, p<.000***
Reinforcement Management	r=.254, p<.000***
TTM processes	
Cognitive Affective Processes	r=.468, p<.00***
Behavioural Processes	r=.473, p<.000***

Legend: +…statistical tendency 0.10<p>,05; *…p<.05, **…p<.01, ***p<.001

7.1.5.2 Diamond of Change vs. overall DR course evaluation

Further correlation analysis reveals that all key elements of the diamond are correlated with the DUI participants' overall evaluations of the courses. All correlations are highly significant and at least of medium effect sizes. Large effects are found for the correlations between the Diamond of Change elements 'individual' (r=.457; p<.000), 'contents' (r=.418; p<.000) and the participant-trainer relationship (r=.437; p<.000) and the overall assessment of the courses carried out by the attendees in the participating European countries.

The outcomes are presented below.

Table 58: Diamond of Change vs. overall evaluation of DR course

	Individual	Methods	Contents	Participant-Participant Relations	Participant-Trainer Relations
Overall course evaluation	r=.457, p<.000***	r=.346, p<.000***	r=.418, p<.000***	r=.286, p<.000***	r=.437, p<.000***

Legend: +…statistical tendency 0.10<p>,05; *…p<.05, **…p<.01, ***p<.001

7.2 Analysis of DUI recidivism subgroups on European level

As WP5.2.1 focuses on reasons for recidivism a sub-group analysis of the entire European DUI course participant sample was done regarding any differences between the results of DR attendees with and without prior DUI offences. Thereby, two variables of the questionnaire were included, namely prior drink-driving offences and prior drink-driving courses.

7.2.1 Prior drink-driving offences

Based on the answers of the DR course participants in the questionnaire the statistical calculations reveal that offenders with prior DUI convictions are less more likely to be of female gender (p<.001; male: 25.4%, female: 10.8%) and less likely to live single (p=.023; 45.5% vs. 48.9%). Furthermore, they are older (p<.001; no prior DUI conviction: 33.2 years ± 12.8; with prior DUI conviction: 36.8 years ±11.3). As a logic consequence, they are less likely to have a licence on probation (p<.001; 12.1% vs. 27.0%). Course participants with an A-level education or higher are less likely to have prior DUI convictions (p<.001; 17.8% vs. 26.0%). The incidence of prior DUI offences is not interrelated with the size of the town they live in. Course participants with prior drink-driving offences have a significant higher BAC level compared to first time offenders yet the effect size is very small (p=.016; 1.46 ± .61 vs. 1.42 ± .56; Cohens_d=.07). Moreover this sub-group of drivers has significant less accidents (p<.001; n=331; 20.0% vs. n= 1397; 26.3%).

Concerning the assessment of change in the TTM scales as well as in the processes it can be stated that course participants with a prior conviction tend to judge the change effects higher, but the effect sizes are very small. Regarding the Diamond of Change the same tendency can be observed. Thereby, especially in the TTM scale 'self re-evaluation' but also in 'environmental re-evaluation' and 'counter conditioning' as well as in both, the TTM cognitive-affective and behavioural processes, the recidivists indicate higher change effects than the non-recidivists. Regarding the Diamond of Change

the recidivists judge the key elements 'individual' but also the 'method' to having been more important compared to the non-recidivists.
Yet, concerning the overall course evaluation, no differences between offenders with and without prior DUI convictions are found. Both rate the DR courses as having been good or very good (1=very good, 2=good).

The results are displayed below.

Table 59: Prior drink-driving convictions – total European DUI sample

	No	Yes	Cohen's-d	p-value
TTM scales				
Consciousness Raising	1.66 ± 0.59	1.61 ± 0.57	0.08	p=.003**
Dramatic Relief	1.90 ± 0.85	1.88 ± 0.85	0.02	p=.564
Environmental Re-Evaluation	1.94 ± 0.98	1.85 ± 0.93	0.09	p=.001**
Self Re-Evaluation	1.71 ± 0.80	1.61 ± 0.77	0.12	p<.001***
Social Liberation	1.43 ± 0.65	1.41 ± 0.62	0.03	p=.323
Self-Liberation	1.40 ± 0.57	1.37 ± 0.54	0.06	p=.031*
Stimulus Control	1.54 ± 0.76	1.50 ± 0.75	0.05	p=.068+
Counter Conditioning	1.50 ± 0.66	1.44 ± 0.62	0.09	p=.001**
Helping Relations	1.52 ± 0.69	1.48 ± 0.64	0.06	p=.050+
Reinforcement Management	1.71 ± 0.88	1.64 ± 0.85	0.08	p=.005**
TTM processes				
Cognitive Affective Processes	1.71 ± 0.49	1.66 ± 0.47	0.10	p<.001***
Behavioural Processes	1.51 ± 0.51	1.46 ± 0.49	0.09	p=.001**
Overall course evaluation	1.53 ± 0.56	1.52 ± 0.55	0.01	p=.828
Diamond of Change				
Individual	1.65 ± 0.52	1.59 ± 0.50	0.12	p<.001***
Methods	1.69 ± 0.77	1.62 ± 0.75	0.10	p<.001***
Contents	1.58 ± 0.59	1.55 ± 0.57	0.05	p=.054+
Participant-Participant Relations	1.67 ± 0.70	1.67 ± 0.68	0.01	p=.707
Participant-Trainer Relations	1.34 ± 0.53	1.31 ± 0.49	0.06	p=.025*

Legend: +…statistical tendency 0.10<p>.05; *…p<.05, **…p<.01, ***p<.001
Cohen's-d: <.30…small effect .30-.60…medium effect, >.60….large effect

7.2.2 Prior drink-driving courses

The statistical evaluations regarding differences between course participants who indicated of having already participated in a DR course once (prior to the actual one) due to a DUI offence and those who attended the course for the first time show, that male subjects are more likely to be course repeaters (p<.001; male: 13.4%, female: 7.6%). Logically, course repeaters are less likely to have their licence on probation (p=.001; 19.0% vs. 24.7%) as they are significantly older (p=.003; no: 34.0±12.6, yes: 35.4±11.8). Having already participated in a DR course is not interrelated with cohabiting or the size of the town. But drivers with an A-level or higher education tend to be less likely having already participated in a DR programme (p=.004; 10.6% vs. 14.3%). Course participants with prior DR courses have a significant higher BAC level compared to non-course repeaters; but the effect size is still small (p<.001; 1.57 ± .59 vs. 1.41 ± .58; Cohens_d=.27). Regarding accident involvement no significant differences are found between both groups (p=.966; n=205; 24.7% vs. n=1402; 24.7%).

Regarding the TTM scales and processes the differences between both groups are too small to be interpreted in general except the scale 'reinforcement management'. Although the effect size is small, the result in this scale indicates that due to the DR course the recidivists, i.e. course repeaters feel more capable of systematically using (self-) rewarding strategies to reach and stabilise the target behaviour compared to non-recidivists, i.e. first-time course participants.
Concerning the Diamond of Change key elements the differences between both groups are in general too small in order to be interpreted in detail.
As regards the overall course evaluation a significant difference but with a small effect size can be observed indicating that repeated course participants give better assessments compared to first-time attendees.

The outcomes are presented below.

Table 60: Prior drink-driving courses – total European DUI sample

	No	yes	Cohen's-d	p-value
TTM scales				
Consciousness Raising	1.66 ± 0.59	1.63 ± 0.58	0.05	p=.175
Dramatic Relief	1.91 ± 0.85	1.84 ± 0.84	0.08	p=.026*
Environmental Re-Evaluation	1.93 ± 0.97	1.85 ± 0.93	0.08	p=.028*
Self Re-Evaluation	1.69 ± 0.79	1.69 ± 0.80	0.00	p=.910
Social Liberation	1.43 ± 0.66	1.38 ± 0.57	0.07	p=.070+
Self-Liberation	1.40 ± 0.57	1.37 ± 0.55	0.04	p=.278
Stimulus Control	1.53 ± 0.76	1.52 ± 0.75	0.01	p=.804
Counter Conditioning	1.49 ± 0.66	1.45 ± 0.63	0.07	p=.074+
Helping Relations	1.52 ± 0.69	1.50 ± 0.68	0.03	p=.472
Reinforcement Management	1.71 ± 0.89	1.60 ± 0.82	0.13	p=.001**
TTM processes				
Cognitive Affective Processes	1.70 ± 0.49	1.66 ± 0.47	0.08	p=.024*
Behavioural Processes	1.51 ± 0.51	1.47 ± 0.49	0.08	p=.031*
Overall course evaluation	1.54 ± 0.56	1.49 ± 0.54	0.10	p=.010*
Diamond of Change				
Individual	1.64 ± 0.52	1.60 ± 0.50	0.09	p=.014*
Methods	1.68 ± 0.77	1.66 ± 0.77	0.03	p=.395
Contents	1.58 ± 0.59	1.54 ± 0.58	0.07	p=.048*
Participant-Participant Relations	1.67 ± 0.69	1.67 ± 0.71	0.00	p=.953
Participant-Trainer Relations	1.34 ± 0.53	1.30 ± 0.47	0.07	p=.051+

Legend: +…statistical tendency 0.10<p>.05; *…p<.05, **…p<.01, ***p<.001
Cohen's-d: <.30…small effect .30-.60…medium effect, >.60….large effect

7.3 Analysis of further DUI subgroups on European level

The further sub-analysis searched for differences in specific sub-groups regarding differences in the TTM scales and processes, the Diamond of Change key elements and the overall course evaluation.

7.3.1 DUI - Gender

For the influence of gender small, but significant effects are found on most of the scales, showing that women tend to profit more from course participation as regards the reaching or passing of the necessary change stages and processes which goes along with a better overall course assessment compared to the male course participants. Moreover, female attendees judge the importance of the key elements of change according to the diamond higher than the male participants.

The results are presented below.

Table 61: Gender-Differences – Total sample

	Male	Female	Cohen's-d	p-value
TTM scales				
Consciousness Raising	1.66 ± 0.59	1.55 ± 0.55	0.19	p<.001***
Dramatic Relief	1.90 ± 0.84	1.82 ± 0.87	0.10	p=.012*
Environmental Re-Evaluation	1.93 ± 0.97	1.86 ± 0.99	0.07	p=.059+
Self Re-Evaluation	1.70 ± 0.79	1.58 ± 0.78	0.15	p<.001***
Social Liberation	1.43 ± 0.65	1.34 ± 0.61	0.13	p=.001**
Self-Liberation	1.40 ± 0.57	1.30 ± 0.48	0.19	p<.001***
Stimulus Control	1.53 ± 0.76	1.46 ± 0.74	0.09	p=.018*
Counter Conditioning	1.49 ± 0.65	1.41 ± 0.63	0.13	p=.001**
Helping Relations	1.51 ± 0.68	1.47 ± 0.69	0.07	p=.075+
Reinforcement Management	1.69 ± 0.87	1.61 ± 0.89	0.09	p=.014*
TTM processes				
Cognitive Affective Processes	1.70 ± 0.49	1.60 ± 0.46	0.21	p<.001***
Behavioural Processes	1.51 ± 0.50	1.42 ± 0.48	0.17	p<.001***
Overall course evaluation	1.54 ± 0.56	1.41 ± 0.53	0.22	p<.001***
Diamond of Change				
Individual	1.64 ± 0.52	1.54 ± 0.48	0.19	p<.001***
Methods	1.68 ± 0.77	1.58 ± 0.74	0.14	p<.001***
Contents	1.58 ± 0.59	1.49 ± 0.58	0.16	p<.001***

Participant-Participant Relations	1.68 ± 0.69	1.61 ± 0.72	0.10	p=.012*
Participant-Trainer Relations	1.34 ± 0.53	1.24 ± 0.46	0.19	p<.001***

Legend: +…statistical tendency 0.10<p>,05; *…p<.05, **…p<.01, ***p<.001
Cohen's-d: <.30…small effect .30-.60…medium effect, >.6….large effect

7.3.2 DUI - Age

Regarding the influence of age it can be stated that a general trend is obvious: the older the person, the more confirmation of having profited from the course on TTM scale, processes, Diamond of change and overall course evaluation level; but the effects are small. This trend is not existent on the dramatic relief scale which means that experiencing and expressing feelings about the problem behaviour and possible solutions in the process of change is possible in the courses independent from the age of the attendees.

The outcomes are displayed below.

Table 62: Age-Correlations – Total sample

	R	p-value
TTM scales		
Consciousness Raising	r=-.145	p<.001***
Dramatic Relief	r=-.002	p=.863
Environmental Re-Evaluation	r=-.160	p<.001***
Self Re-Evaluation	r=-.151	p<.001***
Social Liberation	r=-.109	p<.001***
Self-Liberation	r=-.153	p<.001***
Stimulus Control	r=-.154	p<.001***
Counter Conditioning	r=-.129	p<.001***
Helping Relations	r=-.120	p<.001***
Reinforcement Management	r=-.130	p<.001***
TTM processes		
Cognitive Affective Processes	r=-.180	p<.001***
Behavioural Processes	r=-.190	p<.001***
Overall course evaluation	r=-.169	p<.001***
Diamond of Change		
Individual	r=-.206	p<.001***
Methods	r=-.173	p<.001***
Contents	r=-.064	p<.001***
Participant-Participant Relations	r=-.087	p<.001***
Participant-Trainer Relations	r=-.143	p<.001***

Legend: +…statistical tendency 0.10<p>.05; *…p<.05, **…p<.01, ***p<.001

7.3.3 DUI - Education

To discover any differences regarding the educational background, the variable was dichotomized to 0=no A-level and 1=at least an A-level (higher education than compulsory and secondary school attendance). The analysis reveals that women are more likely to have completed an A-level education or higher (p<.001; 47.1% vs. 30.6%) and persons cohabitating are more likely having an A-level education or higher (p=.017; 34.5% vs. 31.4%). In addition, participants living in larger towns are more likely to have an A-levels education or higher (p<.001; <100.000 inhabitants: 27.5%, 100.000 – 500.000 inhabitants: 37.9%, >100.000 inhabitants: 48.9%). Generally, people with an A-level are older (p<.001; no: 33.2 ± 12.3; yes: 34.7 ± 12.7). Significant differences are only found on the TTM scales for environmental re-evaluation (d=.20; p<.001), social liberation (d=.16; p=.002), stimulus control (d=.02; p=.001), counter conditioning (d=.15; p=.004) and reinforcement management (d=-0.23; p<.001). Regarding the key elements of the Diamond of Change, all differences reach statistical significance, but only small effects appeared. All in all, people with an A-level education or higher tend to be not so much influenced by the DR course and its key elements of change compared to participants with a lower education level.

The results are presented below.

Table 63: A-level – Total sample

	No	yes	Cohen's-d	p-value
TTM scales				
Consciousness Raising	1.63 ± 0.57	1.72 ± 0.61	-0.15	p=.176
Dramatic Relief	1.86 ± 0.83	1.93 ± 0.83	-0.08	p=.666
Environmental Re-Evaluation	1.88 ± 0.94	2.07 ± 1.00	-0.20	p<.001***
Self Re-Evaluation	1.67 ± 0.78	1.78 ± 0.82	-0.15	p=.141
Social Liberation	1.39 ± 0.61	1.50 ± 0.69	-0.16	p=.002**
Self-Liberation	1.38 ± 0.54	1.43 ± 0.59	-0.09	p=.578
Stimulus Control	1.49 ± 0.72	1.64 ± 0.82	-0.20	p=.001**
Counter Conditioning	1.46 ± 0.62	1.56 ± 0.71	-0.15	p=.004**
Helping Relations	1.49 ± 0.65	1.58 ± 0.74	-0.13	p=.056+
Reinforcement Management	1.64 ± 0.84	1.84 ± 0.93	-0.23	p<.001***
TTM processes				
Cognitive Affective Processes	1.67 ± 0.46	1.77 ± 0.52	-0.22	p=.002**
Behavioural Processes	1.47 ± 0.47	1.58 ± 0.55	-0.21	p=.001**
Overall course evaluation	1.53 ± 0.54	1.55 ± 0.59	-0.04	p=.221
Diamond of Change				
Individual	1.60 ± 0.49	1.73 ± 0.56	-0.24	p<.001***
Methods	1.65 ± 0.73	1.78 ± 0.82	-0.17	p<.001***
Contents	1.55 ± 0.57	1.60 ± 0.60	-0.09	p=.002**
Participant-Participant Relations	1.65 ± 0.68	1.73 ± 0.72	-0.11	p<.001***
Participant-Trainer Relations	1.32 ± 0.50	1.37 ± 0.55	-0.11	p<.001***

Legend: +…statistical tendency 0.10<p>.05; *…p<.05, **…p<.01, ***p<.001
Cohen's-d: <.30…small effect .30-.60…medium effect, >.6….large effect

7.3.4 DUI - Cohabitation

Cohabitation is not significantly related to gender, but female DR course attendees are more likely to live alone (56% vs. 47% living alone; p=.031) and participant's cohabitating are significantly older (p<.001; living alone: 37.1 ± 12.5; not living alone: 31.1±11.9). A general trend of the influence of the cohabitation concerning the outcomes on almost every scale is clear, but the effect sizes are only small: persons who are cohabitating assess the overall course more positive and pass the different stages of change more successfully. Again the scale dramatic relief, i.e. emotional experiencing, is the exception. Furthermore, they also confirmed the importance of the other key elements of change to a greater extent than attendees not cohabiting, except the participant-participant relationship.

The results are documented below.

Table 64: Cohabitation – Total sample

	No	Yes	Cohen's-d	p-value
TTM scales				
Consciousness Raising	1.70 ± 0.61	1.61 ± 0.56	0.16	p<.001***
Dramatic Relief	1.89 ± 0.86	1.89 ± 0.83	0.00	p=.949
Environmental Re-Evaluation	1.98 ± 0.99	1.88 ± 0.95	0.10	p<.001***
Self Re-Evaluation	1.74 ± 0.81	1.65 ± 0.77	0.11	p<.001***
Social Liberation	1.44 ± 0.66	1.39 ± 0.62	0.09	p=.001**
Self-Liberation	1.42 ± 0.58	1.36 ± 0.53	0.12	p<.001***
Stimulus Control	1.58 ± 0.79	1.48 ± 0.73	0.14	p<.001***
Counter Conditioning	1.53 ± 0.67	1.45 ± 0.63	0.13	p<.001***
Helping Relations	1.54 ± 0.71	1.49 ± 0.66	0.08	p=.003**
Reinforcement Management	1.74 ± 0.91	1.65 ± 0.84	0.11	p<.001***
TTM processes				
Cognitive Affective Processes	1.74 ± 0.49	1.66 ± 0.47	0.15	p<.001***
Behavioural Processes	1.54 ± 0.52	1.46 ± 0.48	0.16	p<.001***
Overall course evaluation	1.57 ± 0.57	1.49 ± 0.55	0.16	p<.001***
Diamond of Change				
Individual	1.68 ± 0.53	1.59 ± 0.49	0.17	p<.001***
Methods	1.74 ± 0.78	1.62 ± 0.74	0.16	p<.001***
Contents	1.60 ± 0.61	1.54 ± 0.57	0.11	p<.001***
Participant-Participant Relations	1.68 ± 0.70	1.66 ± 0.69	0.03	p=.202
Participant-Trainer Relations	1.35 ± 0.53	1.31 ± 0.51	0.08	p=.002**

Legend: +…statistical tendency 0.10<p>.05; *…p<.05, **…p<.01, ***p<.001
Cohen's-d: <.30…small effect .30-.60…medium effect, >.6….large effect

7.3.5 DUI - Residence

The residence is interrelated with the attendee's gender (p<.001); significantly more female course participants come from towns with 100.000-500.000 inhabitants (<100.000: 9.7%, 100.000-500.000:13.6%, >500.000: 10.7%). Offenders from small towns/villages are significantly younger (p=.020; <100.000: 33.7 ± 12.8, 100.000-500.000: 34.2 ± 12.3, >500.000: 34.9 ± 12.0). Course participants from towns with 100.000 – 500.000 inhabitants are less likely to live single (p<.001; 50.3% vs. 43.6% vs. 46.0%). There are some differences visible regarding the outcomes, but although the differences reach statistical significance on most of the scales, the effect sizes remain small. In general it can be stated that the DUI course attendees from smaller towns can profit even more from this measure, although their overall course evaluation do not differ from attendees living in bigger cities.

The outcomes are displayed below.

Table 65: Residence – Total sample

	<100.000	100.000-500.000	>500.000	p-value
TTM scales				
Consciousness Raising	1.64 ± 0.58	1.65 ± 0.58	1.70 ± 0.62	p=.014* (I-III)
Dramatic Relief	1.87 ± 0.82	1.92 ± 0.88	1.94 ± 0.86	p=.026* (I-III)
Environmental Re-Evaluation	1.90 ± 0.94	1.95 ± 1.00	2.01 ± 1.03	p=.005** (I-III)
Self Re-Evaluation	1.67 ± 0.78	1.69 ± 0.77	1.76 ± 0.85	p=.004** (I-III)
Social Liberation	1.40 ± 0.62	1.45 ± 0.68	1.45 ± 0.69	p=.008** (II-III)
Self-Liberation	1.38 ± 0.54	1.41 ± 0.57	1.43 ± 0.61	p=.034*
Stimulus Control	1.51 ± 0.74	1.53 ± 0.75	1.63 ± 0.84	p<.001*** (I-III)
Counter Conditioning	1.48 ± 0.64	1.48 ± 0.66	1.54 ± 0.69	p=.024* (I-III)
Helping Relations	1.49 ± 0.66	1.54 ± 0.71	1.57 ± 0.75	p=.001**
Reinforcement Management	1.68 ± 0.87	1.68 ± 0.87	1.75 ± 0.90	p=.055+
TTM processes				
Cognitive Affective Processes	1.68 ± 0.47	1.71 ± 0.49	1.75 ± 0.52	p<.001*** (I-III)
Behavioural Processes	1.49 ± 0.49	1.51 ± 0.52	1.56 ± 0.55	p<.001*** (I-III)
Overall course evaluation	1.52 ± 0.55	1.52 ± 0.56	1.55 ± 0.59	p=.299
Diamond of Change				
Individual	1.62 ± 0.50	1.64 ± 0.53	1.70 ± 0.56	p<.001*** (I-III. II-III)
Methods	1.67 ± 0.75	1.64 ± 0.75	1.76 ± 0.82	p<.001*** (I-III. II-III)
Contents	1.56 ± 0.57	1.59 ± 0.60	1.61 ± 0.62	p=.008 (I-III)
Participant-Participant Relations	1.66 ± 0.68	1.69 ± 0.71	1.70 ± 0.74	p=.233
Participant-Trainer Relations	1.31 ± 0.50	1.35 ± 0.53	1.37 ± 0.58	p=.002* (I-III)

Legend: +…statistical tendency 0.10<p>.05; *…p<.05, **…p<.01, ***p<.001

7.3.6 DUI - BAC level

Age is to a small degree, but significantly correlated to the BAC level. The older the person, the higher the BAC level (r=.166, p<.001). Furthermore, male participants reach significantly higher BAC level than female (p=.041; men: 1.43 ‰ ± 0.58; women: 1.38 ‰ ± 0.53) and persons cohabitating tend to have a higher BAC level (p<.001; no: 1.40 ± 0.58, yes=1.46 ± 0.58). The BAC level is independent of the participant's education and the size of the residence. Although there seem to be significant differences regarding the agreement on the item scales, the effects are far too small for an interpretation.

The outcomes are presented below.

Table 66: BAC-Correlations – Total sample

	r	p-value
TTM scales		
Consciousness Raising	r=-.059	p<.001***
Dramatic Relief	r=-.064	p<.001***
Environmental Re-Evaluation	r=-.069	p<.001***
Self Re-Evaluation	r=-.065	p<.001***
Social Liberation	r=-.017	p=,158
Self-Liberation	r=-.052	p<.001***
Stimulus Control	r=-.038	p=,002**

Counter Conditioning	r=-.044	p<.001***
Helping Relations	r=-.028	p=,022*
Reinforcement Management	r=-.060	p<.001***
TTM processes		
Cognitive Affective Processes	r=-.085	p<.001***
Behavioural Processes	r=-.060	p<.001***
Overall course evaluation	r=-.032	p=,008**
Diamond of Change		
Individual	r=-.084	p<.001***
Methods	r=-.024	p=,050
Contents	r=-.062	p<.001***
Participant-Participant Relations	r=-.030	p=,014*
Participant-Trainer Relations	r=-.036	p=,003

Legend: +…statistical tendency 0.10<p>.05; *…p<.05, **…p<.01, ***p<.001

7.3.7 DUI - Driving licence on probation

An analysis concerning differences between DUI course participants with or without a licence on probation includes only subjects from Austria, Belgium, Germany, France, Great Britain and Italy, as probational licences do not exist in the other countries. Logically, attendees still within the licence on probation period are significantly younger (p<.001; No: 36.6 ± 12.3; Yes: 22.7 ± 6.7) as this concerns mainly novice drivers and are significantly more single (p<.001; 68.1% vs. 43.8%). In addition they are significantly less likely to have an A-level or higher educational background (p<.001; 22.6% vs. 34.7%) and come significantly less from big towns (p=.001; <100.000: 25.3%, 100.000-500.000: 22.1%, >500.000: 19.8%), but this is not interrelated with the gender. Besides the dramatic relief scale, differences on all other TTM scales and processes as well as the Diamond of Change key elements and the overall course evaluation reach statistical significance, although the effect sizes remain small in most cases. Nevertheless, medium effect sizes on the scales for consciousness raising (d=.31), cognitive affective processes taken together (d=.30), overall evaluation (d=.36), individual (d=.31) and methods (d=.31) reveal that offenders with a driving licence on probation indicate not that big change profit from the DR courses than those out of the license on probation period.

The results are displayed below.

Table 67: Licence on probation – Total sample

	No	Yes	Cohen's-d	p-value
TTM scales				
Consciousness Raising	1.58 ± 0.57	1.77 ± 0.65	-0.31	p<.001***
Dramatic Relief	1.83 ± 0.85	1.84 ± 0.87	-0.01	p=.655
Environmental Re-Evaluation	1.86 ± 0.96	2.05 ± 1.07	-0.19	p<.001***
Self Re-Evaluation	1.64 ± 0.78	1.83 ± 0.86	-0.24	p<.001***
Social Liberation	1.39 ± 0.64	1.45 ± 0.69	-0.10	p=.003**
Self-Liberation	1.34 ± 0.53	1.50 ± 0.62	-0.29	p<.001***
Stimulus Control	1.50 ± 0.74	1.64 ± 0.85	-0.18	p<.001***
Counter Conditioning	1.45 ± 0.64	1.58 ± 0.70	-0.20	p<.001***
Helping Relations	1.47 ± 0.67	1.57 ± 0.77	-0.15	p<.001***
Reinforcement Management	1.65 ± 0.87	1.75 ± 0.94	-0.11	p=.001**
TTM processes				
Cognitive Affective Processes	1.64 ± 0.47	1.78 ± 0.52	-0.30	p<.001***
Behavioural Processes	1.46 ± 0.49	1.59 ± 0.52	-0.26	p<.001***
Overall course evaluation	1.45 ± 0.54	1.64 ± 0.55	-0.36	p<.001***
Diamond of Change				
Individual	1.58 ± 0.50	1.74 ± 0.55	-0.31	p<.001***
Methods	1.60 ± 0.73	1.84 ± 0.84	-0.31	p<.001***
Contents	1.54 ± 0.59	1.60 ± 0.63	-0.11	p=.001**
Participant-Participant Relations	1.64 ± 0.69	1.68 ± 0.74	-0.07	p=.039*
Participant-Trainer Relations	1.29 ± 0.50	1.40 ± 0.58	-0.20	p<.001***

Legend: +…statistical tendency 0.10<p>.05; *…p<.05, **…p<.01, ***p<.001
Cohen's-d: <.30…small effect .30-.60…medium effect, >.60….large effect

7.4 Outcomes on country level for DUI participants

Now the results are documented for each country separately. This includes description of the sample, the overall course evaluation by the participants, the results of the TTM-scales and processes as well as the outcomes of the Diamond of Change dimensions.
Due to missing data in certain variables sample sizes can differ.

7.4.1 Austria

7.4.1.1 Austria – Data collection and characteristics of sample

In Austria, nine DR-providers participated in the feedback study, namely AAAV, AAP, fair partner, Gute Fahrt, INFAR, KfV Sicherheit Service GmbH, Kuratorium für Verkehrssicherheit, sicher unterwegs, 1A Sicherheit. This means that almost all Austrian organisations authorized by the BMVIT to carry out DR services at that time were included in the questionnaire study. Only one provider did not participate as this organisation had just started to run its activities and thus was not in the position to collect relevant numbers within the foreseen data collection phase. Data collection took place from 22.06.2007 till 04.01.2008.

The total Austrian sample of DUI course participants comprises n=1.646 subjects, whereby the vast majority is male and only about 10% is female. The average age is 36 years ranging from 16 to 79 (the youngest are DUI moped riders).

Table 68: Austria – Sample size and age

Variable	Result
Total sample size, n	1646
Age, years, mean± sd, min-max, n	36.1±13.0, 16.0-79.0, 1508

Further descriptions of the Austrian sample concerning socio-demographic variables are documented in the following table.

Table 69: Austria – Socio-demographic variables

Variables	Result, n (%),
Gender	
male	1420 (86.3%)
female	186 (11.3%)
missing	40 (2.4%)
Cohabitation	
no	651 (39.6%)
yes	700 (42.5%)
missing	295 (17.9%)
Residence	
< 100.000	1051 (63.9%)
100.000-500.000	182 (11.1%)
> 500.000	287 (17.4%)
missing	126 (7.7%)
Education	
No compulsory school	31 (1.9%)
Compulsory school	193 (11.7%)
Secondary school	722 (43.9%)
A-level	143 (8.7%)
Vocational school	108 (6.6%)
College	3 (0.2%)
Academic	74 (4.5%)
missing	372 (22.6%)
Occupation	
Armed forces	11 (0.7%)
Managers	46 (2.8%)
Professionals	36 (2.2%)
Technicians and associated professionals	224 (13.6%)

Variables	Result, n (%),
Clerical support workers	154 (9.4%)
Service and sales workers	71 (4.3%)
Skilled agricultural, forestry and fishery workers	9 (0.5%)
Craft and related trades workers	297 (18.0%)
Plant and machine operators, and assemblers	186 (11.3%)
Elementary occupations	36 (2.2%)
unemployed	64 (3.9%)
Self-employed	106 (6.4%)
On retirement	97 (5.9%)
On sick-leave	2 (0.1%)
On maternity-leave	3 (0.2%)
Students	58 (3.5%)
Housewife/-man	8 (0.5%)
Missing	238 (14.5%)

The sample description concerning offence-related variables shows that the average BAC of the Austrian sample is 1.47‰ with a standard deviation of 0.49. The lowest value refers to the fact that obligatory DR course participation is required for a DUI offence in the probation period from this limit on.

Table 70: Austria – BAC level of sample

Variable	Result
BAC level, promille, mean± sd, n	1.47±0.49, 1542

Almost 1/3 of the sample has prior drink-driving convictions and about 20% had a prior DR course. As far as the actual drink-driving offence having lead to the DR course is concerned, approximately ¼ had an accident along with the offence. Further details are described in the table below.

Table 71: Austria - Alcohol offence related variables

Variables	Result, n (%)
Refusal of breathalyser test	44 (2.7%)
Detection of actual DUI offence: control	
no	568 (34.5%)
yes	1064 (64.6%)
missing	14 (0.9%)
Detection of actual DUI offence: accident	
no	1251 (76.0%)
yes	380 (23.1%)
missing	15 (0.9%)
Prior drinking and driving convictions	
no	1091 (66.3%)
yes	515 (31.3%)
missing	40 (2.4%)
Prior drink driving rehabilitation course	
no	1141 (69.3%)
yes	345 (21.0%)
missing	160 (9.7%)
Driving Licence	
A	639 (38.8%)
B	1555 (94.5%)
C	270 (16.4%)
D	15 (0.9%)
probational	266 (16.2%)

7.4.1.2 Austria - Overall evaluation of DR course

Concerning the DR courses the overall feedback of the Austrian DR sample is very positive. More than 95% of the participants evaluate the intervention as ‘very good’ or ‘good’. Less then 2% give a negative rating. The outcomes are documented in detail numerically and graphically below.

Table 72: Austria - Overall DR course evaluation

Variables	Result, n (%)
Overall evaluation of course	
Very good	930 (56.5%)

Variables	Result, n (%)
good	650 (39.5%)
bad	22 (1.3%)
Very bad	8 (0.5%)
Missing	36 (2.2%)
	mean± sd, n
Average	1.45±0.55, 1610

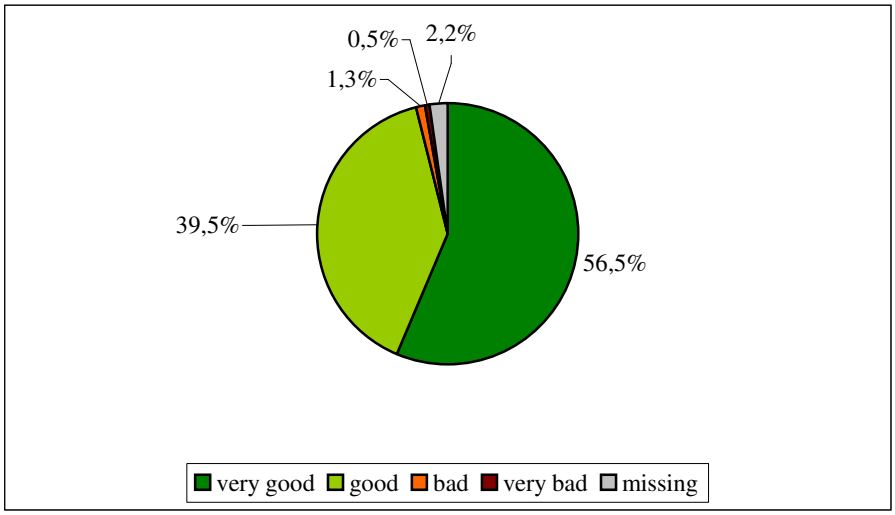


Figure 27: Austria - Overall evaluation of DR course

7.4.1.3 Austria - TTM scales and processes

According to the outcomes high positive change effects on all TTM scales as well as on the corresponding cognitive affective and behavioural processes result from the answers of the Austrian participants. In particular, the strongest changes took place on the behavioural level, above all regarding social liberation. This means, the DR course is seen to be very supportive regarding the awareness and acceptance of alternative lifestyles in order to prevent future drink-driving offences. The detailed results on a numerical and graphical level are shown below.

Table 73: Austria – Outcomes in TTM scales and processes

Variable	Result mean± sd, n
TTM scales	
Consciousness raising	1.67±0.60, n=1624
Dramatic relief	1.85±0.88, n=1585
Environmental re-evaluation	1.97±1.03, n=1599
Self re-evaluation	1.74±0.87, n=1601
Social liberation	1.37±0.65, n=1607
Self-liberation	1.39±0.57, n=1633
Stimulus control	1.56±0.81, n=1596
Counter conditioning	1.49±0.67, n=1622
Helping relationships	1.50±0.73, n=1607
Reinforcement management	1.67±0.92, n=1600
TTM processes	
Cognitive affective processes	1.70±0.50, n=1631
Behavioural processes	1.50±0.52, n=1636

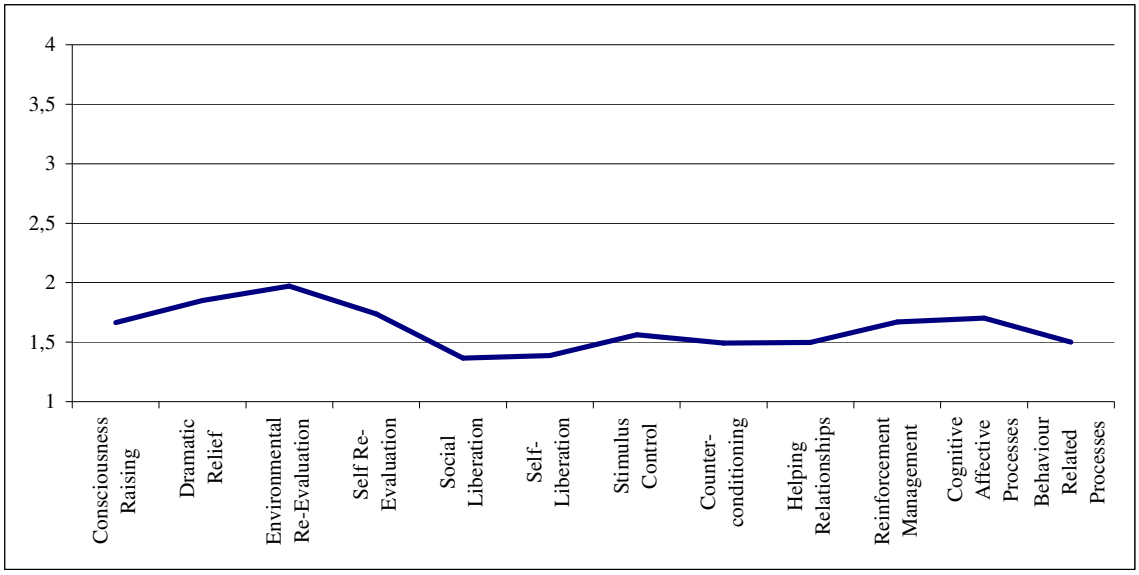


Figure 28: Austria – Overall results in TTM scales and processes

7.4.1.4 Austria - Diamond of Change

All components relevant in DR courses for the change processes are evaluated positively by the Austrian course participants. Thereby the best results are seen on the trainer-participant-relationship level. The detailed numerical and graphical figures are shown below.

Table 74: Austria – Outcomes in Diamond of Change key elements

Key elements	Result mean± sd, n
Individual	1.65±0.53, n=1632
Methods	1.69±0.81, n=1604
Contents	1.58±0.62, n=1622
Participant-Participant Relations	1.66±0.76, n=1606
Participant-Trainer Relations	1.29±0.52, n=1622

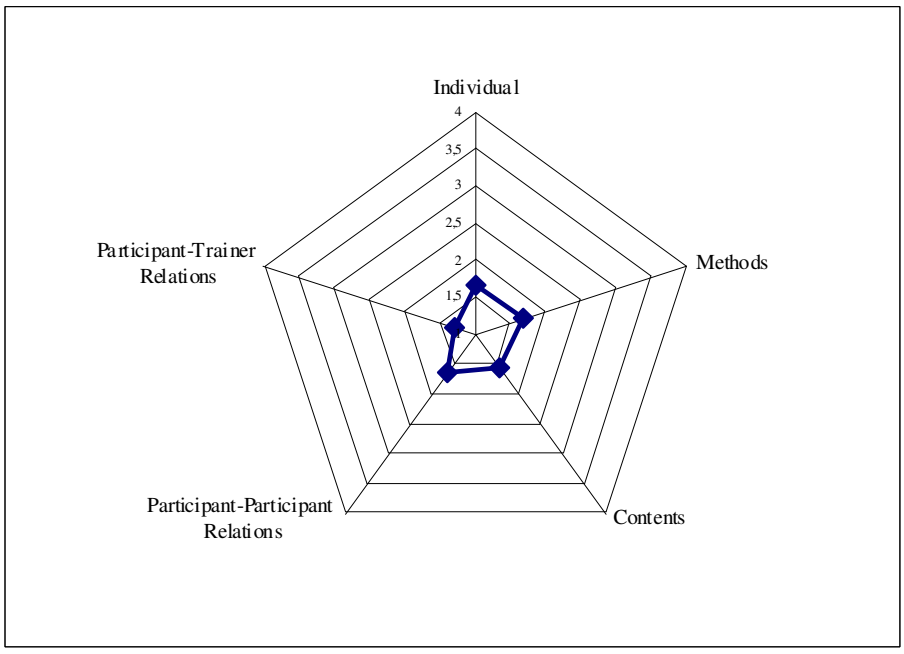


Figure 29: Austria – Overall result in Diamond of Change key elements

7.4.2 Belgium

7.4.2.1 Belgium - Characteristics of sample

In Belgium, one DR-provider participated in the feedback study, namely Belgian Road Safety Institute (Department Behaviour and Policy). Data collection took place from 16.05.2007 till 27.12.2007.

The total Belgium sample comprises n=103 subjects, whereby the vast majority is male. Only about 10% of the course participants are women. The average age is 37 years ranging from 20 to 70.

Table 75: Belgium – Sample size and age

Variable	Result
Total sample size, n	103
Age, years, mean± sd, min-max, n	37.6±12.8, 20.0-70.0, n=96

Further descriptions of the sample concerning socio-demographic variables are documented in the following table.

Table 76: Belgium – Socio-demographic variables

Variables	Result, n (%),
Gender	
male	93 (90.3%)
female	10 (9.7%)
missing	0 (0.0%)
Cohabitation	
no	40 (38.8%)
yes	58 (56.3%)
missing	5 (4.9%)
Residence	
< 100.000	74 (71.8%)
100.000-500.000	18 (17.5%)
> 500.000	8 (7.8%)
missing	3 (2.9%)
Education	
No compulsory school	0 (0.0%)
Compulsory school	5 (4.9%)
Secondary school	19 (18.4%)
A-level	16 (15.5%)
Vocational school	29 (28.2%)
College	10 (9.7%)
Academic	9 (8.7%)
missing	15 (14.6%)
Occupation	
Armed forces	0 (0.0%)
Managers	4 (3.9%)
Professionals	0 (0.0%)
Technicians and associated professionals	2 (1.9%)
Clerical support workers	10 (9.7%)
Service and sales workers	4 (3.9%)
Skilled agricultural, forestry and fishery workers	2 (1.9%)
Craft and related trades workers	26 (25.2%)
Plant and machine operators, and assemblers	12 (11.7%)
Elementary occupations	5 (4.9%)
unemployed	2 (1.9%)
Self-employed	4 (3.9%)
On retirement	7 (6.8%)
On sick-leave	0 (0.0%)
On maternity-leave	0 (0.0%)
Students	0 (0.0%)
Housewife/-man	0 (0.0%)
Missing	25 (24.3%)

Further sample description concerning offence related variables shows that the average BAC of the Belgian sample is 1.55 ‰ with a standard deviation of 0.63. In general about 2% of the sample is holding a probationary driving licence.

Table 77: Belgium – BAC level of sample

Variable	Result
BAC level, promille, mean± sd, n	1.55±0.63, n=99

Nearly 1/3 of the sample has prior drink-driving convictions and about 2% had a prior DR course. As far as the actual drink-driving offence which led to the DR course is concerned, 35% had an accident along with the offence. Further details are described in the table below.

Table 78: Belgium - Alcohol offence related variables

Variables	Result, n (%)
Refusal of breathalyser test	was not recorded/does not exist
Detection of actual DUI offence: control	
no	52 (50.5%)
yes	50 (48.5%)
missing	1 (1.0%)
Detection of actual DUI offence: accident	
no	66 (64.1%)
yes	36 (35.0%)
missing	1 (1.0%)
Prior drinking and driving convictions	
no	69 (67.0%)
yes	32 (31.1%)
missing	2 (1.9%)
Prior drink driving rehabilitation course	
no	89 (86.4%)
yes	2 (1.9%)
missing	12 (11.7%)
Driving Licence	
A	6 (5.8%)
B	66 (64.1%)
C	12 (11.7%)
D	2 (1.9%)
probational	2 (1.9%)

7.4.2.2 Belgium - Overall evaluation of DR course

Concerning the DR courses the overall feedback of the Belgium DR sample is very positive. More than 95% of the participants evaluate the intervention as ‘very good’ or ‘good’. Only 3% give a negative rating. The outcomes are documented in detail numerically and graphically below.

Table 79: Belgium - Overall DR course evaluation

Variables	Result, n (%)
Overall evaluation of course	
Very good	49 (47.6%)
good	51 (49.5%)
bad	3 (2.9%)
Very bad	0 (0.0%)
Missing	0 (0.0%)
	mean± sd, n
Average	1.55±0.56, n=103

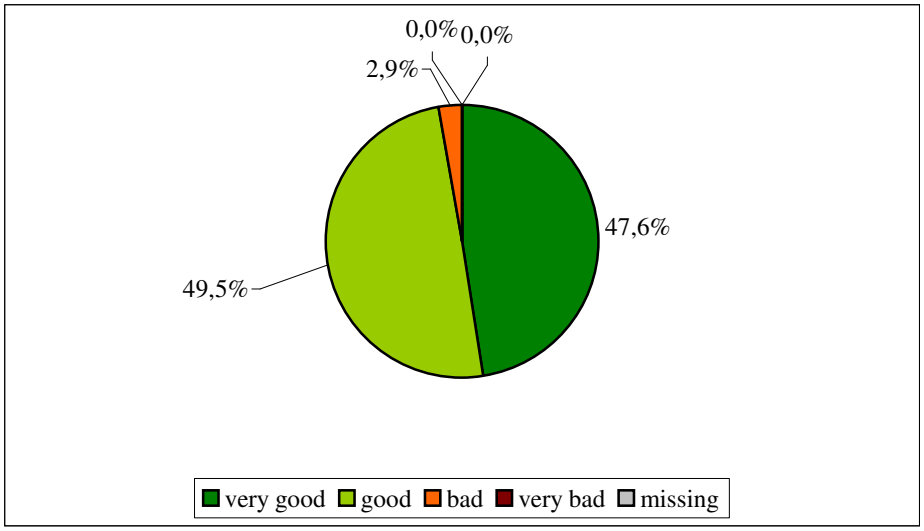


Figure 30: Belgium - Overall evaluation of DR course

7.4.2.3 Belgium - TTM scales and processes

According to the outcomes high positive change effects on all TTM scales as well as the corresponding cognitive affective and behavioural processes result from the answers of the Belgium participants. In particular, the strongest changes took place on the behavioural level, above all regarding self-liberation. This means, the DR-course is seen to be very supportive to belief in being able to change successfully and to commit to this choice. The detailed results on a numerical and graphical level are shown below.

Table 80: Belgium – Outcomes in TTM scales and processes

Variable	Result mean± sd, n
TTM scales	
Consciousness raising	1.69±0.60, n=103
Dramatic relief	2.04±0.86, n=102
Environmental re-evaluation	2.21±1.05, n=98
Self re-evaluation	1.66±0.84, n=102
Social liberation	1.44±0.65, n=102
Self-liberation	1.42±0.53, n=103
Stimulus control	1.71±0.80, n=102
Counter conditioning	1.51±0.65, n=98
Helping relationships	1.55±0.74, n=101
Reinforcement management	2.00±0.85, n=99
TTM processes	
Cognitive affective processes	1.77±0.48, n=103
Behavioural processes	1.60±0.49, n=103

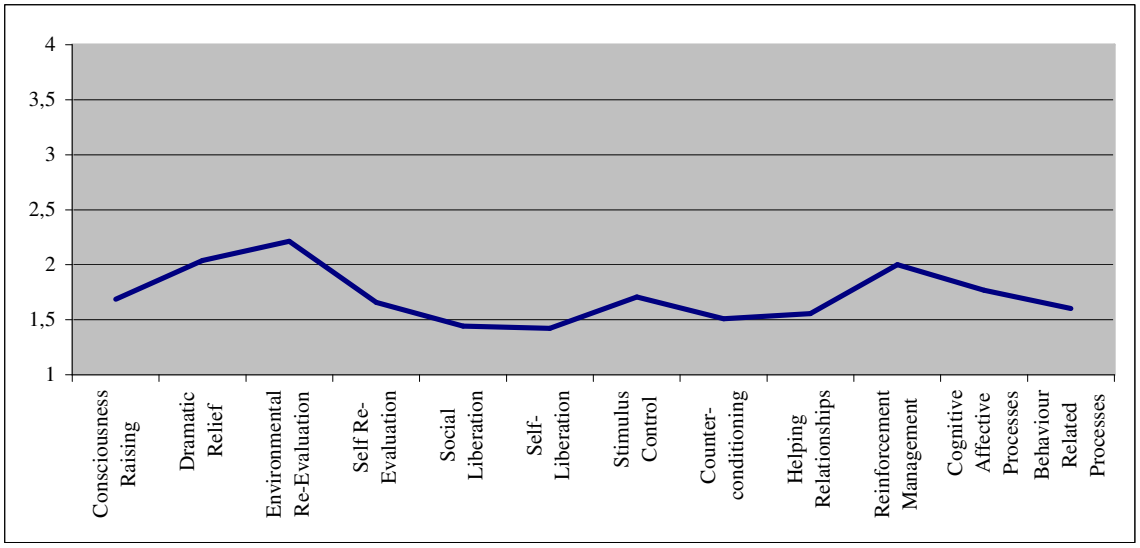


Figure 31: Belgium – Overall results in TTM scales and processes

7.4.2.4 Belgium - Diamond of Change

All components relevant in DR courses for the change processes are confirmed by the Belgium course participants. Thereby the most important key element of change is the trainer-participant relationship. The detailed numerical and graphical figures are shown below.

Table 81: Belgium – Outcomes in Diamond of Change key elements

Key elements	Result mean± sd, n
Individual	1.76±0.54, n=103
Methods	1.72±0.80, n=99
Contents	1.63±0.59, n=101
Participant-Participant Relations	1.58±0.66, n=102
Participant-Trainer Relations	1.38±0.52, n=102

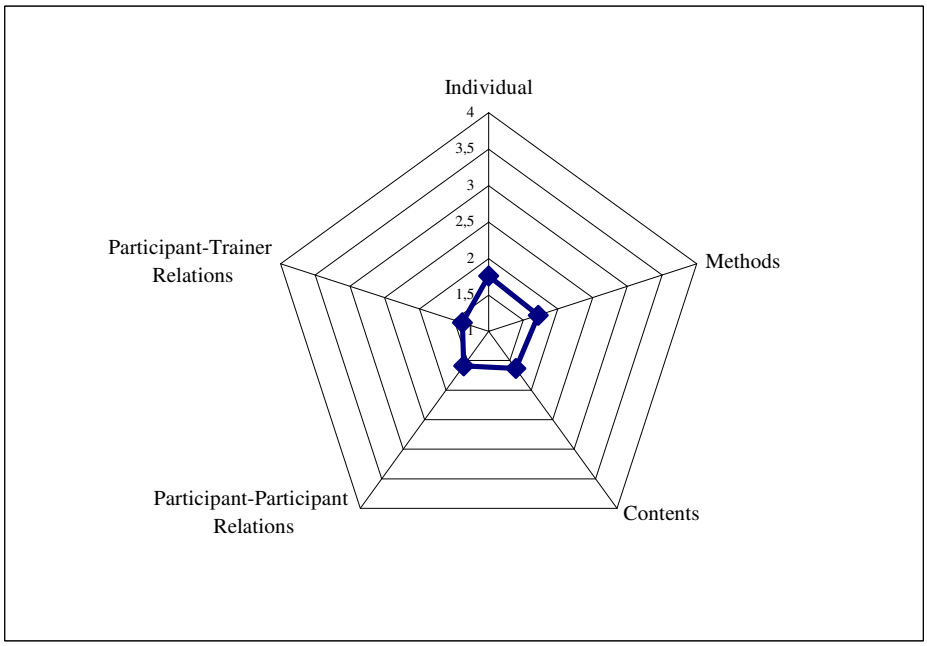


Figure 32: Belgium – Overall result in Diamond of Change key elements

7.4.3 France

7.4.3.1 France - Characteristics of sample

In France, five DR-providers participated in the feedback study, namely ANPER, AUTOMOBILE-CLUB, APAVE, LA PREVENTION ROUTIERE FORMATION and COMARIS. Data collection took place from 04.07.2007 till 26.12.2007.

The total French sample comprises n=686 subjects. The vast majority of DUI course participants are men; only about 11% are women. The average age is 38 years ranging from 18 to 73.

Table 82: France – Sample size and age

Variable	Result
Total sample size, n	686
Age, years, mean± sd, min-max, n	37.5±12.4, 18.0-73.0, n=663

Further descriptions of the French sample concerning socio-demographic variables are documented in the following table.

Table 83: France – Socio-demographic variables

Variables	Result, n (%),
Gender	
male	601 (87.6%)
female	77 (11.2%)
missing	8 (1.2%)
Cohabitation	
no	255 (37.2%)
yes	309 (45.0%)
missing	122 (17.8%)
Residence	
< 100.000	406 (59.2%)
100.000-500.000	143 (20.8%)
> 500.000	67 (9.8%)
missing	70 (10.2%)
Education	
No compulsory school	0 (0.0%)
Compulsory school	0 (0.0%)
Secondary school	313 (45.6%)
A-level	120 (17.5%)
Vocational school	24 (3.5%)
College	117 (17.1%)
Academic	39 (5.7%)
missing	73 (10.6%)
Occupation	
Armed forces	5 (0.7%)
Managers	43 (6.3%)
Professionals	96 (14.0%)
Technicians and associated professionals	17 (2.5%)
Clerical support workers	53 (7.7%)
Service and sales workers	70 (10.2%)
Skilled agricultural, forestry and fishery workers	3 (0.4%)
Craft and related trades workers	148 (21.6%)
Plant and machine operators, and assemblers	58 (8.5%)
Elementary occupations	49 (7.1%)
unemployed	46 (6.7%)
Self-employed	2 (0.3%)
On retirement	33 (4.8%)
On sick-leave	3 (0.4%)
On maternity-leave	0 (0.0%)
Students	21 (3.1%)
Housewife/-man	1 (0.1%)
Missing	38 (5.5%)

The average BAC of the French sample is 1.36 ‰ with a standard deviation of 0.65. In general about 15% of the DR course attendees is holding a probationary driving licence.

Table 84: France – BAC level of sample

Variable	Result
BAC level, promille, mean± sd, n	1.36±0.65, n=608

12% of the sample has prior drink-driving convictions and about 6% had a prior DR course. 10% had an accident along with the actual drink-driving offence which led to the DR course. Further details are described in the table below.

Table 85: France - Alcohol offence related variables

Variables	Result, n (%)
Refusal of breathalyser test	Was not recorded/does not exist
Detection of actual DUI offence: control	
no	96 (14.0%)
yes	564 (82.2%)
missing	26 (3.8%)
Detection of actual DUI offence: accident	
no	590 (86.0%)
yes	69 (10.1%)
missing	27 (3.9%)
Prior drinking and driving convictions	
no	588 (85.7%)
yes	85 (12.4%)
missing	13 (1.9%)
Prior drink driving rehabilitation course	
no	621 (90.5%)
yes	44 (6.4%)
missing	21 (3.1%)
Driving Licence	
A	97 (14.1%)
B	638 (93.0%)
C	77 (11.2%)
D	28 (4.1%)
probational	100 (14.6%)

7.4.3.2 France - Overall evaluation of DR course

Concerning the DR courses the overall feedback of the French DR sample is very positive. More than 92% of the participants evaluate the intervention as ‘very good’ or ‘good’. Less then 1% give a negative rating. The outcomes are documented in detail numerically and graphically below.

Table 86: France - Overall DR course evaluation

Variables	Result, n (%)
Overall evaluation of course	
Very good	343 (50.0%)
good	290 (42.3%)
bad	4 (0.6%)
Very bad	0 (0.0%)
Missing	49 (7.1%)
	mean± sd, n
Average	1.47±0.51, n=637

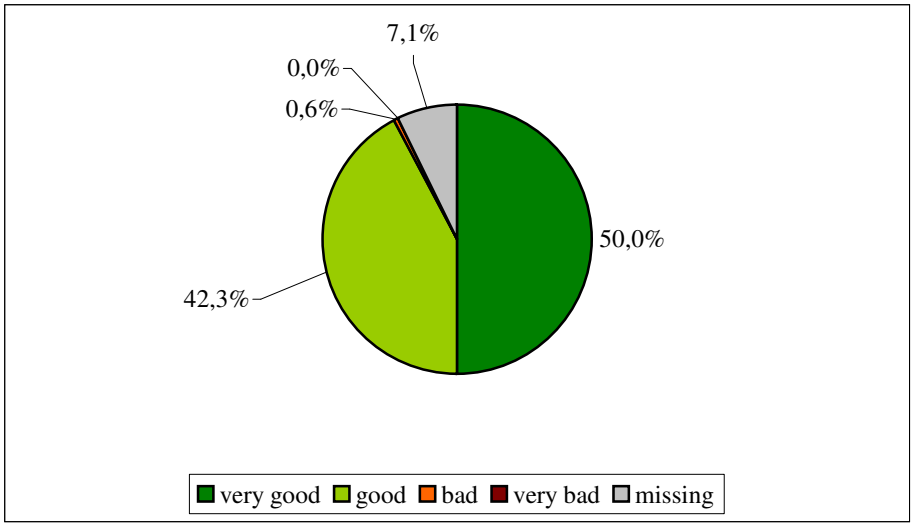


Figure 33: France - Overall evaluation of DR course

7.4.3.3 France - TTM scales and processes

According to the outcomes high positive change effects on all TTM scales as well as the corresponding cognitive affective and behavioural processes result from the answers of the French participants. In particular, the strongest changes took place on the behavioural level, above all regarding self-liberation. As already shown for the Belgium courses, the DR course is seen to be very effective in supporting the choice to change and the belief to be able to change successfully, hence preventing future drink-driving offences. The detailed results on a numerical and graphical level are shown below.

Table 87: France – Outcomes in TTM scales and processes

Variable	Result mean± sd, n
TTM scales	
Consciousness raising	1.73±0.63, n=652
Dramatic relief	1.99±0.92, n=634
Environmental re-evaluation	1.78±0.97, n=627
Self re-evaluation	1.76±0.82, n=642
Social liberation	1.50±0.71, n=642
Self-liberation	1.44±0.55, n=656
Stimulus control	1.61±0.81, n=640
Counter conditioning	1.57±0.70, n=648
Helping relationships	1.54±0.71, n=643
Reinforcement management	1.76±0.86, n=642
TTM processes	
Cognitive affective processes	1.74±0.49, n=656
Behavioural processes	1.56±0.48, n=660

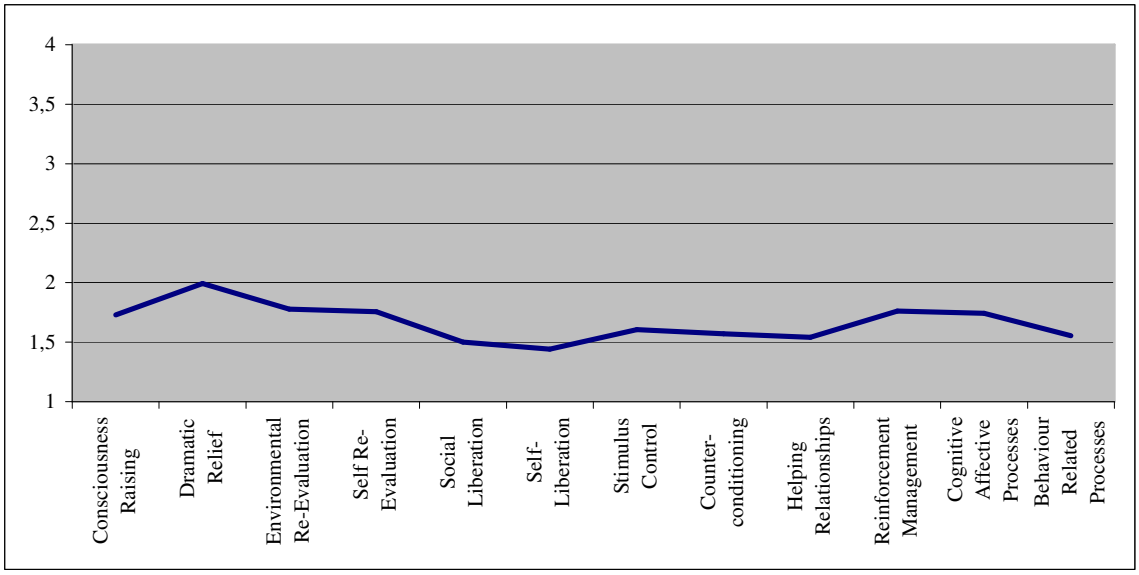


Figure 34: France – Overall results in TTM scales and processes

7.4.3.4 France - Diamond of Change

All components relevant in DR courses for the change processes are confirmed. Again, the participant-trainer relationship turns out to be the most important driving force for change. The detailed numerical and graphical figures are shown below.

Table 88: France – Outcomes in Diamond of Change key elements

Key elements	Result mean± sd, n
Individual	1.69±0.51, n=655
Methods	1.66±0.74, n=641
Contents	1.64±0.62, n=651
Participant-Participant Relations	1.73±0.69, n=643
Participant-Trainer Relations	1.32±0.52, n=651

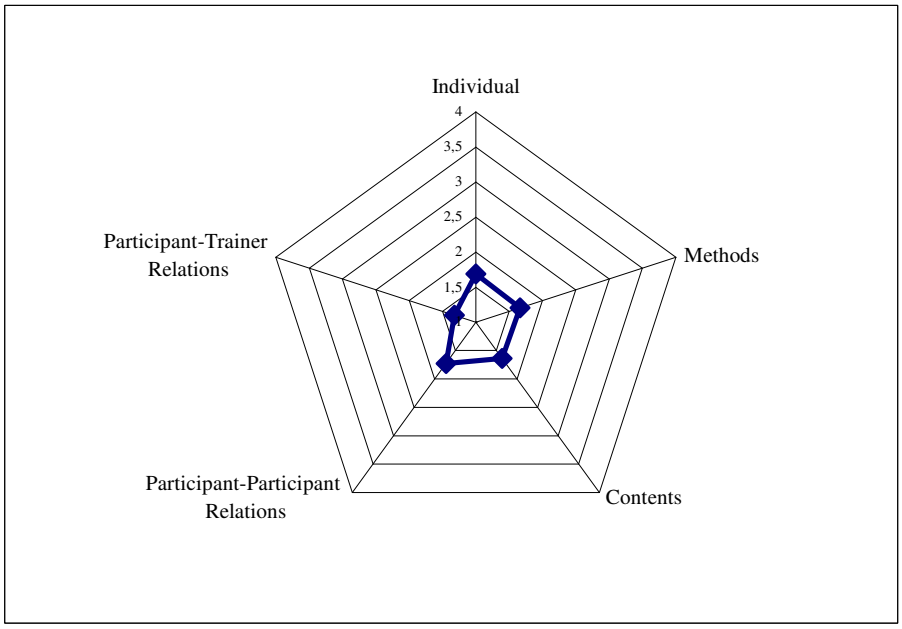


Figure 35: France – Overall result in Diamond of Change key elements

7.4.4 Germany

7.4.4.1 Germany - Characteristics of sample

Eleven DR-providers agreed to participate in the feedback study in Germany, whereof eight are accredited providers conducting courses according to §70 FeV and three are accredited institutes for medical psychological assessments (MPA) providing courses according to §36 FeV. They were: AFN Gesellschaft für Ausbildung, Fortbildung und Nachschulung e.V., Nord-Kurs GmbH & Co. KG, Pluspunkt GmbH Gesellschaft für sichere Mobilität, TÜV Hessen Consulting GmbH, Dekra Akademie GmbH, Impuls GmbH, TÜV Thüringen Anlagentechnik GmbH & Co. KG, IVT Hö© Individualpsychologische Verkehrstherapie, TÜV Süd Life Service GmbH, TÜV Nord Mobilität GmbH & Co. KG, Dekra e.V. Dresden. Germany was the only country which involved drug courses in the feedback study. Data collection took started on the 14.08.2007 and ended on the 16.01.2008.

The total sample in Germany consists of n=2.351 participants of DUI courses. Only 10% of the sample is female and the average age is 29.8 years, ranging from 16 to 76 years.

Table 89: Germany – Sample size and age

Variable	Result
Total sample size, n	2351
Age, years, mean± sd, min-max, n	29.8±11.5, 16.0-76.0, 2177

The socio-demographic characteristics of the sample are outlined in the following table.

Table 90: Germany – Socio-demographic variables

Variables	Result, n (%)
Gender	
male	2031 (86.4%)
female	235 (10.0%)
missing	85 (3.6%)
Cohabitation	
no	1158 (49.3%)
yes	869 (37.0%)
missing	324 (13.8%)
Residence	
< 100.000	1399 (59.5%)
100.000-500.000	450 (19.1%)
> 500.000	316 (13.4%)
missing	186 (7.9%)
Education	
No compulsory school	59 (2.5%)
Compulsory school	928 (39.5%)
Secondary school	487 (20.7%)
A-level	186 (7.9%)
Vocational school	112 (4.8%)
College	3 (0.1%)
Academic	181 (7.7%)
missing	395 (16.8%)
Occupation	
Armed forces	34 (1.4%)
Managers	58 (2.5%)
Professionals	54 (2.3%)
Technicians and associated professionals	173 (7.4%)
Clerical support workers	113 (4.8%)
Service and sales workers	101 (4.3%)
Skilled agricultural, forestry and fishery workers	7 (0.3%)
Craft and related trades workers	492 (20.9%)
Plant and machine operators, and assemblers	196 (8.3%)
Elementary occupations	54 (2.3%)
unemployed	117 (5.0%)
Self-employed	151 (6.4%)
On retirement	44 (1.9%)
On sick-leave	3 (0.1%)

Variables	Result, n (%)
On maternity-leave	1 (0.0%)
Students	425 (18.1%)
Housewife/-man	13 (0.6%)
Missing	315 (13.4%)

The mean BAC of the German sample of DUI course attendees is 1.38 ‰ with a standard deviation of 0.58. Almost one third (29.2%) was detected due to an accident and almost one fifth is recidivists with a prior DUI conviction (18.6%). Nearly 10% have already participated in a DR programme. The amount of drivers holding a licence on probation is 38.4%. This very high rate is not surprising as 38.7% were participants of special advanced driver improvement courses according to §36/§43 FeV which are obligatory for DUI offenders within the probation period. The detailed statistics on traffic related variables are presented in the tables below.

Table 91: Germany – BAC level of sample

Variable	Result
BAC level, promille, mean± sd, n	1.38±0.58, 2282

Table 92: Germany - Alcohol offence related variables

Variables	Result, n (%)
Refusal of breathalyser test	does not exist
Detection of actual DUI offence: control	
no	976 (41.5%)
yes	1353 (57.5%)
missing	22 (0.9%)
Detection of actual DUI offence: accident	
no	1638 (69.7%)
yes	687 (29.2%)
missing	26 (1.1%)
Prior drinking and driving convictions	
no	1846 (78.5%)
yes	438 (18.6%)
missing	67 (2.8%)
Prior drink driving rehabilitation course	
no	1936 (82.3%)
yes	225 (9.6%)
missing	190 (8.1%)
Driving Licence	
A	459 (19.5%)
B	2152 (91.5%)
C	294 (12.5%)
D	22 (0.9%)
probational	902 (38.4%)
Course Model	
I	723 (30.8%)
II	911 (38.7%)
II	183 (7.8%)
missing	534 (22.7%)

7.4.4.2 Germany - Overall evaluation of DR course

The overall evaluation of the German DR alcohol courses shows that the vast majority of all participants are highly satisfied with the course. More than 93% of the participants evaluate the intervention as ‘very good’ or ‘good’. Only 2.8% evaluate the course as bad or worse. The following table and figure depict the frequencies of the markings.

Table 93: Germany - Overall DR course evaluation

Variables	Result, n (%)
Overall evaluation of course	
Very good	921 (39.2%)
good	1276 (54.3%)
bad	51 (2.2%)
Very bad	11 (0.5%)
Missing	92 (3.9%)

Variables	Result, n (%)
	mean± sd, n
Average	1.62±0.56, 2259

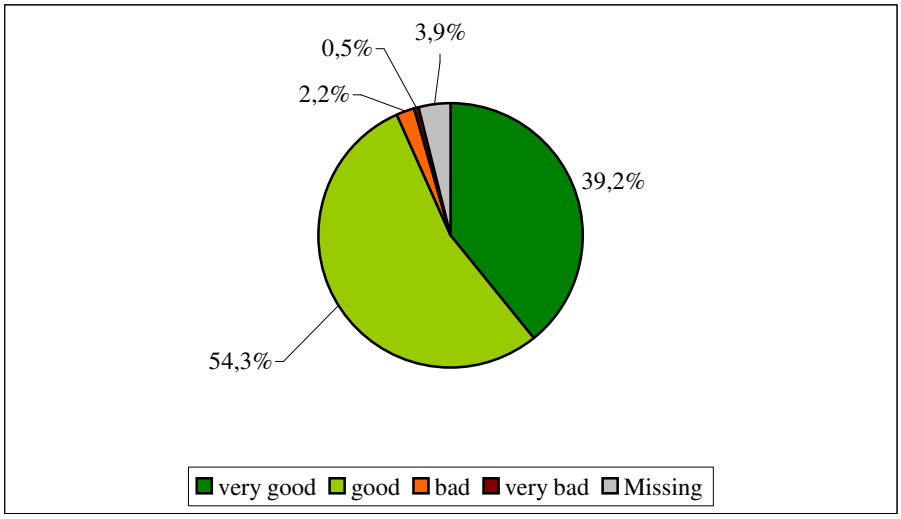


Figure 36: Germany - Overall evaluation of DR course

7.4.4.3 Germany – TTM scales and processes

Regarding the outcomes on the TTM scales it can be stated that more agreement was expressed on the scales for the behavioural change processes than for the scales measuring cognitive affective processes. The highest change effects are found on the scale for social liberation, featuring the awareness, availability and acceptance of alternative lifestyles and cues that support the change and on the scale for self-liberation, meaning the choice and commitment to change the problem behaviour, including the belief in the ability to change successfully.
The mean scores for each scale are presented in the table and figure below.

Table 94: Germany – Outcomes in TTM scales and processes

Variable	Result mean± sd, n
TTM scales	
Consciousness raising	1.65±0.63, n=2322
Dramatic relief	1.78±0.84, n=2261
Environmental re-evaluation	1.93±1.00, n=2286
Self re-evaluation	1.69±0.81, n=2232
Social liberation	1.42±0.67, n=2287
Self-liberation	1.43±0.59, n=2320
Stimulus control	1.56±0.81, n=2277
Counter conditioning	1.54±0.69, n=2287
Helping relationships	1.49±0.71, n=2292
Reinforcement management	1.68±0.92, n=2267
TTM processes	
Cognitive affective processes	1.68±0.51, n=2326
Behavioural processes	1.52±0.52, n=2326

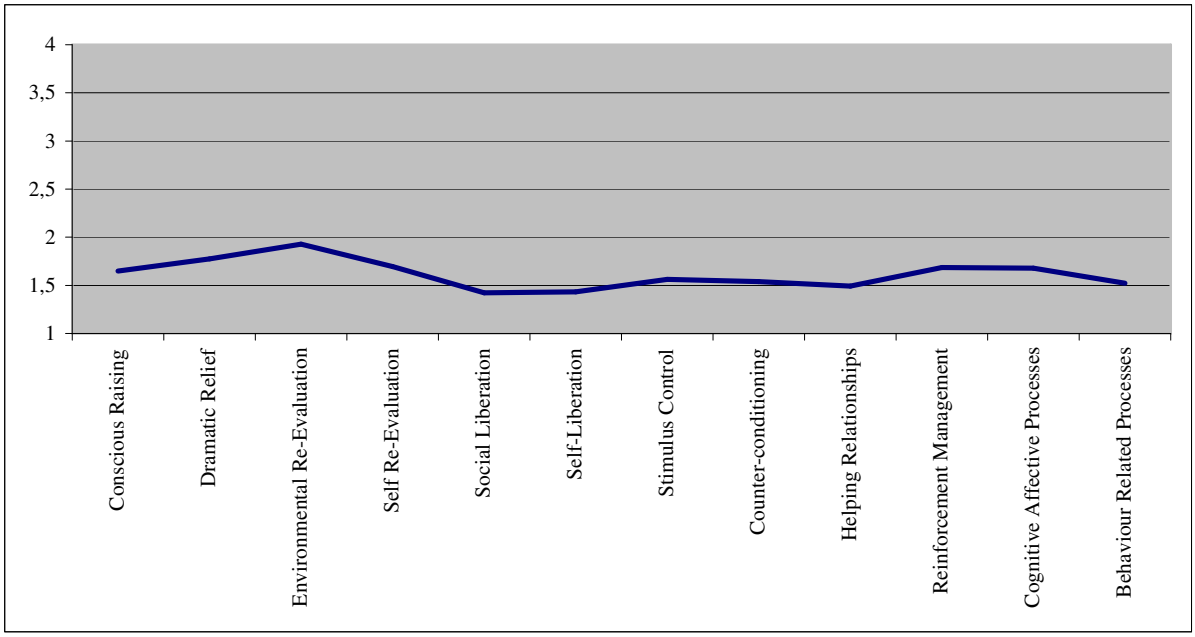


Figure 37: Germany – Overall results in TTM scales and processes

7.4.4.4 Germany - Diamond of Change

The contributing factors (or corners of the diamond) defined to be relevant for the change process were strongly confirmed by the German DUI course participants as well. Thereby again, the trainer-participant-relationship is identified to be the most supportive factor.
The detailed data are shown in the following table and figures.

Table 95: Germany – Outcomes in Diamond of Change key elements

Key elements	Result mean± sd, n
Individual	1.63±0.54, n=2327
Methods	1.75±0.81, n=2280
Contents	1.56±0.62, n=2307
Participant-Participant Relations	1.65±0.72, n=2288
Participant-Trainer Relations	1.36±0.57, n=2298

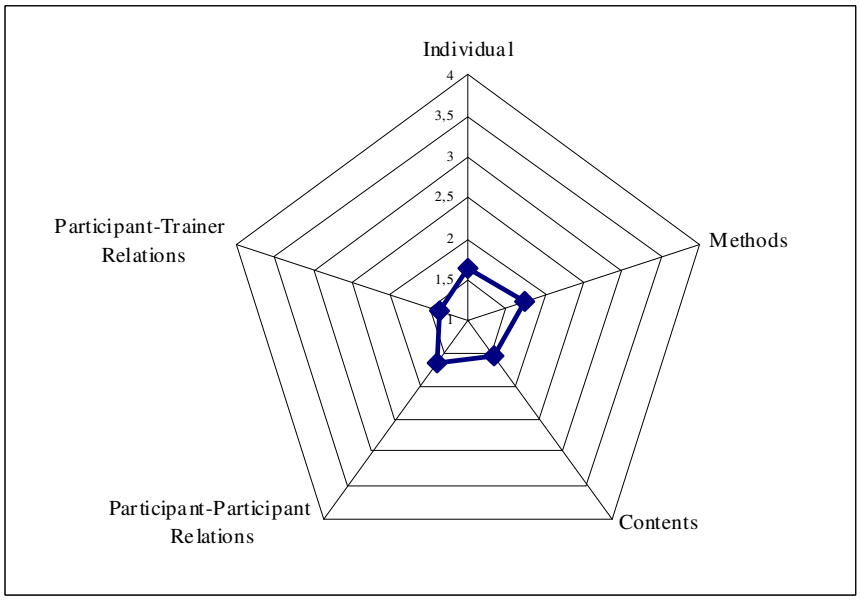


Figure 38: Germany – Overall result in Diamond of Change key elements

7.4.4.5 Specific analyses for different course types in Germany

For Germany a special data analysis was conducted as different course types are applied. Three main categories can be distinguished:
Type I: Courses for the restoration of the fitness to drive according to §70 FeV for DUI offenders who underwent the MPA (medical psychological assessment) and were assigned to such type of course.
Type II: Special advanced driver improvement courses according to §36 /§43 FeV, mainly applied on DUI/DUID offenders in the novice-driver-probation period, but also on general traffic offenders with a minor DUI offence in the past and having reached a high demerit point score.
Type III: Voluntary courses without any legal base; these course types serve as preparation courses for the MPA. Furthermore, the participation in one of these courses can lead to a reduction of the revocation period.

The results of the analysis comparing the different course models reveal that the voluntary courses (Type III) reach the best scores and highest agreement on each and every scale. They differ significantly from the other course types. In contrast, the mandatory courses for novice drivers DUI/DUID (Type II) reach the least agreement and the worst overall evaluation result.
All means for each course type and the p-values of statistical significance for every scale are depicted in detail in the following table.

Table 96: Germany - Specific results for the different course types

Variables	Results mean± sd			p-value
	Type I	Type II	Type III	
TTM scales				
Consciousness Raising	1.58 ± 0.58	1.77 ± 0.65	1.29 ± 0.38	p<,001*** (I-II, I-III, II-III)
Dramatic Relief	1.72 ± 0.83	1.84 ± 0.84	1.57 ± 0.75	p<,001*** (I-II, II-III)
Environment Re-Evaluation	1.85 ± 0.94	2.05 ± 1.04	1.59 ± 0.84	p<,001*** (I-II, I-III, II-III)
Self Re-Evaluation	1.61 ± 0.77	1.82 ± 0.85	1.38 ± 0.60	p<,001*** (I-II, I-III, II-III)
Social Liberation	1.38 ± 0.61	1.47 ± 0.73	1.26 ± 0.51	p<,001*** (I-II, II-III)
Self-Liberation	1.37 ± 0.56	1.54 ± 0.64	1.19 ± 0.36	p<,001*** (I-II, I-III, II-III)
Stimulus Control	1.51 ± 0.77	1.66 ± 0.85	1.25 ± 0.61	p<,001*** (I-II, I-III, II-III)
Counter Conditioning	1.48 ± 0.64	1.63 ± 0.74	1.25 ± 0.53	p<,001*** (I-II, I-III, II-III)
Helping Relations	1.48 ± 0.69	1.55 ± 0.74	1.26 ± 0.53	p<,001*** (I-III, II-III)
Reinforcement Management	1.63 ± 0.88	1.80 ± 0.97	1.37 ± 0.74	p<,001*** (I-II, I-III, II-III)
TTM processes				
Cognitive Affective Processes	1.61 ± 0.48	1.78 ± 0.52	1.38 ± 0.33	p<,001*** (I-II, I-III, II-III)
Behavioural Processes	1.47 ± 0.51	1.62 ± 0.55	1.24 ± 0.33	p<,001*** (I-II, I-III, II-III)
Overall evaluation				
Evaluation	1.60 ± 0.54	1.66 ± 0.56	1.53 ± 0.52	p=,006** (II-III)

Legend: +…statistical tendency 0.10<p>.05; *…p<.05, **…p<.01, ***p<.001

7.4.5 Great Britain

7.4.5.1 Great Britain - Characteristic of sample

In Great Britain, 15 DR-providers participated in the feedback study, namely Drivers SEAT, DTS, Alcohol Support Ltd, Reform Road Safety & Education, Lincolnshire Road Safety Partnership, Kent

Probation Service, Vernon Manfield (Consultancy) Ltd, dde - drink driver education, TTC, Gloucestershire County Council, Albert Centre, Devon, NECA, OGWR-DASH, and PRISM CLEARWAY. Data collection took place from 01.10.2007 till 23.12.2007.
The total British sample comprises n=1.022 subjects. Almost 80% are male and only about 18% are female. The average age is 35 years ranging from 17 to 80.

Table 97: Great Britain – Sample size and age

Variable	Result
Total sample size, n	1022
Age, years, mean± sd, min-max, n	34.7±13.2, 17.0-80.0, n=874

Further descriptions of the sample concerning socio-demographic variables are documented in the following table.

Table 98: Great Britain – Socio-demographic variables

Variables	Result, n (%),
Gender	
male	817 (79.9%)
female	179 (17.5%)
missing	26 (2.5%)
Cohabitation	
no	327 (32.0%)
yes	574 (56.2%)
missing	121 (11.8%)
Residence	
< 100.000	458 (44.8%)
100.000-500.000	288 (28.2%)
> 500.000	162 (15.9%)
missing	114 (11.2%)
Education	
No compulsory school	34 (3.3%)
Compulsory school	0 (0.0%)
Secondary school	343 (33.6%)
A-level	109 (10.7%)
Vocational school	59 (5.8%)
College	63 (6.2%)
Academic	119 (11.6%)
missing	295 (28.9%)
Occupation	
Armed forces	12 (1.2%)
Managers	72 (7.0%)
Professionals	135 (13.2%)
Technicians and associated professionals	63 (6.2%)
Clerical support workers	43 (4.2%)
Service and sales workers	89 (8.7%)
Skilled agricultural, forestry and fishery workers	23 (2.3%)
Craft and related trades workers	180 (17.6%)
Plant and machine operators, and assemblers	46 (4.5%)
Elementary occupations	61 (6.0%)
unemployed	45 (4.4%)
Self-employed	26 (2.5%)
On retirement	33 (3.2%)
On sick-leave	4 (0.4%)
On maternity-leave	0 (0.0%)
Students	29 (2.8%)
Housewife/-man	13 (1.3%)
Missing	148 (14.5%)

The average BAC of the British sample of DUI course participants included in the study is 1.36 ‰ with a standard deviation of 0.46. In general about 4% of the sample is holding a probationary driving licence.

Table 99: Great Britain – BAC level of sample

Variable	Result
BAC level, promille, mean± sd, n	1.36±0.46, n=848

13% of the sample has prior drink-driving convictions and 9% had a prior DR course. As far as the actual drink-driving offence having lead to the DR course is concerned, 21% had an accident along with the offence. Further details are described in the table below.

Table 100: Great Britain - Alcohol offence related variables

Variables	Result, n (%)
Refusal of breathalyser test	44 (2.7%)
Detection of actual DUI offence: control	
no	474 (46.4%)
yes	548 (53.6%)
missing	0 (0.0%)
Detection of actual DUI offence: accident	
no	811 (79.4%)
yes	211 (20.6%)
missing	0 (0.0%)
Prior drinking and driving convictions	
no	847 (82.9%)
yes	130 (12.7%)
missing	45 (4.4%)
Prior drink driving rehabilitation course	
no	735 (71.9%)
yes	91 (8.9%)
missing	196 (19.2%)
Driving Licence	
A	114 (11.2%)
B	900 (88.1%)
C	76 (7.4%)
D	12 (1.2%)
probational	36 (3.5%)

7.4.5.2 Great Britain - Overall evaluation of DR course

Concerning the DR courses the overall feedback of the British DR sample is very positive. More than 97% of the participants evaluate the intervention as ‘very good’ or ‘good’. Only less then 0.5% give a negative rating. The outcomes are documented in detail numerically and graphically below.

Table 101: Great Britain - Overall DR course evaluation

Variables	Result, n (%)
Overall evaluation of course	
Very good	748 (73.2%)
good	245 (24.0%)
bad	2 (0.2%)
Very bad	2 (0.2%)
Missing	25 (2.4%)
	mean± sd, n
Average	1.26±0.45, n=997

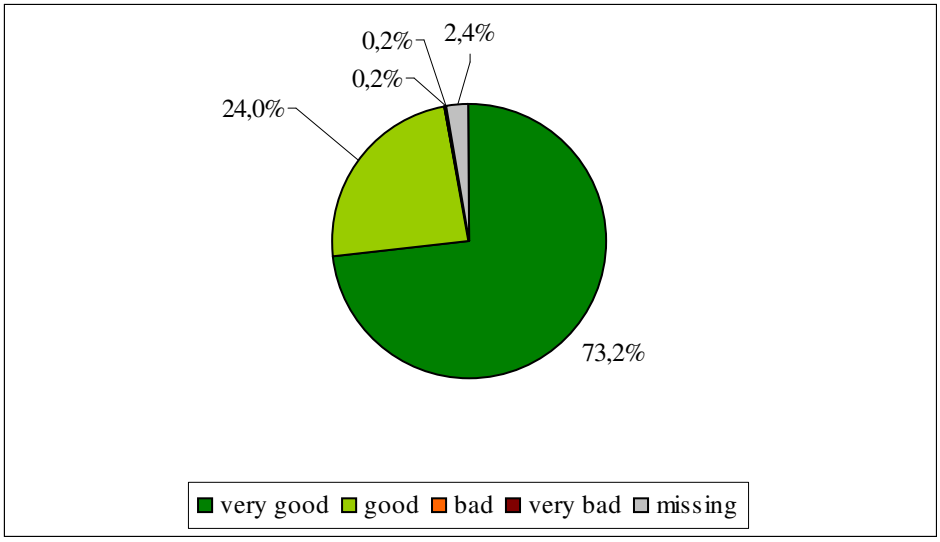


Figure 39: Great Britain - Overall evaluation of DR course

7.4.5.3 Great Britain - TTM scales and processes

According to the outcomes high positive change effects on all TTM scales as well as the corresponding cognitive affective and behavioural processes result from the answers of the British participants. In particular, the strongest changes took place on the behavioural level, above all regarding counter conditioning. This means, the DR-course is seen to be very effective in establishing an alternative behaviour and thus to prevent further future drink-driving offences. The detailed results on a numerical and graphical level are shown below.

Table 102: Great Britain – Outcomes in TTM scales and processes

Variable	Result mean± sd, n
TTM scales	
Consciousness raising	1.67±0.60, n=1624
Dramatic relief	1.85±0.88, n=1585
Environmental re-evaluation	1.43±0.47, n=996
Self re-evaluation	1.87±0.86, n=964
Social liberation	1.80±0.95, n=982
Self-liberation	1.51±0.66, n=949
Stimulus control	1.34±0.58, n=976
Counter conditioning	1.22±0.42, n=997
Helping relationships	1.37±0.62, n=981
Reinforcement management	1.27±0.50, n=991
TTM processes	
Cognitive affective processes	1.54±0.42, n=997
Behavioural processes	1.34±0.40, n=997

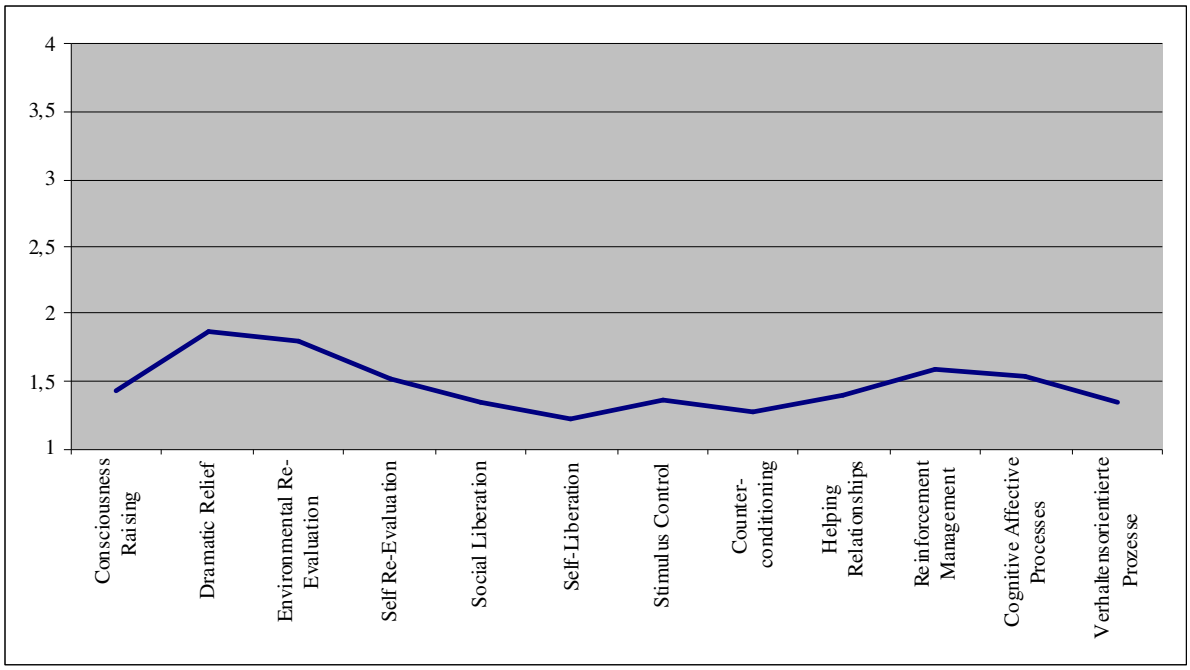


Figure 40: Great Britain – Overall results in TTM scales and processes

7.4.5.4 Great Britain - Diamond of Change

All components relevant in DR courses for the change processes are evaluated positively. As in all other countries mentioned above, the trainer-participant relationship is the most important key element of change. The detailed numerical and graphical figures are shown below.

Table 103: Great Britain – Outcomes in Diamond of Change key elements

Key elements	Result mean± sd, n
Individual	1.46±0.41, n=997
Methods	1.38±0.56, n=975
Contents	1.47±0.54, n=993
Participant-Participant Relations	1.56±0.60, n=960
Participant-Trainer Relations	1.21±0.43, n=985

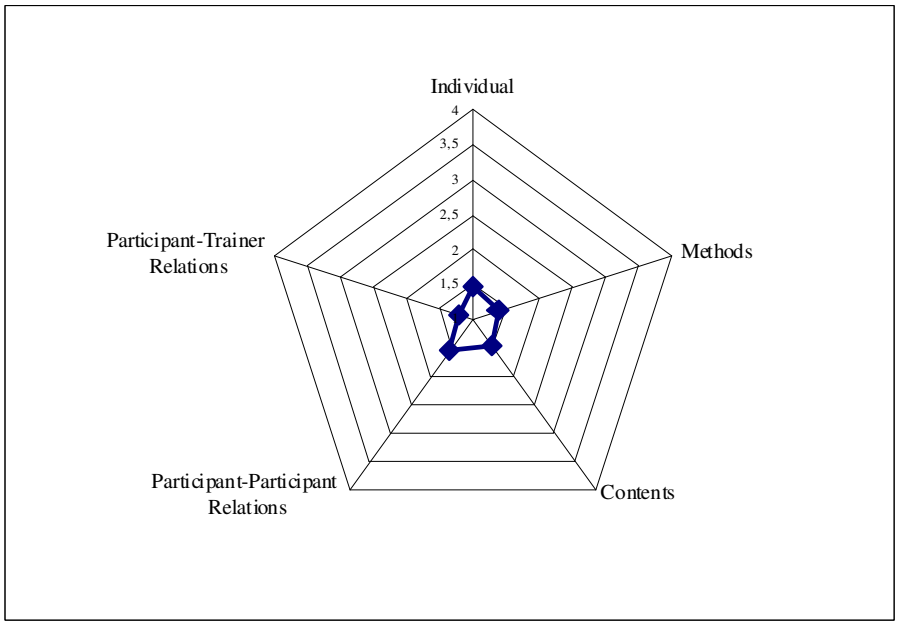


Figure 41: Great Britain – Overall result in Diamond of Change key elements

7.4.6 Hungary

7.4.6.1 Hungary - Characteristics of sample

In Hungary, the National Transport Authority provided participation of the Department for Training and Examination, Central Office; the Exam Supervising Unit, Central Office; the Driver Testing and Drivers' Rehabilitation Unit, Regional Directorate for Dél-Dunántúl; the Driver Testing and Drivers' Rehabilitation Unit, Regional Directorate for Észak-Magyarország; the Driver Testing and Drivers' Rehabilitation Unit, Regional Directorate for Dél-Alföld; the Driver Testing and Drivers' Rehabilitation Unit, Regional Directorate for Közép-Dunántúl; the Drivers' Rehabilitation Unit, Regional Directorate for Közép-Magyarország; the Driver Testing and Drivers' Rehabilitation Unit, Regional Directorate for Észak-Alföld; the Driver Testing and Drivers' Rehabilitation Unit, Regional Directorate for Nyugat-Dunántúl; and the Periodical Aptitude Tasting Unit, Directorate for Psychological Testing of Drivers, Pályaalkalmasság Vizsgálati Igazgatóság, Idoszakos Alkalmasságvizsgálati Osztály in the feedback study. Data collection started on the 14.09.2007 and lasted until the 16.12.2007.

The total Hungarian sample comprises n=657 subjects. Only about 3% of the offenders who underwent a DR course are female whereas about 95% are male. The average age is 38 years ranging from 18 to 72.

Table 104: Hungary – Sample size and age

Variable	Result
Total sample size, n	657
Age, years, mean± sd, min-max, n	37.7±10.8, 18.0-72.0, n=612

Further descriptions of the sample concerning socio-demographic variables are documented in the following table.

Table 105: Hungary – Socio-demographic variables

Variables	Result, n (%),
Gender	
male	622 (94.7%)
female	21 (3.2%)
missing	14 (2.1%)
Cohabitation	
no	228 (34.7%)
yes	372 (56.6%)
missing	57 (8.7%)
Residence	
< 100.000	359 (54.6%)
100.000-500.000	131 (19.9%)
> 500.000	129 (19.6%)
missing	38 (5.8%)
Education	
No compulsory school	0 (0.0%)
Compulsory school	76 (11.6%)
Secondary school	261 (39.7%)
A-level	193 (29.4%)
Vocational school	0 (0.0%)
College	51 (7.8%)
Academic	32 (4.9%)
missing	44 (6.7%)
Occupation	
Armed forces	0 (0.0%)
Managers	18 (2.7%)
Professionals	32 (4.9%)
Technicians and associated professionals	90 (13.7%)
Clerical support workers	18 (2.7%)
Service and sales workers	59 (9.0%)
Skilled agricultural, forestry and fishery workers	6 (0.9%)
Craft and related trades workers	149 (22.7%)

Variables	Result, n (%),
Plant and machine operators, and assemblers	30 (4.6%)
Elementary occupations	40 (6.1%)
unemployed	50 (7.6%)
Self-employed	8 (1.2%)
On retirement	46 (7.0%)
On sick-leave	0 (0.0%)
On maternity-leave	0 (0.0%)
Students	18 (2.7%)
Housewife/-man	0 (0.0%)
Missing	93 (14.2%)

The average BAC of the Hungarian sample is 1.76 ‰ with a standard deviation of 0.71.

Table 106: Hungary – BAC level of sample

Variable	Result
BAC level, promille, mean± sd, n	1.76±0.71, n=609

Nearly one quarter of the Hungarian sample has prior drink-driving convictions and 14% had a prior DR course. As far as the actual drink-driving offence having lead to the DR course is concerned, more than one third had an accident along with the offence. Further details are described in the table below.

Table 107: Hungary - Alcohol offence related variables

Variables	Result, n (%)
Refusal of breathalyser test	Not recorded
Detection of actual DUI offence: control	
no	204 (31.1%)
yes	359 (54.6%)
missing	94 (14.3%)
Detection of actual DUI offence: accident	
no	301 (45.8%)
yes	228 (34.7%)
missing	128 (19.5%)
Prior drinking and driving convictions	
no	489 (74.4%)
yes	151 (23.0%)
missing	17 (2.6%)
Prior drink driving rehabilitation course	
no	537 (81.7%)
yes	93 (14.2%)
missing	27 (4.1%)
Driving Licence	
A	Not recorded
B	Not recorded
C	Not recorded
D	Not recorded
probational	Not recorded

7.4.6.2 Hungary - Overall evaluation of DR course

Concerning the DR courses the overall feedback of the Hungarian DR sample is very positive. 93% of the participants evaluate the intervention as having been ‘very good’ or ‘good’. 4% give a negative rating. The outcomes are documented in detail numerically and graphically below.

Table 108: Hungary - Overall DR course evaluation

Variables	Result, n (%)
Overall evaluation of course	
Very good	265 (40.3%)
good	346 (52.7%)
bad	18 (2.7%)
Very bad	8 (1.2%)
Missing	20 (3.0%)
	mean± sd, n
Average	1.64±0.60, n=637

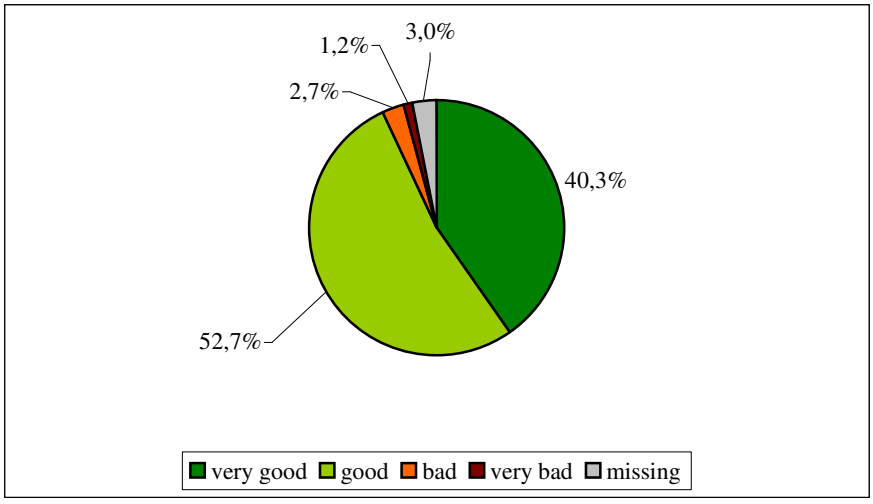


Figure 42: Hungary - Overall evaluation of DR course

7.4.6.3 Hungary - TTM scales and processes

According to the outcomes high positive change effects on all TTM scales as well as the corresponding cognitive affective and behavioural processes result from the answers of the Hungarian participants. In particular, the strongest changes took place on the behavioural level, above all regarding self-liberation and social liberation. This means, the DR-course is seen to be very supportive in discovering alternative life-styles as well as in committing to change and thus in preventing future drink-driving offences. The detailed results on a numerical and graphical level are shown below.

Table 109: Hungary – Outcomes in TTM scales and processes

Variable	Result mean± sd, n
TTM scales	
Consciousness raising	1.86±0.48, n=653
Dramatic relief	2.00±0.54, n=652
Environmental re-evaluation	1.98±0.68, n=652
Self re-evaluation	1.72±0.63, n=653
Social liberation	1.45±0.51, n=652
Self-liberation	1.45±0.56, n=653
Stimulus control	1.46±0.60, n=652
Counter conditioning	1.54±0.57, n=653
Helping relationships	1.65±0.56, n=652
Reinforcement management	1.65±0.53, n=652
TTM processes	
Cognitive affective processes	1.82±0.44, n=653
Behavioural processes	1.55±0.48, n=653

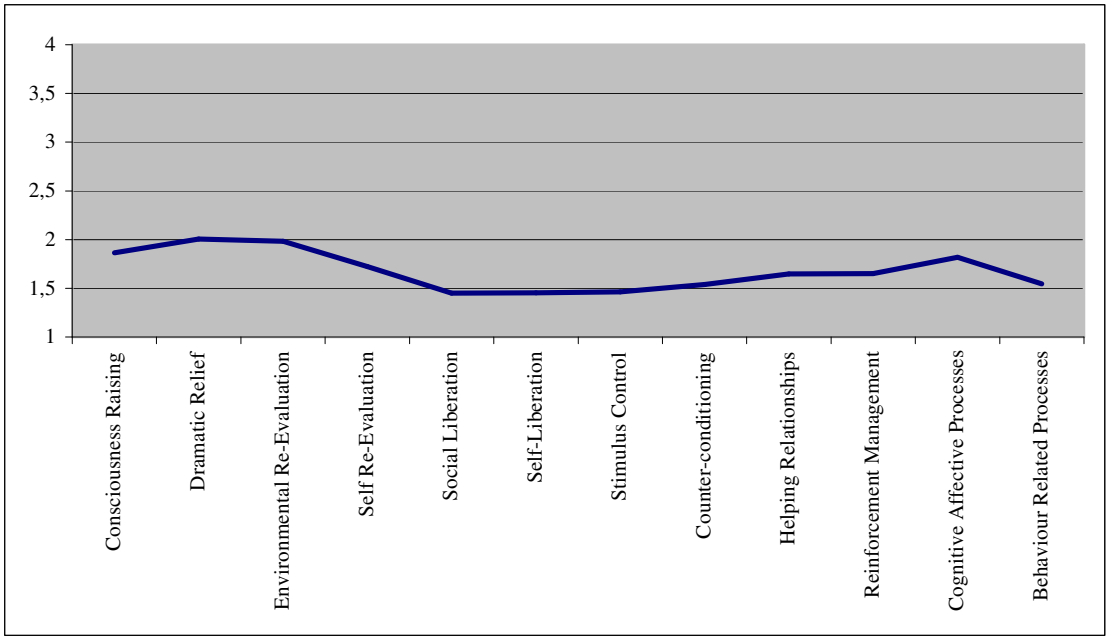


Figure 43: Hungary – Overall results in TTM scales and processes

7.4.6.4 Hungary - Diamond of Change

All components relevant in DR courses for the change processes are evaluated of being important for change. Thereby again, the trainer-participant relationship is the most important one. The detailed numerical and graphical figures are shown below.

Table 110: Hungary – Outcomes in Diamond of Change key elements

Key elements	Result mean± sd, n
Individual	1.74±0.47, n=653
Methods	1.82±0.69, n=652
Contents	1.59±0.46, n=653
Participant-Participant Relations	1.77±0.53, n=652
Participant-Trainer Relations	1.45±0.50, n=652

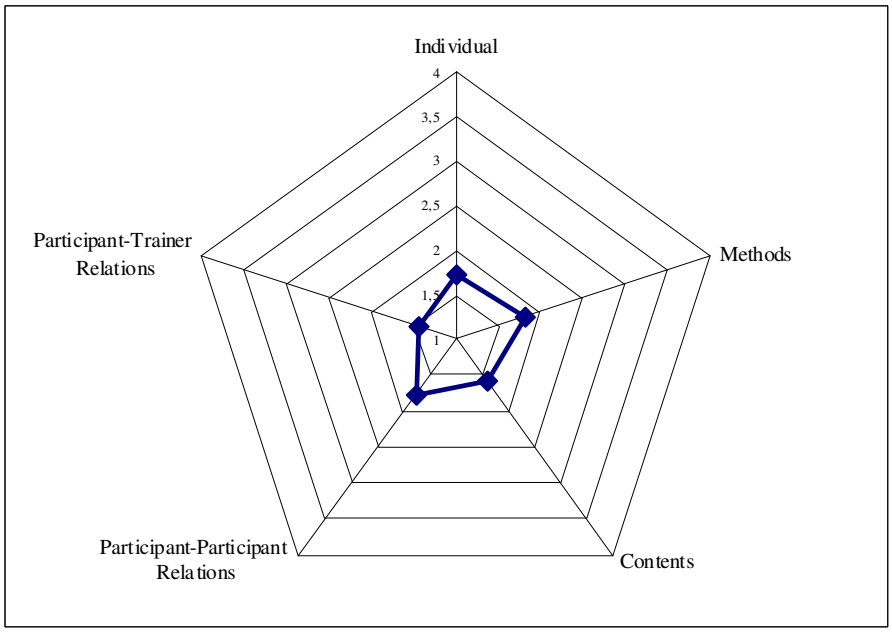


Figure 44: Hungary – Overall result in Diamond of Change key elements

7.4.7 Italy

7.4.7.1 Italy - Characteristics of sample

In Italy, one DR-provider, namely Azienda Sanitaria dell'Alto Adige - Settore di Psicologia Viaria/Medicina Legale of the province Bolzano, participated in the study. Data collection took place from 27.07.2007 till 22.12.2007.

The total Italian sample comprises n=140 subjects. Regarding gender, almost 93% are men and only about 7% are women. The average age is 30 years ranging from 18 to 64.

Table 111: Italy – Sample size and age

Variable	Result
Total sample size, n	140
Age, years, mean± sd, min-max, n	29.8±9.6, 18.0-64.0, n=140

Further descriptions of the sample concerning socio-demographic variables are documented in the following table.

Table 112: Italy – Socio-demographic variables

Variables	Result, n (%),
Gender	
male	130 (92.9%)
female	10 (7.1%)
missing	0 (0.0%)
Cohabitation	
no	84 (60.0%)
yes	56 (40.0%)
missing	0 (0.0%)
Residence	
< 100.000	140 (100%)
100.000-500.000	0 (0.0%)
> 500.000	0 (0.0%)
missing	0 (0.0%)
Education	
No compulsory school	2 (1.4%)
Compulsory school	48 (34.3%)
Secondary school	67 (47.9%)
A-level	18 (12.9%)
Vocational school	2 (1.4%)
College	0 (0.0%)
Academic	3 (2.1%)
missing	0 (0.0%)
Occupation	
Armed forces	0 (0.0%)
Managers	0 (0.0%)
Professionals	5 (3.6%)
Technicians and associated professionals	3 (2.1%)
Clerical support workers	14 (10.0%)
Service and sales workers	14 (10.0%)
Skilled agricultural, forestry and fishery workers	2 (1.4%)
Craft and related trades workers	56 (40.0%)
Plant and machine operators, and assemblers	19 (13.6%)
Elementary occupations	2 (1.4%)
unemployed	1 (0.7%)
Self-employed	16 (11.4%)
On retirement	1 (0.7%)
On sick-leave	0 (0.0%)
On maternity-leave	0 (0.0%)
Students	4 (2.9%)
Housewife/-man	0 (0.0%)
Missing	3 (2.1%)

The average BAC of the Italian sample is 1.3 ‰ with a standard deviation of 0.48.

Table 113: Italy – BAC level of sample

Variable	Result
BAC level, promille, mean± sd, n	1.30±0.48, n=137

22% of the Italian sample of DUI course participants has prior drink-driving convictions and 2% has a prior DR course. As far as the actual drink-driving offence having led to the DR course is concerned, 16% had an accident along with the offence. Further details are described in the table below.

Table 114: Italy - Alcohol offence related variables

Variables	Result, n (%)
Refusal of breathalyser test	Not recorded
Detection of actual DUI offence: control	
no	22 (15.7%)
yes	118 (84.3%)
missing	0 (0.0%)
Detection of actual DUI offence: accident	
no	118 (84.3%)
yes	22 (15.7%)
missing	0 (0.0%)
Prior drinking and driving convictions	
no	109 (77.9%)
yes	31 (22.1%)
missing	0 (0.0%)
Prior drink driving rehabilitation course	
no	137 (97.9%)
yes	3 (2.1%)
missing	0 (0.0%)
Driving Licence	
A	46 (32.9%)
B	135 (96.4%)
C	18 (12.9%)
D	1 (0.7%)
probational	0 (0.0%)

7.4.7.2 Italy - Overall evaluation of DR course

Concerning the DR courses the overall feedback of the Italian DR sample is very positive. More than 95% of the participants evaluate the intervention as ‘very good’ or ‘good’. Less then 5% give a negative rating. The outcomes are documented in detail numerically and graphically below.

Table 115: Italy - Overall DR course evaluation

Variables	Result, n (%)
Overall evaluation of course	
Very good	44 (31.4%)
good	90 (64.3%)
bad	4 (2.9%)
Very bad	2 (1.4%)
Missing	0 (0.0%)
	mean± sd, n
Average	1.74±0.58, n=140

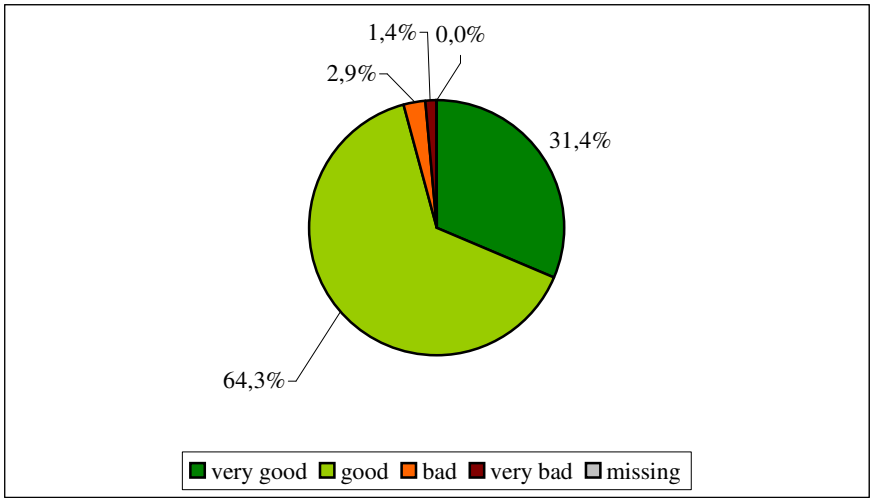


Figure 45: Italy - Overall evaluation of DR course

7.4.7.3 Italy - TTM scales and processes

According to the outcomes high positive change effects on all TTM scales as well as the corresponding cognitive affective and behavioural processes result from the answers of the Italian participants. In particular, the strongest changes took place on the behavioural level, above all regarding self-liberation. As already revealed in other countries, the DR-course is seen to be very effective and supportive in the choice and commitment to change the problem behaviour, including the belief in the ability to change successfully which helps to prevent future drink-driving offences. The detailed results on a numerical and graphical level are shown below.

Table 116: Italy – Outcomes in TTM scales and processes

Variable	Result mean± sd, n
TTM scales	
Consciousness raising	1.67±0.60, n=1624
Dramatic relief	1.85±0.88, n=1585
Environmental re-evaluation	1.97±1.03, n=1599
Self re-evaluation	1.74±0.87, n=1601
Social liberation	1.37±0.65, n=1607
Self-liberation	1.39±0.57, n=1633
Stimulus control	1.56±0.81, n=1596
Counter conditioning	1.49±0.67, n=1622
Helping relationships	1.50±0.73, n=1607
Reinforcement management	1.67±0.92, n=1600
TTM processes	
Cognitive affective processes	1.70±0.50, n=1631
Behavioural processes	1.50±0.52, n=1636

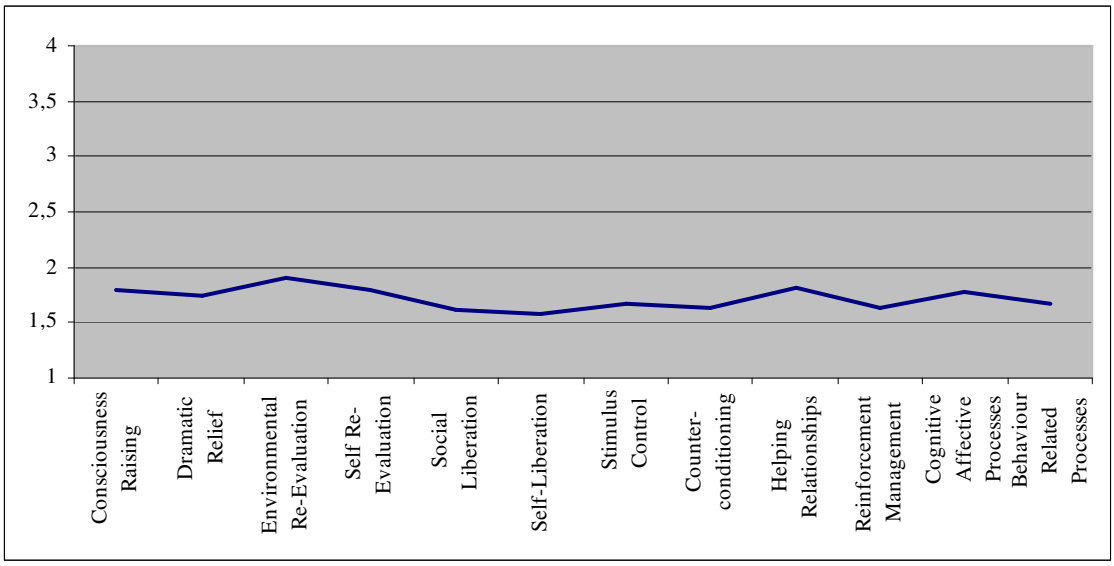


Figure 46: Italy – Overall results in TTM scales and processes

7.4.7.4 Italy - Diamond of Change

All components relevant in DR courses for the change processes are evaluated positively. Thereby the best results are seen on contents. The detailed numerical and graphical figures are shown below.

Table 117: Italy – Outcomes in Diamond of Change key elements

Key elements	Result mean± sd, n
Individual	1.76±0.41, n=140
Methods	1.75±0.58, n=140
Contents	1.57±0.46, n=140
Participant-Participant Relations	1.82±0.47, n=140
Participant-Trainer Relations	1.63±0.53, n=140

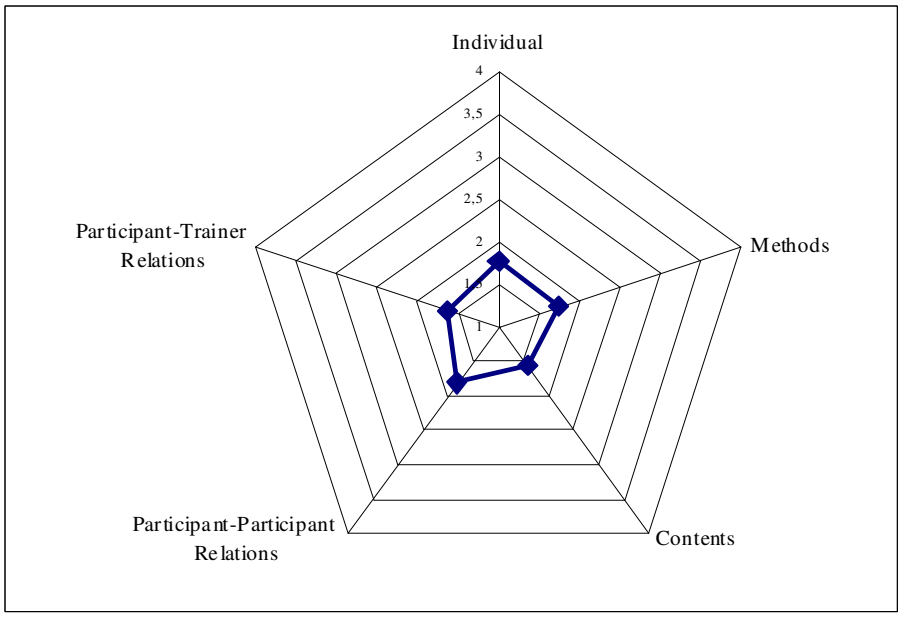


Figure 47: Italy – Overall result in Diamond of Change key elements

7.4.8 The Netherlands

7.4.8.1 The Netherlands - Characteristics of sample

In the Netherlands, one DR-provider participated in the feedback study, namely CBR. Data collection took place from 08.10.2007 till 12.12.2007.

The total Dutch sample comprises n= 501 subjects, whereby almost 83% are male and only about 13% are female. The average age is 36 years ranging from 19 to 80.

Table 118: Netherlands – Sample size and age

Variable	Result
Total sample size, n	501
Age, years, mean± sd, min-max, n	36.3±12.6, 19.0-80.0, n=452

Further descriptions of the sample concerning socio-demographic variables are documented in the following table.

Table 119: Netherlands – Socio-demographic variables

Variables	Result, n (%),
Gender	
male	415 (82.8%)
female	66 (13.2%)
missing	20 (4.0%)
Cohabitation	
no	234 (46.7%)
yes	220 (43.9%)
missing	47 (9.4%)
Residence	
< 100.000	231 (46.1%)
100.000-500.000	116 (23.2%)
> 500.000	106 (21.2%)
missing	48 (9.6%)
Education	
No compulsory school	14 (2.8%)
Compulsory school	5 (1.0%)
Secondary school	251 (50.1%)
A-level	17 (3.4%)
Vocational school	61 (12.2%)
College	16 (3.2%)
Academic	30 (6.0%)
missing	107 (21.4%)
Occupation	
Armed forces	2 (0.4%)
Managers	16 (3.2%)
Professionals	60 (12.0%)
Technicians and associated professionals	14 (2.8%)
Clerical support workers	45 (9.0%)
Service and sales workers	41 (8.2%)
Skilled agricultural, forestry and fishery workers	1 (0.2%)
Craft and related trades workers	86 (17.2%)
Plant and machine operators, and assemblers	28 (5.6%)
Elementary occupations	32 (6.4%)
unemployed	18 (3.6%)
Self-employed	52 (10.4%)
On retirement	5 (1.0%)
On sick-leave	0 (0.0%)
On maternity-leave	0 (0.0%)
Students	14 (2.8%)
Housewife/-man	3 (0.6%)
Missing	84 (16.8%)

The average BAC of the Dutch sample of DUI course participants is 1.29 ‰ with a standard deviation of 0.42.

Table 120: Netherlands – BAC level of sample

Variable	Result
BAC level, promille, mean± sd, n	1.29±0.42, n=467

More than 1/3 of the sample has prior drink-driving convictions and about 6% has a prior DR course. As far as the actual drink-driving offence having led to the DR course is concerned, 14% had an accident along with the offence. Further details are described in the table below.

Table 121: Netherlands - Alcohol offence related variables

Variables	Result, n (%)
Refusal of breathalyser test	5 (1.0%)
Detection of actual DUI offence: control	
no	242 (48.3%)
yes	247 (49.3%)
missing	12 (2.4%)
Detection of actual DUI offence: accident	
no	419 (83.6%)
yes	70 (14.0%)
missing	12 (2.4%)
Prior drinking and driving convictions	
no	296 (59.1%)
yes	185 (36.9%)
missing	20 (4.0%)
Prior drink driving rehabilitation course	
no	436 (87.0%)
yes	28 (5.6%)
missing	37 (7.4%)
Driving Licence	
A	Not recorded
B	Not recorded
C	Not recorded
D	Not recorded
probational	Not recorded

7.4.8.2 The Netherlands - Overall evaluation of DR course

Concerning the DR courses the overall feedback of the Dutch DR sample is very positive. 95% of the participants evaluate the intervention as ‘very good’ or ‘good’. Less then 4% give a negative rating. The outcomes are documented in detail numerically and graphically below.

Table 122: Netherlands - Overall DR course evaluation

Variables	Result, n (%)
Overall evaluation of course	
Very good	141 (28.1%)
good	335 (66.9%)
bad	15 (3.0%)
Very bad	3 (0.6%)
Missing	7 (1.4%)
	mean± sd, n
Average	1.76±0.53, n=494

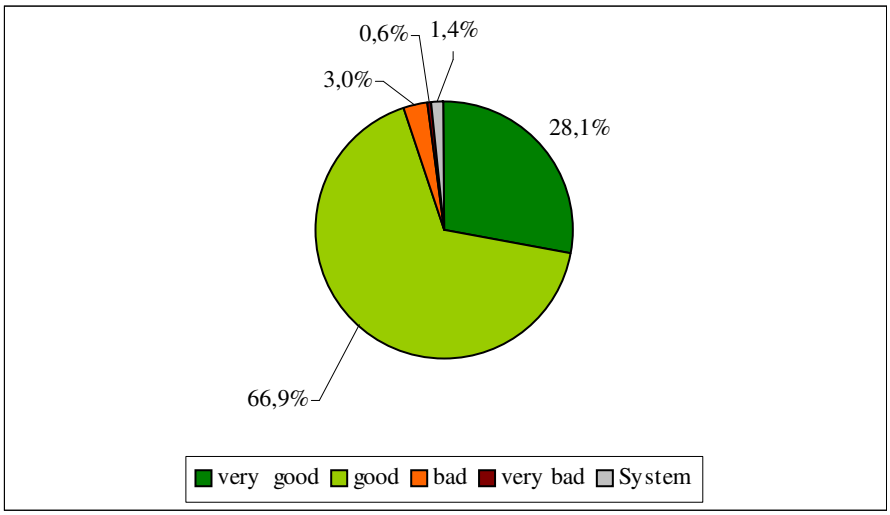


Figure 48: Netherlands - Overall evaluation of DR course

7.4.8.3 The Netherlands - TTM scales and processes

According to the outcomes high positive change effects on all TTM scales as well as the corresponding cognitive affective and behavioural processes result from the answers of the Dutch participants. In particular, the strongest changes took place on the behavioural level, above all regarding social liberation, meaning that the intervention supported the awareness and acceptance of behavioural alternatives. The detailed results on a numerical and graphical level are shown below.

Table 123: Netherlands – Outcomes in TTM scales and processes

Variable	Result mean± sd, n
TTM scales	
Consciousness raising	1.67±0.62, n=497
Dramatic relief	2.29±1.04, n=489
Environmental re-evaluation	2.11±1.11, n=491
Self re-evaluation	1.73±0.92, n=494
Social liberation	1.49±0.75, n=491
Self-liberation	1.39±0.62, n=498
Stimulus control	1.54±0.81, n=496
Counter conditioning	1.44±0.69, n=493
Helping relationships	1.56±0.76, n=491
Reinforcement management	1.98±1.11, n=484
TTM processes	
Cognitive affective processes	1.80±0.50, n=498
Behavioural processes	1.55±0.57, n=499

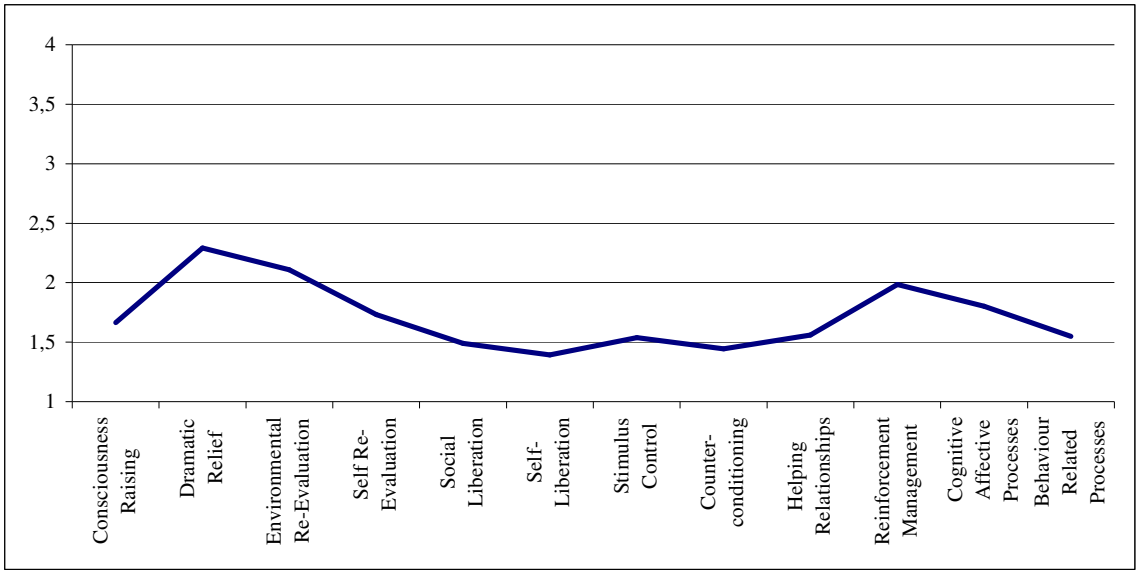


Figure 49: Netherlands – Overall results in TTM scales and processes

7.4.8.4 The Netherlands - Diamond of Change

All components relevant in DR courses for the change processes are confirmed. Thereby – as in most of the countries - the trainer-participant relationship is found to be the most important one. The detailed numerical and graphical figures are shown below.

Table 124: Netherlands – Outcomes in Diamond of Change key elements

Key elements	Result mean± sd, n
Individual	1.71±0.55, n=499
Methods	1.71±0.87, n=492
Contents	1.70±0.65, n=494
Participant-Participant Relations	1.72±0.81, n=491
Participant-Trainer Relations	1.35±0.52, n=494

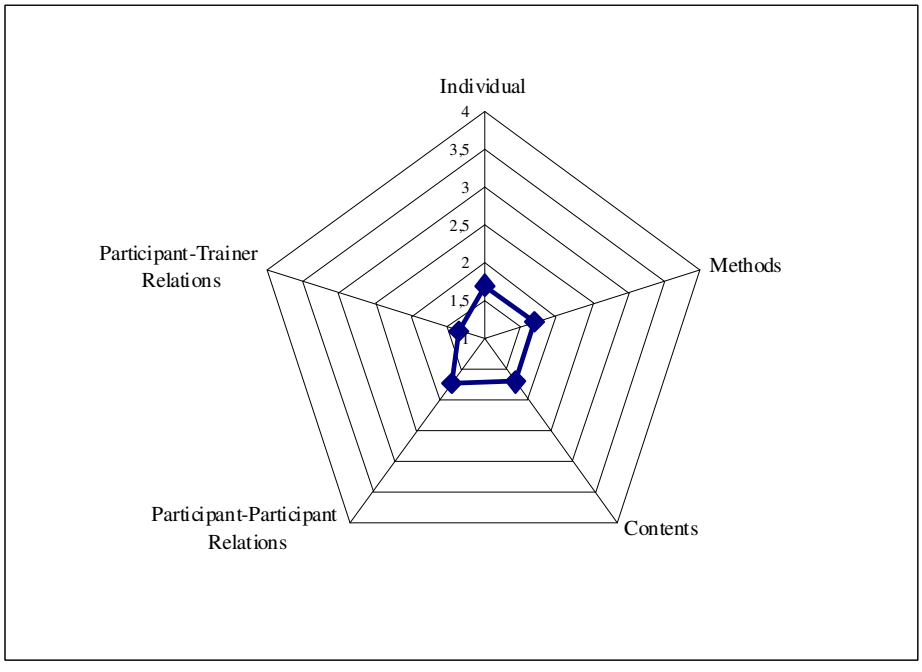


Figure 50: Netherlands – Overall result in Diamond of Change key elements

7.4.9 Poland

7.4.9.1 Poland - Characteristics of sample

In Poland, one organisation participated in the feedback study, namely Centralny Zarząd Służby Wiezienej (Polish Prison Service). Data collection took place from 10.11.2007 till 10.02.2008.

The total Polish sample comprises n= 233 subjects, whereby the vast majority, namely about 97% is male and only about 2% is female. The average age is 37 years ranging from 19 to 65.

Table 125: Poland – Sample size and age

Variable	Result
Total sample size, n	233
Age, years, mean± sd, min-max, n	37.2±10.7, 19.0-65.0, n=205

Further descriptions of the sample concerning socio-demographic variables are documented in the following table.

Table 126: Poland – Socio-demographic variables

Variables	Result, n (%),
Gender	
male	227 (97.4%)
female	4 (1.7%)
missing	2 (0.9%)
Cohabitation	
no	59 (25.3%)
yes	141 (60.5%)
missing	33 (14.2%)
Residence	
< 100.000	156 (67.0%)
100.000-500.000	40 (17.2%)
> 500.000	24 (10.3%)
missing	13 (5.6%)
Education	
No compulsory school	0 (0.0%)
Compulsory school	57 (24.5%)
Secondary school	149 (63.9%)
A-level	2 (0.9%)
Vocational school	0 (0.0%)
College	0 (0.0%)
Academic	0 (0.0%)
missing	25 (10.7%)
Occupation	
Armed forces	0 (0.0%)
Managers	0 (0.0%)
Professionals	0 (0.0%)
Technicians and associated professionals	13 (5.6%)
Clerical support workers	1 (0.4%)
Service and sales workers	7 (3.0%)
Skilled agricultural, forestry and fishery workers	8 (3.4%)
Craft and related trades workers	118 (50.6%)
Plant and machine operators, and assemblers	12 (5.2%)
Elementary occupations	3 (1.3%)
unemployed	30 (12.9%)
Self-employed	4 (1.7%)
On retirement	1 (0.4%)
On sick-leave	0 (0.0%)
On maternity-leave	0 (0.0%)
Students	0 (0.0%)
Housewife/-man	0 (0.0%)
Missing	36 (15.5%)

The average BAC of the Polish sample of DUI course participants is 1.41 ‰ with a standard deviation of 0.86.

Table 127: Poland – BAC level of sample

Variable	Result
BAC level, promille, mean± sd, n	1.41±0.86, n=213

Almost 2/3 of the sample has prior drink-driving convictions and about 11% have participated in a prior DR course. As far as the actual drink-driving offence having led to the DR course is concerned, 21% had an accident along with the offence. Further details are described in the table below.

Table 128: Poland - Alcohol offence related variables

Variables	Result, n (%)
Refusal of breathalyser test	not recorded
Detection of actual DUI offence: control	
no	72 (30.9%)
yes	158 (67.8%)
missing	3 (1.3%)
Detection of actual DUI offence: accident	
no	178 (76.4%)
yes	48 (20.6%)
missing	7 (3.0%)
Prior drinking and driving convictions	
no	93 (39.9%)
yes	139 (59.7%)
missing	1 (0.4%)
Prior drink driving rehabilitation course	
no	196 (84.1%)
yes	25 (10.7%)
missing	12 (5.2%)
Driving Licence	
A	58 (24.9%)
B	166 (71.2%)
C	53 (22.7%)
D	14 (6.0%)
probational	

7.4.9.2 Poland - Overall evaluation of DR course

Concerning the DR courses the overall feedback of the Polish DR sample is very positive. More than 95% of the participants evaluate the intervention as ‘very good’ or ‘good’. Less then 5% give a negative rating. The outcomes are documented in detail numerically and graphically below.

Table 129: Poland - Overall DR course evaluation

Variables	Result, n (%)
Overall evaluation of course	
Very good	44 (31.4%)
good	90 (64.3%)
bad	4 (2.9%)
Very bad	2 (1.4%)
Missing	0 (0.0%)
	mean± sd, n
Average	1.44±0.52, n=231

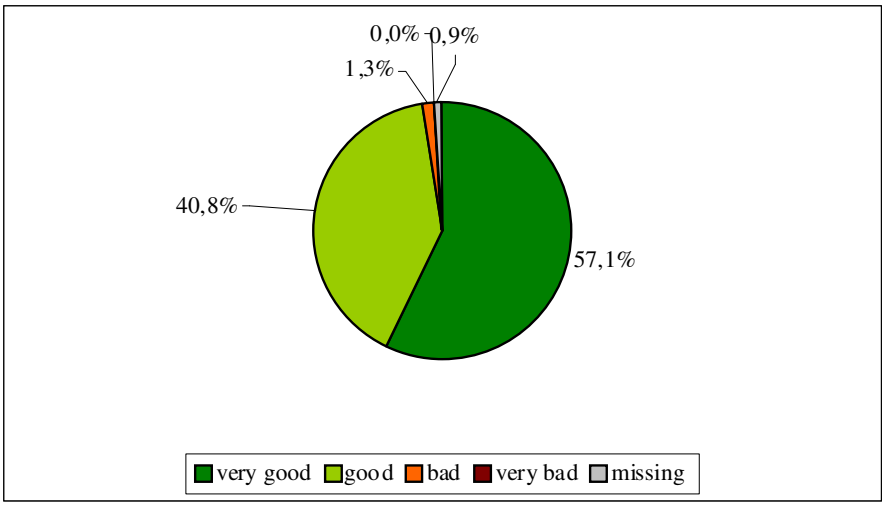


Figure 51: Poland - Overall evaluation of DR course

7.4.9.3 Poland - TTM scales and processes

According to the outcomes high positive change effects on all TTM scales as well as the corresponding cognitive affective and behavioural processes result from the answers of the Polish participants. In particular, the strongest changes took place on the behavioural level, above all regarding social liberation as in many other countries mentioned above. This means, that the Polish DR course participants see the course to be very effective in supporting their awareness of other lifestyles which prevent future drink-driving offences. The detailed results on a numerical and graphical level are shown below.

Table 130: Poland – Outcomes in TTM scales and processes

Variable	Result mean± sd, n
TTM scales	
Consciousness raising	1.56±0.38, n=233
Dramatic relief	2.07±0.53, n=232
Environmental re-evaluation	1.58±0.62, n=233
Self re-evaluation	1.49±0.55, n=233
Social liberation	1.47±0.51, n=233
Self-liberation	1.27±0.43, n=233
Stimulus control	1.33±0.48, n=233
Counter conditioning	1.36±0.44, n=233
Helping relationships	1.43±0.48, n=233
Reinforcement management	1.44±0.56, n=233
TTM processes	
Cognitive affective processes	1.62±0.36, n=233
Behavioural processes	1.36±0.38, n=233

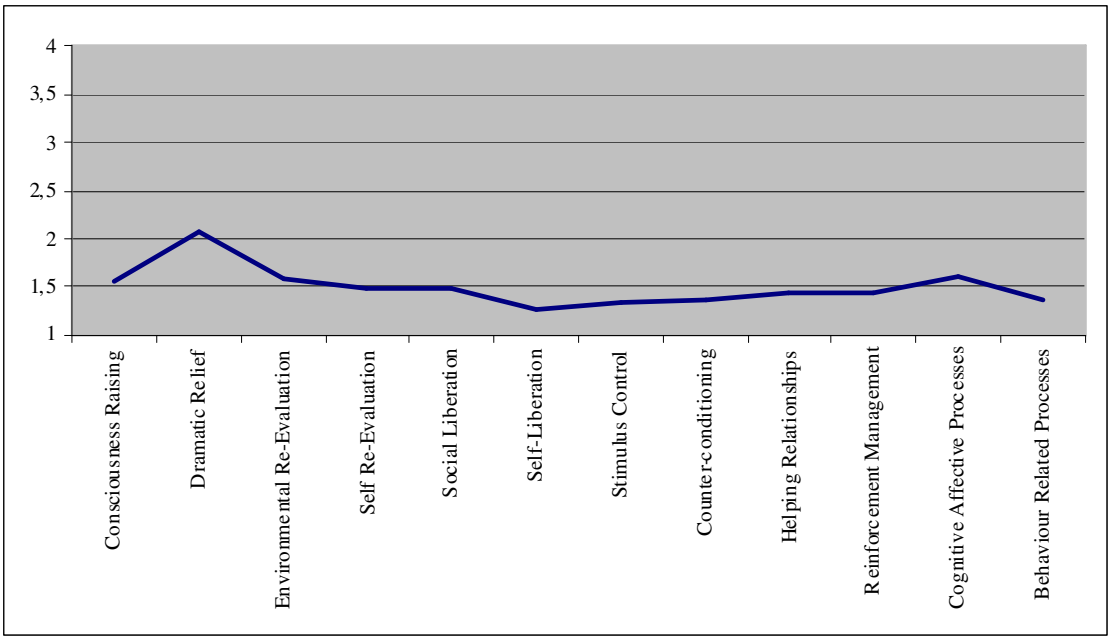


Figure 52: Poland – Overall results in TTM scales and processes

7.4.9.4 Poland - Diamond of Change

All components relevant in DR courses for the change processes are evaluated positively, again especially the trainer-participant relationship. The detailed numerical and graphical figures are shown below.

Table 131: Poland – Outcomes in Diamond of Change key elements

Key elements	Result mean± sd, n
Individual	1.49±0.39, n=233
Methods	1.45±0.49, n=233
Contents	1.54±0.38, n=233
Participant-Participant Relations	1.77±0.53, n=233
Participant-Trainer Relations	1.31±0.41, n=233

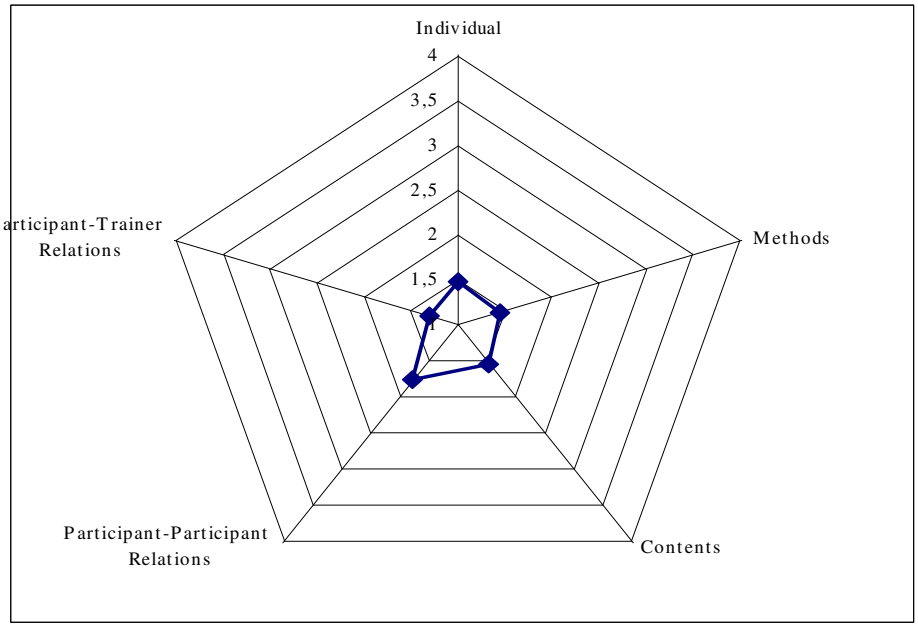


Figure 53: Poland – Overall result in Diamond of Change key elements

7.5 Outcomes for DUID course participants

7.5.1 Characteristics of sample

The questionnaire survey with participants of drug courses was only conducted in Germany as it is the one country regularly applying this measure for DUID offenders on a larger scale, thus being able to meet the requirements of the minimum amount of subjects needed for the statistical data evaluation. The organizations taking part in the study were the same as mentioned for the DUI offenders (see 7.4.4). Data collection took place from 01.09.2007 till 10.01.2008.

The total sample consisted of n=550 subjects who participated in a DUID DR programme. The socio-demographic characteristics show striking differences compared to the whole sample of DUI offenders. The mean age of 24 years reveals that the DUID course participants are almost 10 years younger than those in the alcohol courses. In the DUID group only 6% are female. Data on the educational background reveal that only 16% of the DUID population have completed an A-level degree or higher compared to almost 27% of the DUI group. The amount of DUID offenders living in small towns is with 60% equal to the amount of the DUI group. The details on socio-demographic variables are displayed in the tables below.

Table 132: DUID (Germany) – Sample size and age

Variable	Result
Total sample size, n	550
Age, years, mean± sd, min-max, n	24.0 ±5.0; 18.0-55.0; n=505

Table 133: DUID (Germany) – Socio-demographic variables

Variables	Result, n (%),
Gender	
male	498 (90.5%)
female	33 (6.0%)
missing	19 (3.5%)
Cohabitation	
no	295 (53.6%)
yes	156 (28.4%)
missing	99 (18.0%)
Residence	
< 100.000	340 (61.8%)
100.000-500.000	94 (17.1%)
> 500.000	81 (14.7%)
missing	35 (6.4%)
Education	
No compulsory school	7 (1.3%)
Compulsory school	252 (45.8%)
Secondary school	127 (23.1%)
A-level	41 (7.5%)
Vocational school	16 (2.9%)
College	0 (0.0%)
Academic	32 (5.8%)
missing	75 (13.6%)
Occupation	
Armed forces	5 (0.9%)
Managers	6 (1.1%)
Professionals	10 (1.8%)
Technicians and associated professionals	41 (7.5%)
Clerical support workers	33 (6.0%)
Service and sales workers	15 (2.7%)
Skilled agricultural, forestry and fishery workers	3 (0.5%)
Craft and related trades workers	141 (25.6%)
Plant and machine operators, and assemblers	35 (6.4%)
Elementary occupations	18 (3.3%)
unemployed	27 (4.9%)
Self-employed	23 (4.2%)
On retirement	0 (0.0%)

Variables	Result, n (%),
On sick-leave	0 (0.0%)
On maternity-leave	1 (0.2%)
Students	119 (21.6%)
Housewife/-man	2 (0.4%)
Missing	71 (12.9%)

Only a very small number of the DUID offender population was caught due to an accident (6.7%), but more than half of the sample (50.9%) report to be in the probational licence period. Although the subjects are obviously young, almost 15% reported already having been caught driving while impaired in the past, thus counting as recidivists. In case participants report prior convictions, over 50% were already caught DUID and only 14% reported a prior alcohol conviction. Detected drugs in the DUID incidents at hand are in most cases cannabis (80.2%) and amphetamines (19.5%), followed by ecstasy (9.8%) and cocaine (9.1%). Heroine (2.2%) and LSD 12 (2.2%) were of minor importance. All details on traffic-related variables of the sample are presented in the following table.

Table 134: DUID (Germany) - Drug offence related variables

Variables	Result, n (%)
Cannabis	441 (80.2%)
Heroine	12 (2.2%)
Cocaine	50 (9.1%)
Ecstasy	54 (9.8%)
Speed	107 (19.5%)
LSD	12 (2.2%)
Detection of actual DUID offence: control	
no	119 (21.6%)
yes	393 (71.5%)
Missing	38 (6.9%)
Detection of actual DUID offence: accident	
no	470 (85.5%)
yes	37 (6.7%)
missing	43 (7.8%)
Prior drug convictions	
no	436 (79.3%)
yes	81 (14.7%)
missing	33 (6.0%)
Prior rehabilitation course	
no	441 (80.2%)
yes	91 (16.5%)
missing	18 (3.3%)
If yes…	
Drugs	50 (54.9%)
Alcohol	13 (14.3%)
other	41 (45.1%)
Driving Licence	
A	75 (13.6%)
B	513 (93.3%)
C	32 (5.8%)
D	3 (0.5%)
Provisional	280 (50.9%)

7.5.2 Overall evaluation of DR course

The overall evaluations of the courses by the DUID offenders show a generally positive feedback, 90% evaluate the course as good or even better (resulting in a mean score of 1.73 which is a little bit worse than the mean evaluation of the DUI courses by 1.52 compared to 95% of the DUI offenders. Consequently the frequencies of negative feedbacks are low (5.6%), although a little bit higher than these of the overall alcohol sample.

All frequencies of the ratings are shown in the following table and depicted in the figure below.

Table 135: DUID (Germany) – Overall DR course evaluation

Variables	Result, n (%)
Overall evaluation of course	
Very good	177 (32.2%)

Variables	Result, n (%)
good	318 (57.8%)
bad	28 (5.1%)
Very bad	3 (0.5%)
Missing	24 (4.4%)
	mean± sd, n
Average	1.73±0.58; n=526

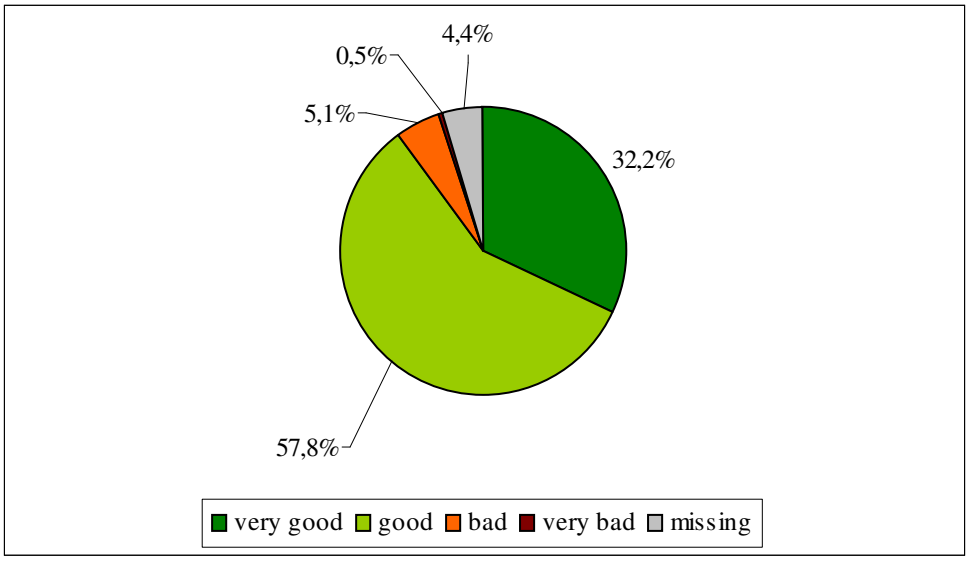


Figure 54: DUID (Germany) - Overall evaluation of drug course

7.5.3 TTM scales and processes

The outcomes of the DUID sample for the overall means on each scale of the TTM reveal similar results as observed in the DUI sample. In sum, the items on the behavioural processes gain higher agreement (mean 1.69) than the items on the cognitive affective processes (mean 1.83). These results indicate that the programmes are as well closely behaviour-oriented, but focus also on cognitive or affective issues. Highest change effects are reported on the social liberation scale (mean 1.58) meaning that the course participants find the course helpful to become aware of alternative lifestyles and cues that support a behavioural change and furthermore that the courses help them to accept these. In addition, they highly confirm that the course provides social support (mean 1.60) to make the attempts to change more easily. Still on the positive side but a bit less strong is the result the TTM scale dramatic relief (mean 1.93) regarding experiencing and expressing feelings. The means for the total DUID sample on the TTM scales are presented in the following table and curve.

Table 136: DUID (Germany) – Outcomes in TTM scales and processes

Variable	Result mean± sd, n
TTM scales	
Conscious raising	1.89±0.68; n=545
Dramatic relief	1.93±0.90; n=538
Environmental re-evaluation	1.87±1.00; n=532
Self re-evaluation	1.73±0.87; n=538
Social liberation	1.58±0.85; n=537
Self-liberation	1.66±0.70; n=547
Stimulus control	1.83±0.96; n=537
Counter conditioning	1.72±0.78; n=542
Helping relationships	1.60±0.77; n=541
Reinforcement management	1.69±0.88; n=537
TTM processes	

Variable	Result mean± sd, n
Cognitive affective processes	1.83±0.56; n=546
Behavioural processes	1.69±0.59; n=547

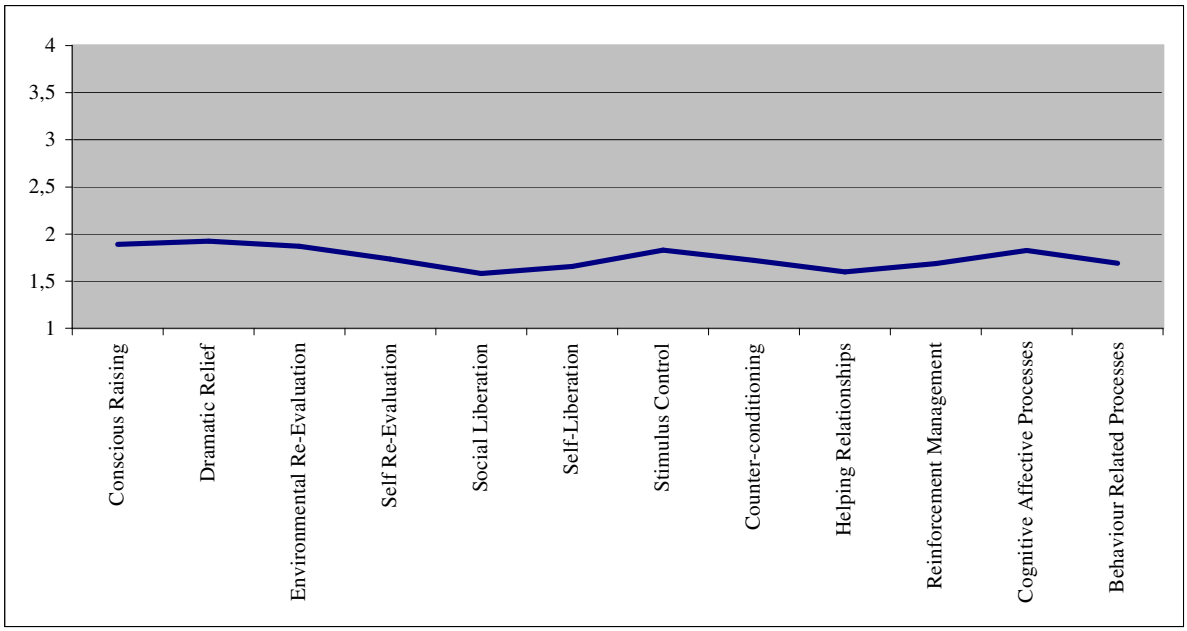


Figure 55: DUID (Germany) – Overall results in TTM scales and processes

7.5.4 Diamond of Change

All contributing factors (or key elements) of the Diamond of Change defined to be relevant for the change process are agreed upon the total DUID sample ranging from 1.42 to 1.97 (1=agree completely, 2=agree mostly). Thereby the resulting scores in this DUID sample are slightly lower than in the DUI sample (1.33 to 1.67). As for the DUI courses, the participant-trainer relationship is evaluated to be the most important contributing factor to change (1.42 according to the DUID course participants). Like in the DUI sample, the methods range on fifth place, but are still on the positive side with a mean agreement of 1.97. The detailed data on the Diamond of Change key elements are shown in the following table and figures.

Table 137: DUID (Germany) – Outcomes in Diamond of Change key elements

Key elements	Result mean± sd, n
Individual	1.78±0.62n=547
Methods	1.97±0.88, n=541
Contents	1.78±0.75, n=545
Participant-Participant Relations	1.77±0.78, n=541
Participant-Trainer Relations	1.42±0.61, n=541

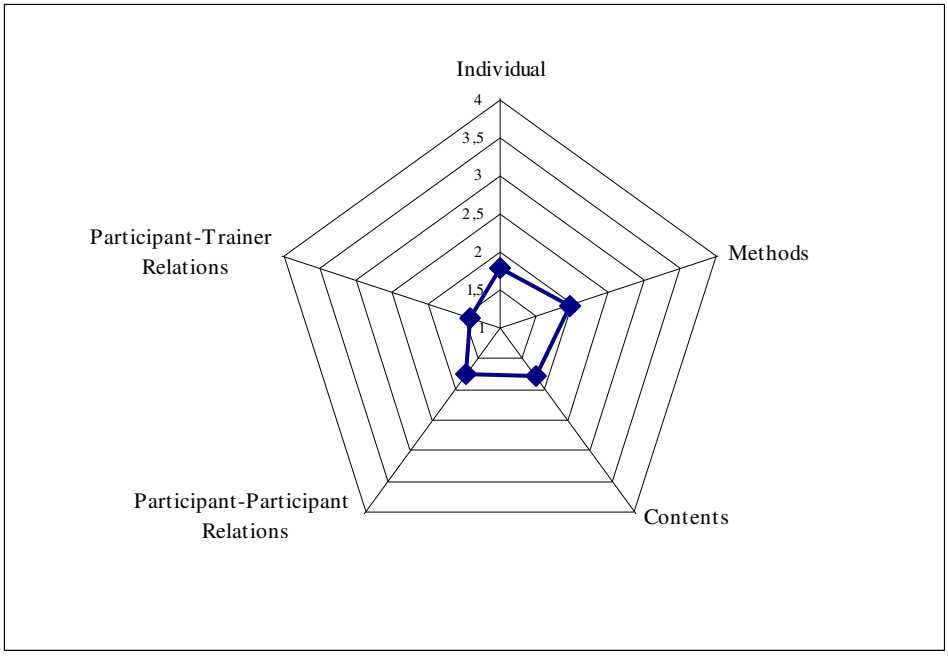


Figure 56: DUID (Germany) – Overall results in Diamond of Change key elements

7.5.5 Subgroup analysis of DUID participants

7.5.5.1 DUID - Gender

Similar to the DUI sample, further analyses were conducted in order to identify differences in the answering modes of specific subgroups or concerning other characteristics of the DUID sample regarding TTM-related variables. For gender, no differences are observed. Detailed statistics are displayed below.

Table 138: Gender-Differences – DUID total sample

	Male	Female	Cohen's-d	p-value
TTM scales				
Consciousness Raising	1.90 ± 0.68	1.89 ± 0.74	0.02	p=.915
Dramatic Relief	1.92 ± 0.88	2.03 ± 1.07	-0.12	p=.496
Environmental Re-Evaluation	1.89 ± 1.01	1.66 ± 0.87	0.23	p=.207
Self Re-Evaluation	1.74 ± 0.88	1.55 ± 0.71	0.23	p=.209
Social Liberation	1.59 ± 0.84	1.56 ± 0.98	0.03	p=.861
Self-Liberation	1.66 ± 0.70	1.74 ± 0.74	-0.11	p=.524
Stimulus Control	1.85 ± 0.97	1.64 ± 0.86	0.22	p=.221
Counter Conditioning	1.71 ± 0.78	1.93 ± 0.78	-0.29	p=.124
Helping Relations	1.59 ± 0.78	1.73 ± 0.76	-0.18	p=.320
Reinforcement Management	1.68 ± 0.87	1.81 ± 1.09	-0.15	p=.411
TTM processes				
Cognitive Affective Processes	1.83 ± 0.56	1.78 ± 0.53	0.10	p=.565
Behavioural Processes	1.69 ± 0.59	1.74 ± 0.64	-0.09	p=.626
Overall course evaluation	1.73 ± 0.58	1.73 ± 0.57	0.00	p=.986

Legend: +…statistical tendency 0.10<p>.05; *…p<.05, **…p<.01, ***p<.001
Cohen's-d: <.30…small effect .30-.60…medium effect, >.60….large effect

7.5.5.2 DUID - Age

As regards age, no striking age correlates are obvious, only a small sized tendency of older DUID offenders to agree more on the scale for self-liberation (r=-.124; p=.005) and the behavioural processes in the sum (r=-.117; p=.008). All correlations and p-values are listed in the following table.

Table 139: Age-Correlations - DUID total sample

	r	p-value
TTM scales		
Consciousness Raising	r=-.072	p=.106
Dramatic Relief	r=-.007	p=.877
Environmental Re-Evaluation	r=-.044	p=.324
Self Re-Evaluation	r=-.083	p=.065+
Social Liberation	r=-.065	p=.150
Self-Liberation	r=-.124	p=.005**
Stimulus Control	r=-.051	p=.260
Counter Conditioning	r=-.093	p=.038*
Helping Relations	r=-.104	p=.019*
Reinforcement Management	r=-.019	p=.670
TTM processes		
Cognitive Affective Processes	r=-.084	p=.058+
Behavioural Processes	r=-.117	p=.008**
Overall course evaluation	r=-.084	p=.061+

Legend: +…statistical tendency 0.10<p>.05; *…p<.05, **…p<.01, ***p<.001
Effect size r<.20…small effect, .20-.40 medium effect, >.40 large effect

7.5.5.3 DUID - Education

As already for the data evaluation of the DUI sample, education variables were dichotomized (0=no A-level and 1=at least an A-level degree). The case of having an A-level degree or higher is independent from the person's gender and cohabitation (yes/no), but within this sample a higher education is more frequent for persons from larger towns (p<.001; <100.000: 12.9%, 100.000-500.000: 28.0%, >500.000: 34.7%) and DUID offenders with an A-level or higher educational background tend to be older (p=.079; no: 23.8 years ±4.8; yes: 24.9 years ±6.0). Regarding the TTM scales and processes the data analysis reveals that drug course participants with a higher education tend to agrees less. The effect sizes are distinct on the scales for consciousness raising (d=-.39; p=.001), environmental re-evaluation (d=-.55; p<.001), self-liberation (d=-.40; p=.001), reinforcement management (d=-.34; p=.004), and the cognitive affective processes (d=-.36; p=.003) and as well as for the behavioural processes (d=-.41; p<.001) taken together.

Table 140: Education/A-level or higher – DUID total sample

	No	yes	Cohen's-d	p-value
TTM scales				
Consciousness Raising	1.84 ± 0.65	2.11 ± 0.76	-0.39	p=.001**
Dramatic Relief	1.91 ± 0.91	1.93 ± 0.79	-0.02	p=.856
Environmental Re-Evaluation	1.77 ± 0.95	2.31 ± 1.06	-0.55	p<.001***
Self Re-Evaluation	1.71 ± 0.87	1.75 ± 0.88	-0.05	p=.698
Social Liberation	1.60 ± 0.86	1.59 ± 0.87	0.01	p=.929
Self-Liberation	1.61 ± 0.67	1.88 ± 0.76	-0.40	p=.001**
Stimulus Control	1.81 ± 0.96	2.03 ± 1.01	-0.23	p=.052+
Counter Conditioning	1.69 ± 0.75	1.89 ± 0.91	-0.25	p=.036*
Helping Relations	1.56 ± 0.76	1.76 ± 0.87	-0.27	p=.024*
Reinforcement Management	1.63 ± 0.81	1.93 ± 1.11	-0.34	p=.004**
TTM processes				
Cognitive Affective Processes	1.79 ± 0.54	1.99 ± 0.60	-0.36	p=.003**
Behavioural Processes	1.65 ± 0.56	1.89 ± 0.69	-0.41	p<.001***
Overall course evaluation	1.71 ± 0.59	1.77 ± 0.56	-0.11	p=.350

Legend: +…statistical tendency 0.10<p>.05; *…p<.05, **…p<.01, ***p<.001
Cohen's-d: <.30…small effect .30-.60…medium effect, >.60….large effect

7.5.5.4 DUID - Cohabitation

Cohabitation is not related to gender, but DUID course participants living together with someone are significantly older (p<.001; living together: 24.9 years ±9.2; living single: 23.4 years ±4.2). Regarding the TTM results, no differences can be identified between those attendees cohabiting or those who do not.

Table 141: Cohabitation – DUID total sample

	no	yes	Cohen's-d	p-value
TTM scales				
Consciousness Raising	1.89 ± 0.68	1.94 ± 0.70	-0.08	p=.445
Dramatic Relief	1.85 ± 0.88	1.99 ± 0.86	-0.16	p=.106
Environmental Re-Evaluation	1.91 ± 1.02	1.87 ± 0.96	0.04	p=.689
Self Re-Evaluation	1.69 ± 0.81	1.81 ± 0.94	-0.13	p=.185
Social Liberation	1.58 ± 0.82	1.60 ± 0.90	-0.02	p=.862
Self-Liberation	1.66 ± 0.70	1.73 ± 0.74	-0.11	p=.269
Stimulus Control	1.82 ± 0.96	1.93 ± 0.99	-0.12	p=.247
Counter Conditioning	1.73 ± 0.77	1.72 ± 0.80	0.02	p=.876
Helping Relations	1.61 ± 0.78	1.62 ± 0.80	-0.01	p=.923
Reinforcement Management	1.63 ± 0.87	1.79 ± 0.93	-0.18	p=.072+
TTM processes				
Cognitive Affective Processes	1.81 ± 0.56	1.87 ± 0.56	-0.10	p=.297
Behavioural Processes	1.68 ± 0.57	1.76 ± 0.62	-0.13	p=.206
Overall course evaluation	1.71 ± 0.58	1.75 ± 0.54	-0.07	p=.501

Legend: +…statistical tendency 0.10<p>.05; *…p<.05, **…p<.01, ***p<.001
Cohen's-d: <.30…small effect .30-.60…medium effect, >.60….large effect

7.5.5.5 DUID - Residence

The residence of the participant is interrelated with the person's gender, but DR attendees living in large towns are less likely to live single (p=.028; <100.000: 66.7%; 100.000-500.000: 70.9%; >500.000: 51.5%). The DUID offenders who live in larger towns are also significantly older (p<.001; <100.000: 23.4 years ±4.6, 100.000-500.000: 24.5 years ±5.0, >500.000: 26.3 years ±5.0). Regarding any answering characteristics there are only a few significant differences with small effect sizes: DUID participants living in bigger cities feel less supported by the DR course on the TTM scales stimulus control (p=.007), reinforcement management (p=.001) and the behavioural processes in the sum (p=.007). The detailed statistics are displayed in the following table.

Table 142: Residence – DUID total sample

	<100.000	100.000-500.000	>500.000	p-value
TTM scales				
Consciousness Raising	1.63 ± 0.61	1.67 ± 0.62	1.74 ± 0.72	p=.018*
Dramatic Relief	1.74 ± 0.80	1.78 ± 0.86	1.87 ± 0.93	p=.691
Environmental Re-Evaluation	1.94 ± 0.99	1.95 ± 1.04	1.95 ± 1.02	p=.144
Self Re-Evaluation	1.70 ± 0.82	1.68 ± 0.78	1.73 ± 0.83	p=.155
Social Liberation	1.40 ± 0.65	1.47 ± 0.69	1.46 ± 0.72	p=.337
Self-Liberation	1.43 ± 0.58	1.45 ± 0.59	1.47 ± 0.68	p=.071+
Stimulus Control	1.54 ± 0.79	1.56 ± 0.79	1.68 ± 0.92	p=.007** (I-III)
Counter Conditioning	1.53 ± 0.68	1.55 ± 0.69	1.64 ± 0.77	p=.654
Helping Relations	1.47 ± 0.69	1.52 ± 0.75	1.55 ± 0.78	p=.178
Reinforcement Management	1.68 ± 0.91	1.66 ± 0.89	1.71 ± 0.96	p=.001** (I-III; II-III)
TTM processes				
Cognitive Affective Processes	1.67 ± 0.49	1.70 ± 0.51	1.74 ± 0.58	p=.043*
Behavioural Processes	1.51 ± 0.50	1.53 ± 0.53	1.58 ± 0.62	p=.007** (I-III)
Overall course evaluation	1.63 ± 0.55	1.62 ± 0.52	1.64 ± 0.62	p=.787

Legend: +…statistical tendency 0.10<p>.05; *…p<.05, **…p<.01, ***p<.001

7.5.5.6 DUID - Detected drugs

Additional subgroup analyses searched for specific characteristics regarding the drugs detected at the DUID incidence.

Cannabis

The results reveal that female DUID offenders and those living together tend to be less likely caught driving while impaired due to cannabis consumption (p=.046, women: 68.8%, men: 84.2% and p=.084; living single: 85.2%, cohabitating: 78.4%), but offenders having completed an A-level degree or higher tend to a higher degree to drive under the influence of cannabis (p=.020; no A-level: 80.4%, A-level:

90.8%). Furthermore the drivers consuming cannabis are significantly younger (p.010; no: 25.4 years ±6.4; yes: 23.8 years ±4.6), while the size of residence is not interrelated with cannabis consumption. On the TTM scales there are almost no differences visible besides a distinct difference showing that cannabis users are disagreeing stronger on the helping relations scale (d=-.36; p=.002) compared to the non-cannabis DUID offenders.

Table 143: Cannabis – DUID total sample

	No	yes	Cohen's-d	p-value
TTM scales				
Consciousness Raising	1.82 ± 0.60	1.91 ± 0.70	-0.13	p=.248
Dramatic Relief	1.91 ± 0.86	1.93 ± 0.91	-0.03	p=.814
Environmental Re-Evaluation	1.77 ± 0.97	1.91 ± 1.00	-0.14	p=.239
Self Re-Evaluation	1.70 ± 0.85	1.73 ± 0.89	-0.03	p=.789
Social Liberation	1.64 ± 0.89	1.58 ± 0.85	0.08	p=.513
Self-Liberation	1.56 ± 0.61	1.69 ± 0.72	-0.19	p=.106
Stimulus Control	1.73 ± 0.92	1.87 ± 0.98	-0.15	p=.208
Counter Conditioning	1.69 ± 0.79	1.73 ± 0.79	-0.05	p=.700
Helping Relations	1.37 ± 0.59	1.65 ± 0.80	-0.36	p=.002**
Reinforcement Management	1.74 ± 0.97	1.68 ± 0.86	0.06	p=.606
TTM processes				
Cognitive Affective Processes	1.78 ± 0.51	1.84 ± 0.57	-0.10	p=.370
Behavioural Processes	1.61 ± 0.51	1.72 ± 0.61	-0.18	p=.118
Overall course evaluation	1.63 ± 0.55	1.74 ± 0.59	-0.19	p=.105

Legend: +…statistical tendency 0.10<p>.05; *…p<.05, **…p<.01, ***p<.001
Cohen's-d: <.30…small effect .30-.60…medium effect, >.60….large effect

Heroine

Heroine consumption is neither interrelated with gender nor with the size of the residence or education, but heroine users are more likely to cohabit with someone (p=.025; no partner: 0.7%, partner: 3.9%) and less likely to take cannabis (p<.001; no cannabis: 7.9%, cannabis: 1.1%). In contrast to the cannabis consumers, the heroine users tend to be older (p=.052; no: 24.0 years ±5.0, yes: 27.1 years ±4.6). Regarding any differences in agreement there is only one significant difference between the participants caught with heroine and the others: Heroine drivers agree distinctively less on the self liberation scale (d=.61, p=.037), indicating that they feel less supported in the choice and commitment to change the problem behaviour or in the belief to change successfully.

Table 144: Heroine – DUID total sample

	No	yes	Cohen's-d	p-value
TTM scales				
Consciousness Raising	1.89 ± 0.69	1.94 ± 0.61	-0.07	p=.821
Dramatic Relief	1.93 ± 0.91	1.91 ± 0.83	0.02	p=.937
Environmental Re-Evaluation	1.89 ± 1.00	1.91 ± 1.14	-0.02	p=.940
Self Re-Evaluation	1.73 ± 0.88	1.60 ± 0.97	0.15	p=.645
Social Liberation	1.59 ± 0.86	1.64 ± 0.81	-0.06	p=.856
Self-Liberation	1.68 ± 0.70	1.25 ± 0.40	0.61	p=.037*
Stimulus Control	1.85 ± 0.97	1.64 ± 0.67	0.22	p=.470
Counter Conditioning	1.73 ± 0.79	1.67 ± 0.65	0.07	p=.799
Helping Relations	1.61 ± 0.78	1.27 ± 0.47	0.44	p=.153
Reinforcement Management	1.69 ± 0.89	1.64 ± 0.67	0.06	p=.843
TTM processes				
Cognitive Affective Processes	1.83 ± 0.57	1.84 ± 0.53	-0.01	p=.963
Behavioural Processes	1.70 ± 0.60	1.46 ± 0.39	0.41	p=.158
Overall course evaluation	1.73 ± 0.59	1.73 ± 0.65	0.00	p=1.000

Legend: +…statistical tendency 0.10<p>.05; *…p<.05, **…p<.01, ***p<.001
Cohen's-d: <.30…small effect .30-.60…medium effect, >.60….large effect

Cocaine

The use of cocaine is not interrelated with a driver's gender, the case of cohabitating, the size of the residence or educational background. DUID course participants taking cocaine are less likely to take cannabis as well (p=.002; no cannabis: 19.1%, cannabis: 7.5%), but very likely to take heroine (p<.001, no heroine: 8.5%, heroine: 50.0%) though. The cocaine consumers are significantly older

(p=.027; no: 23.9 years ±4.9, yes: 25.7 years ±5.9), but show no distinctive features regarding agreement on specific TTM scales and processes as well as on the overall course evaluation compared to the non-cocaine offenders.

Table 145: Cocaine – DUID total sample

	No	yes	Cohen's-d	p-value
TTM scales				
Consciousness Raising	1.90 ± 0.68	1.86 ± 0.75	0.06	p=.702
Dramatic Relief	1.94 ± 0.90	1.83 ± 0.96	0.12	p=.423
Environmental Re-Evaluation	1.90 ± 1.00	1.79 ± 0.99	0.10	p=.489
Self Re-Evaluation	1.74 ± 0.89	1.58 ± 0.77	0.18	p=.235
Social Liberation	1.58 ± 0.84	1.72 ± 1.02	-0.17	p=.263
Self-Liberation	1.68 ± 0.70	1.58 ± 0.74	0.14	p=.357
Stimulus Control	1.86 ± 0.97	1.71 ± 0.94	0.16	p=.304
Counter Conditioning	1.75 ± 0.80	1.52 ± 0.65	0.29	p=.054+
Helping Relations	1.62 ± 0.78	1.50 ± 0.71	0.15	p=.329
Reinforcement Management	1.68 ± 0.88	1.73 ± 0.89	-0.05	p=.738
TTM processes				
Cognitive Affective Processes	1.83 ± 0.56	1.78 ± 0.58	0.09	p=.554
Behavioural Processes	1.71 ± 0.60	1.60 ± 0.52	0.19	p=.208
Overall course evaluation	1.73 ± 0.59	1.69 ± 0.60	0.07	p=.647

Legend: +…statistical tendency 0.10<p>,05; *…p<.05, **…p<.01, ***p<.001
Cohen's-d: <.30…small effect .30-.60…medium effect, >.60….large effect

Ecstasy

In contrast to cannabis, ecstasy is more frequently taken by female DUID attendees (p=.009; women: 25.0%, men: 9.0%) and is found more often for course participants living in small towns/villages (p=.035, <100.000: 12.1%, 100.000-500.000: 9.1%, >500.000: 2.5%). The use is not interrelated with age, cohabitation (yes/no) and education, but DUID offenders who take ecstasy are less likely to take cannabis (p=.012; no cannabis: 18.0%, cannabis: 8.6%), but more likely to take heroine (p=.026, no heroine: 9.7%, heroine: 33.3%) and very likely to take cocaine as well (p<.001; no cocaine: 6.9%, cocaine: 42.0%). There is a small effect in the direction that ecstasy consumers confirm more a change on the TTM scale for environmental re-evaluation (d=.29; p=.045) than the non-ecstasy course participants.

Table 146: Ecstasy – DUID total sample

	No	yes	Cohen's-d	p-value
TTM scales				
Consciousness Raising	1.90 ± 0.69	1.80 ± 0.68	0.15	p=.291
Dramatic Relief	1.92 ± 0.88	2.04 ± 1.06	-0.13	p=.362
Environmental Re-Evaluation	1.92 ± 1.02	1.63 ± 0.76	0.29	p=.045*
Self Re-Evaluation	1.75 ± 0.90	1.55 ± 0.64	0.23	p=.116
Social Liberation	1.58 ± 0.84	1.68 ± 0.98	-0.12	p=.424
Self-Liberation	1.66 ± 0.70	1.70 ± 0.71	-0.06	p=.685
Stimulus Control	1.87 ± 0.98	1.63 ± 0.81	0.25	p=.084+
Counter Conditioning	1.73 ± 0.80	1.70 ± 0.64	0.04	p=.800
Helping Relations	1.60 ± 0.78	1.64 ± 0.74	-0.05	p=.716
Reinforcement Management	1.71 ± 0.90	1.49 ± 0.70	0.25	p=.084+
TTM processes				
Cognitive Affective Processes	1.84 ± 0.57	1.75 ± 0.50	0.15	p=.295
Behavioural Processes	1.71 ± 0.61	1.64 ± 0.49	0.11	p=.426
Overall course evaluation	1.73 ± 0.59	1.71 ± 0.61	0.04	p=.784

Legend: +…statistical tendency 0.10<p>.05; *…p<.05, **…p<.01, ***p<.001
Cohen's-d: <.30…small effect .30-.60…medium effect, >.60….large effect

Amphetamines

Similar to ecstasy amphetamines are more frequently taken by female DR course participants (p=.011; women: 39.4%, men: 18.8%), occur more often for subjects living in small towns/villages (p=.005, <100.000: 23.3%, 100.000-500.000: 17.0%, >500.000: 7.5%) and are more often for less educated DUID offenders (p=.026; no A-level: 22.3%, A-level: 11.5%). Amphetamine use is not interrelated with age and cohabitation (yes/no). Similar to the ecstasy users, participants who take amphetamines are

less likely to take cannabis (p<.001; no cannabis: 47.2%, cannabis: 14.5%). In addition, they tend to be more likely to abuse heroine (p=.071, no heroine: 19.5%, heroine: 41.7%), and they are also very likely to abuse cocaine (p<.001; no cocaine: 16.9%, cocaine: 50.0%) and also very likely to take ecstasy as well (p<.001; no ecstasy: 13.9%, ecstasy: 74.1%). The amphetamines' users show almost no differences in the TTM scales compared to the non-users, besides the fact that they confirm higher change effects on the scale measuring environmental re-evaluation (d=.42; p<.001). Regarding the summing up of the TTM scales according to cognitive-affective processes and behavioural processes there are no significant differences at all between both sub-groups.

Table 147: Amphetamines – DUID total sample

	No	yes	Cohen's-d	p-value
TTM scales				
Consciousness Raising	1.91 ± 0.69	1.82 ± 0.66	0.13	p=.231
Dramatic Relief	1.91 ± 0.89	2.02 ± 0.95	-0.12	p=.265
Environmental Re-Evaluation	1.97 ± 1.03	1.56 ± 0.79	0.42	p<.001***
Self Re-Evaluation	1.75 ± 0.91	1.61 ± 0.75	0.17	p=.130
Social Liberation	1.58 ± 0.85	1.62 ± 0.88	-0.04	p=.686
Self-Liberation	1.68 ± 0.70	1.63 ± 0.69	0.07	p=.518
Stimulus Control	1.88 ± 1.00	1.72 ± 0.84	0.17	p=.125
Counter Conditioning	1.73 ± 0.79	1.69 ± 0.77	0.06	p=.612
Helping Relations	1.62 ± 0.79	1.53 ± 0.71	0.12	p=.275
Reinforcement Management	1.72 ± 0.90	1.56 ± 0.78	0.19	p=.091+
TTM processes				
Cognitive Affective Processes	1.85 ± 0.58	1.75 ± 0.51	0.18	p=.101
Behavioural Processes	1.72 ± 0.61	1.62 ± 0.51	0.16	p=.153
Overall course evaluation	1.73 ± 0.60	1.72 ± 0.55	0.03	p=.816

Legend: +…statistical tendency 0.10<p>.05; *…p<.05, **…p<.01, ***p<.001
Cohen's-d: <.30…small effect .30-.60…medium effect, >.60….large effect

LSD

Within the study sample the consumption of LSD is not interrelated with age, gender, cohabitation (yes/no), size of the residence or education, but DUID offenders who take LSD are more likely to take heroine (p<.001; no heroine: 1.5%, heroine: 33.3%), are very likely to take cocaine (p<.001; no cocaine: 0%, cocaine: 24.0%), as well as very likely to take ecstasy (p<.001; no ecstasy: 0.2%; ecstasy: 20.4%), and are also very likely to take amphetamines (p<.001; no amphetamines: 0.2%, amphetamines: 10.4%). The use of LSD seems not to be related to the use of cannabis. LSD users do not show any distinctive answering feature neither regarding the change process initiated and supported due to the course participation nor regarding the overall course evaluation compared to non-users.

Table 148: LSD – DUID total sample

	No	yes	Cohen's-d	p-value
TTM scales				
Consciousness Raising	1.89 ± 0.69	1.92 ± 0.81	-0.04	p=.904
Dramatic Relief	1.93 ± 0.90	2.09 ± 1.14	-0.18	p=.552
Environmental Re-Evaluation	1.90 ± 1.00	1.42 ± 0.51	0.48	p=.099+
Self Re-Evaluation	1.73 ± 0.88	1.45 ± 0.69	0.32	p=.299
Social Liberation	1.58 ± 0.85	1.92 ± 1.24	-0.39	p=.182
Self-Liberation	1.67 ± 0.70	1.67 ± 0.78	0.00	p=.999
Stimulus Control	1.86 ± 0.97	1.42 ± 0.67	0.45	p=.121
Counter Conditioning	1.73 ± 0.79	1.58 ± 0.51	0.18	p=.532
Helping Relations	1.61 ± 0.78	1.58 ± 0.79	0.03	p=.924
Reinforcement Management	1.69 ± 0.89	1.75 ± 0.62	-0.07	p=.807
TTM processes				
Cognitive Affective Processes	1.83 ± 0.57	1.80 ± 0.49	0.05	p=.861
Behavioural Processes	1.70 ± 0.60	1.61 ± 0.45	0.15	p=.609
Overall course evaluation	1.73 ± 0.59	1.58 ± 0.51	0.25	p=.391

Legend: +…statistical tendency 0.10<p>.05; *…p<.05, **…p<.01, ***p<.001
Cohen's-d: <.30…small effect .30-.60…medium effect, >.60….large effect

7.5.5.7 DUID - Driving licence on probation

Within the DUID sample the case of holding a licence on probation is independent of a persons' gender, cohabitation (yes/no) and size of residence or education, but course participants holding a licence on probation are significantly younger (p<.001; no: 26.9 years ±5.5; yes: 21.7 years ±2.7). No special preference for any drug can be found for this group. Furthermore, they do not show any differences in the TTM scales and processes compared to the group out of the probation period. Moreover, no differences are found in the overall evaluation of the DR course between both sub-groups.

Table 149: Licence on probation - DUID total sample

	No	yes	Cohen's-d	p-value
TTM scales				
Consciousness Raising	1.87 ± 0.67	1.92 ± 0.69	-0.07	p=.453
Dramatic Relief	1.90 ± 0.85	1.95 ± 0.93	-0.05	p=.603
Environmental Re-Evaluation	1.91 ± 0.99	1.87 ± 1.02	0.04	p=.628
Self Re-Evaluation	1.68 ± 0.84	1.80 ± 0.91	-0.14	p=.128
Social Liberation	1.57 ± 0.88	1.61 ± 0.85	-0.05	p=.577
Self-Liberation	1.62 ± 0.69	1.71 ± 0.71	-0.12	p=.180
Stimulus Control	1.85 ± 0.97	1.85 ± 0.98	0.00	p=.975
Counter Conditioning	1.69 ± 0.79	1.75 ± 0.79	-0.08	p=.396
Helping Relations	1.56 ± 0.77	1.63 ± 0.80	-0.08	p=.353
Reinforcement Management	1.70 ± 0.89	1.68 ± 0.90	0.03	p=.760
TTM processes				
Cognitive Affective Processes	1.81 ± 0.56	1.85 ± 0.57	-0.08	p=.402
Behavioural Processes	1.67 ± 0.61	1.72 ± 0.58	-0.09	p=.318
Overall course evaluation	1.70 ± 0.59	1.76 ± 0.59	-0.09	p=.309

Legend: +…statistical tendency 0.10<p>.05; *…p<.05, **…p<.01, ***p<.001
Cohen's-d: <.30…small effect .30-.60…medium effect, >.60….large effect

7.5.5.8 DUID - Prior drink-driving offences

In the DUID sample, course participants with prior convictions tend to be less likely female (p=.002; male: 16.0%; female: 3.1%) and they are significantly older (p<.001; no: 23.7 years ±4.6; yes: 26.3 years ±6.3). Consequently they are less likely to hold a licence on probation (p=.014; no licence on probation: 19.9%; licence on probation: 11.6%). The case of prior convictions is independent of cohabitation (yes/no), size of residence or education. Prior convictions are not interrelated with the use of cannabis, ecstasy, amphetamine and LSD, but repeat DUID offenders tend to take heroine more likely (p=.078; no heroine: 15.2%; heroine: 36.4%) and, in addition, they are more likely to consume cocaine (p=.022; no cocaine: 14.4%; cocaine: 28.0%). The fact of prior offences in the past seems to have no influence on any TTM results.

Table 150: Prior drug convictions - DUID total sample

	no	yes	Cohen's-d	p-value
TTM scales				
Consciousness Raising	1.89 ± 0.69	1.91 ± 0.67	-0.03	p=.821
Dramatic Relief	1.92 ± 0.90	1.93 ± 0.92	-0.01	p=.930
Environmental Re-Evaluation	1.87 ± 1.00	1.92 ± 0.96	-0.05	p=.692
Self Re-Evaluation	1.73 ± 0.88	1.71 ± 0.86	0.02	p=.873
Social Liberation	1.60 ± 0.86	1.58 ± 0.86	0.03	p=.815
Self-Liberation	1.67 ± 0.71	1.64 ± 0.65	0.05	p=.707
Stimulus Control	1.85 ± 0.98	1.72 ± 0.88	0.14	p=.265
Counter Conditioning	1.74 ± 0.79	1.64 ± 0.77	0.13	p=.288
Helping Relations	1.62 ± 0.80	1.52 ± 0.64	0.13	p=.293
Reinforcement Management	1.68 ± 0.89	1.68 ± 0.82	0.01	p=.966
TTM processes				
Cognitive Affective Processes	1.83 ± 0.56	1.84 ± 0.58	-0.02	p=.900
Behavioural Processes	1.71 ± 0.61	1.63 ± 0.52	0.12	p=.308
Overall course evaluation	1.72 ± 0.60	1.79 ± 0.50	-0.11	p=.370

Legend: +…statistical tendency 0.10<p>.05; *…p<.05, **…p<.01, ***p<.001
Cohen's-d: <.30…small effect .30-.60…medium effect, >.60….large effect

7.5.5.9 DUID - Prior drink-driving courses

The case of having participated in a prior rehabilitation course is independent of the subject's gender, age, cohabitation status (yes/no), size of residence, education or holding a licence on probation. There are no differences between those having already participated and those having not yet participated in a DR course regarding any frequencies of drugs detected. Furthermore, both DUID sub-groups are not distinguishable neither concerning their outcomes on any of the TTM scales and summing up processes no regarding their overall evaluation of the DR courses.

Table 151: Prior participation in a rehabilitation courses – DUID total sample

	No	yes	Cohen's-d	p-value
TTM scales				
Consciousness Raising	1.91 ± 0.69	1.78 ± 0.65	0.20	p=.085+
Dramatic Relief	1.92 ± 0.91	1.92 ± 0.83	0.00	p=.990
Environmental Re-Evaluation	1.88 ± 1.01	1.80 ± 0.97	0.07	p=.530
Self Re-Evaluation	1.75 ± 0.87	1.69 ± 0.90	0.07	p=.567
Social Liberation	1.57 ± 0.85	1.64 ± 0.90	-0.08	p=.470
Self-Liberation	1.66 ± 0.70	1.62 ± 0.69	0.07	p=.552
Stimulus Control	1.83 ± 0.98	1.76 ± 0.87	0.08	p=.521
Counter Conditioning	1.72 ± 0.80	1.70 ± 0.76	0.03	p=.806
Helping Relations	1.60 ± 0.79	1.60 ± 0.72	0.01	p=.920
Reinforcement Management	1.70 ± 0.90	1.65 ± 0.82	0.06	p=.637
TTM processes				
Cognitive Affective Processes	1.83 ± 0.56	1.77 ± 0.55	0.11	p=.328
Behavioural Processes	1.70 ± 0.59	1.65 ± 0.60	0.08	p=.502
Overall course evaluation	1.72 ± 0.58	1.74 ± 0.60	-0.05	p=.693

Legend: +…statistical tendency 0.10<p>.05; *…p<.05, **…p<.01, ***p<.001
Cohen's-d: <.30…small effect .30-.60…medium effect, >.60….large effect

7.6 Comparative analysis of study outcomes

In order to evaluate the entire results of the questionnaire study, the results are grouped and listed on European and country level distinguishing between courses for DUI and DUID offenders. Moreover, the results of the DUI recidivists are included as well.

7.6.1 Major socio-demographic and offence related results

At first, major socio-demographic and offence related data are summarized and listed in the following table.

Table 152: Overview on socio-demographic and offence related characteristics of the samples

Countries	Age (years)	Gender (%)		BAC level at offence (‰) or frequencies of detected drugs (%)	Accident at DUI offence (%)
		Male	Female		
DUI course participants					
Europe total	34.1	86.6	10.7*	1.43	23.9
Austria	36.1	86.3	11.3*	1.47	23.1
Belgium	37.6	90.3	9.7	1.55	35.0
France	37.5	87.6	11.2*	1.36	10.1
Germany	29.8	86.4	10.0*	1.38	29.2
Great Britain	34.7	79.9	17.5*	1.36	20.6
Hungary	37.7	94.7	3.2*	1.76	34.7
Italy	29.8	92.9	7.1	1.30	15.7
The Netherlands	36.3	82.8	13.2*	1.29	14.0
Poland	37,2	97.4	1.7*	1.41	20.6
DUI recidivists – Europe total					
With / without prior	36.8 / 33.2	25.4	10.8	1.46 / 1.42	20.0 / 26.3

DUI offence					
With / without prior DR course	35.4 / 34.0	13.4	7.6	1.57 / 1.41	24.7 / 24.7
DUID course participants					
Germany	24.0	90.5	6.0*	80.2 Cannabis 19.5 Amphetamine 9.8 Ecstasy 9.1 Cocaine 4.4 Heroine/LSD	

* The lacking percentage values to 100% are missing data

Regarding DUI offenders, the samples in the nine participating Member States have rather similar characteristics:
DUI course participants belong to the medium age group. The age of the total European sample is about 34 years ranging from averagely 29 to 38 years in the participating Member States.
The vast majority of the DUI course participants are male, about 86% of the total European sample. On country level the percentages of females range between 1.7 and 17.5. In average about 10% are female course participants.
DUI offenders who underwent DR courses have BAC levels at the offence of averaged 1.4 ‰, whereby the values range from 1.3 ‰ to 1.7 ‰ in the particular countries.
A considerable number of course participants had an accident at the DUI offence. The percentage for all nine participating Member States Europe is about 24% ranging from 10% to 35% in the specific countries.

As regards the sub-samples of DUI offenders with prior drink-driving convictions as well as drivers with prior DR course participation – summarized as recidivists -, the results show that that recidivists are significantly older and are more often males compared to non-recidivists whereby the gender proportion of 2:1 of males and female is less distinct compared to the entire DUID sample. Moreover the average BAC level of recidivists is higher than that of non-recidivists, especially for those with a prior DR course. Course repeaters do not differ considerably from first time offenders concerning their accident involvement at the offence, although there is a slight tendency that DUI offenders with prior DR courses had slightly less accidents at the first offence.

Comparing the outcomes of DUI and DUID course attendees – although data on DR courses for drug-driving could only be collected in one Member State (Germany) -, the following differences and similarities are given:
DUID course participants still belong to the younger age group of motorized traffic participants. With an average age of 24 years, they are much younger (on average 10 years) than DUI offenders in DR interventions.
Gender characteristics of DUID course participants are similar to those of the DUI offenders; the overwhelming majority (about 90% in average) are male.
Regarding the psychoactive substance at the offence, cannabis is by far the most often detected and consumed drug (about 80%), followed by amphetamines (about 20%), ecstasy (about 10%), cocaine with about 9% and by heroine/LSD with about 4% totalized.
The accident involvement during the offence differs considerably as only a minor part of the DUID sample had an accident (about 6%) compared to 24% in the DUI group.

7.6.2 Major results in TTM, Diamond of Change and overall course evaluation

In the second step of comparative analysis, the outcomes of the study are summarized for both, DUI and DUID course participants regarding the main areas of investigation, namely TTM, Diamond of Change and overall evaluation of DR courses by the participants (see table below). Again, for the DUI drivers, the recidivists are considered as well.

Table 153: Overview on feedback results for DUI and DUID offenders

Variables	DUI course participants		DUID participants (Germany)
	European level (subgroup with/without prior DUI offences and with/without prior DUI course)	Country level	
TTM scales			
Consciousness Raising	1.65 (1.61 / 1.66) (1.63 / 1.66)	1.43 – 1.86	1.89
Dramatic Relief	1.89 (1.88 / 1.90) (1.84 / 1.91)	1.74 – 2.29	1.93
Environmental Re-Evaluation	1.92 (1.85 / 1.94) (1.85 / 1.93)	1.58 – 2.21	1.87
Self Re-Evaluation	1.69 (1.61 / 1.71) (1.69 / 1.69)	1.49 – 1.79	1.73
Social Liberation	1.42 (1.41 / 1.43) (1.38 / 1.43)	1.34 – 1.62	1.58
Self-Liberation	1.39 (1.37 / 1.40) (1.37 / 1.40)	1.22 – 1.58	1.66
Stimulus Control	1.53 (1.50 / 1.54) (1.52 / 1.53)	1.33 – 1.71	1.83
Counter Conditioning	1.48 (1.44 / 1.50) (1.45 / 1.49)	1.27 – 1.63	1.72
Helping Relations	1.51 (1.48 / 1.52) (1.50 / 1.52)	1.40 – 1.82	1.60
Reinforcement Management	1.69 (1.64 / 1.71) (1.60 / 1.71)	1.44 – 2.00	1.69
TTM processes			
Cognitive Affective Processes	1.69 (1.66 / 1.71) (1.63 / 1.70)	1.54 – 1.82	1.83
Behavioural Processes	1.50 (1.46 / 1.51) (1.47 / 1.51)	1.34 – 1.66	1.69
Diamond of Change key elements			
Individual	1.63 (1.59 / 1.65) (1.60 / 1.64)	1.46 – 1.76	1.78
Methods	1.67 (1.62 / 1.69) (1.66 / 1.68)	1.38 – 1.82	1.97
Contents	1.57 (1.55 / 1.58) (1.54 / 1.58)	1.47 – 1.70	1.78
Participant-Participant Relations	1.67 (1.67 / 1.67) (1.67 / 1.67)	1.56 – 1.82	1.77
Participant-Trainer Relations	1.33 (1.31 / 1.34) (1.39 / 1.34)	1.21 – 1.63	1.42
Overall course evaluation			
Assessment by participants	1.52 (1.52 / 1.53) (1.49 / 1.54)	1.26 – 1.76	1.73

Taking the answering format for the content related questions (1=agree completely, 2=agree mostly, 3=disagree mostly, 4=disagree completely) and the overall evaluation of the entire course (1=very good, 2=good, 3=bad, 4=very bad) into account, the following picture can be drawn:

TTM stages and processes

In the course of their DR participation, the vast majority of offenders are passing all necessary stages of change positively as the assessments of the course participants reveal. In the total European sample, all average values are better than 2. Thereby, in the 10 TTM scales (consciousness raising, dramatic relief, environmental re-evaluation, self re-evaluation, social liberation, self-liberation, stimulus control, counter conditioning, helping relations and reinforcement management), the results of the entire European DUI sample range from 1.39 to 1.92 and of the DUID sample from 1.58 to 1.93. On country level, the results of the DUI offenders show more variations resulting in ratings between 1.22 and 2.29).

Regarding the TTM processes, the change scores of the entire European DUI sample are 1.69 in average for the cognitive affective processes respectively 1.83 of the DUID sample. The outcomes for the behavioural processes are even better with an average of 1.50 in the DUI sample and of 1.69 in the DUID sample. Thus, DR courses influence the participants not only on the cognitive-affective, but especially on the behavioural level.

Diamond of Change key elements

The importance of the individual, the methods, the contents, the participant-participant relations and the participant-trainer relations for initiating and realizing a change process in DR courses is supported by the respective results. The assessments of the Diamond of Change key elements are ranging from 1.37 to 1.66 for DUI offenders and from 1.42 to 1.97 for DUID participants. Even on the country level, all outcomes are better than 2, i.e. are highly confirmative. Especially, a positive participant-trainer relation is highlighted by both target groups.

Overall course evaluation

The judgements of the entire DR courses are very positive as well with an average value of 1.52 for the total European sample in case of DUI offenders ranging from 1.26 to 1.76 on country level. For DUID participants, the overall evaluation is 1.73.

The following table presents the detailed results on the overall course evaluations for both target groups.

Table 154: Overall course evaluation by DUI and DUID offenders

Overall evaluation of course	DUI		DUID	
	n	%	n	%
Very good	3574	48.7	177	32.2
good	3378	46.0	318	57.8
bad	122	1.7	28	5.1
Very bad	34	0.5	3	0.5
Missing	231	3.1	24	4.4

Recidivists

Regarding recidivists the outcomes show that both subgroups, namely DUI course participants with a prior drink-driving offence and those with a prior DR course could profit from course participation as well. They pass the different TTM stages of change as successfully as non-recidivists whereby their results are even indicating a slightly stronger change in some aspects. This refers to getting insight into the problem behaviour on an emotional and rational level, how it affects oneself and the environment, being able to establish new behaviour and to keep it in, thereby using self-rewarding strategies.

Concerning the key elements of change all of them are important for the change process of recidivists as well, especially the trainer-participant relationship as this was the case for the entire DUI and the DUID sample in general. Besides, drivers with prior drink-driving offences emphasised stronger the influence of the individual as well as of the method on the change process compared to non-recidivists.

Finally, in line with the results of the entire DUI group and the DUID participants, recidivists with prior drink-driving convictions as well as recidivists who already participated once in a DR course (but re-offended) asses the overall DR course as having been good or very good, too.

In general, the results of the in-depth study on the change processes and elements in DR courses, of the overall participant feedback as well as of the sub-group analysis of recidivists reveal the high

positive acceptance of this measure in all analysed groups, i.e. DUI and DUID course participants including DUI recidivists. Moreover, the capability of the DR courses of motivating and supporting the offenders to carry out the necessary changes regarding their problem behaviour has been confirmed. Thereby, all main elements of the DR courses which should bring the change processes forward were confirmed of having been important by all groups as well. Thus, according to the outcomes, DR courses are measures which are very useful for avoiding re-offences in future, at least from the participant's point of view.

Acknowledgements

The DRUID WP 5 team would like to thank all providers / institutions / organisations for joining the participant feedback study, for their willingness to accept and to adjust to the restricted time period, to the given execution procedure and contents and thus for their highly estimated effort to contribute to the research at hand.

III. Overall results, discussion and conclusions

1. Main results of in-depth study on recidivism reasons

The exploratory study on recidivism reasons aims at a better understanding of the underlying factors that are associated with non-successful DR (driver rehabilitation) course participation, i.e. another drink-driving offence in spite of already having participated in a European standard group intervention. Although the principal effectiveness of this DR approach was confirmed in the DRUID WP5 research on the state of the art, averaged 45.5% reduction of recidivism rate (see Deliverable 5.1.1), there are still drivers who obviously do not profit sufficiently from these courses.

Due to availability of data for the in-depth analysis, the recidivism sample was restricted to DUI (drink-driving) offenders with a BAC of 1.6‰ or more. Nevertheless, this group is important for traffic safety issues as they are usually classified as high risk offenders.

From a data pool of 7.011 DUI offenders with a BAC of 1.6 ‰ or more n=303 recidivists (i.e. offenders having participated in a DR course for a second time due to a new DUI offence within a time period of about five years) were identified and compared with a matched control group of n=303 non-recidivists (i.e. drivers with a BAC of 1.6 ‰ or more but only one DR course participation in the defined time frame). In a case-control design recidivists and non-recidivists were compared regarding a comprehensive set of relevant variables derived from traffic psychological DA (driver assessment) respectively the according written expertises which are obligatory in case of a BAC of 1.6 ‰ or more DUI offence in Austria.

Analyses on uni- and multivariate level (group comparisons and regression analysis) were carried out. While 20 significant differences are found on univariate level, only six of them show predictive value in a regression analysis, too. Nevertheless, the results provide valuable information on contributing factors to DUI recidivism in spite of having participated in an appropriate DR course for this problem group. Above all information regarding actual and prior DUI offences as well as regarding alcohol consumption pattern and additional health related issues in general turn out to be most important for identifying recidivism. Personality questionnaires, especially drink-driving related ones are a supplementary information source. While driving experience related data do not provide important information, the minor importance of socio-demographic data for recidivism is above all a consequence of the sample matching procedure in this study. Traffic related performance aspects do not have discriminating power regarding the identification or prediction of recidivism.

Considering the literature review on the state of the art (see Deliverable 5.1.1), some results are in line with the outcomes of this study, e.g. refusing breath tests and especially prior DUI offence records which turned out to be the most important factor differentiating between recidivists and non-recidivists. Other important re-offend risk factors, above all gender (male) and education (low level), documented in the literature, could not be considered due to the before mentioned matching reasons. Nevertheless, the gender factor can be confirmed in so far as the proportion of males and females in the sample of the recidivism study is 95 to 5. Regarding education, the descriptive data of the actual recidivism sample (about 50% of the recidivist sample have compulsory or secondary school only) confirm the literature results as well.

Thus, based on the study results the following risk profile of DUI offenders who might not profit from a DR course can be deduced:

- Having high BAC levels at the current offence or refusing the breath test;
- Having additional prior drink-driving or already several DUI offences (i.e. not the first one) and consequently having longer suspension periods of driving licence;
- Having a habitual drinking pattern in the past and in spite of past or current abstinence periods having an increased alcohol tolerance, thus having also felt less impaired at the actual DUI offence;
- Denying or not having any alcohol related health problems, being a smoker and being less aware of own health issues;
- Showing a more unrealistic self-perception and less self-reflection whereby alcohol related risks in traffic are underestimated;
- Not living in a partnership;
- Being assessed as having an enhanced re-offence risk by a qualified expert (traffic psychologist).

Based on these outcomes the following conclusions can be drawn why these drivers could not profit from their first DR course participation and re-offended:
Recidivists strongly tend to ignore or underestimate their problematic alcohol consumption pattern and their enhanced probability of re-offences in traffic, especially as they support large quantities of alcohol without feeling impaired, do not show any significant decreases in traffic related performance aspects and do not experience alcohol related health problems. This all together strengthens the recidivists' conviction that they can control their alcohol consumption and above all that they can separate drinking and driving reliably.
Specialized (traffic) psychologists are in the position to identify this problem constellation in the course of a driver assessment after the first DUI offence, thus prognosticating an enhanced re-offence risk.

2. Main results of the analysis of the change process and components in driver rehabilitation courses

The second study aims at getting insight into the change process caused by DR (driver rehabilitation) courses, its scope and main elements whereby the sub-group of recidivists was considered as well. Additionally, an overall participant feedback regarding this type of interventions was carried out. A questionnaire was developed based on a theoretical framework, above all the well known and scientifically proven TTM (Transtheoretical Model of Change from Prochaska & DiClemente, 1984; Prochaska et al., 1992, 1997), supplemented by the Diamond of Change (created by the WP5.2 research team) which specifically considers the key elements contributing to a change in DR courses. This allows a one-time data collection, namely at the end of the DR intervention. DUI (drink-driving) and DUID (drug-driving) offenders were included.

In a prospective cohort design a questionnaire survey was carried out in nine Member States (Austria, Belgium, France, Germany, Great Britain, Hungary, Italy, the Netherlands, Poland) resulting in a total sample of n=7889; thereof n=7339 were DUI and n=550 were DUID offenders.

Data analyses by means of conventional statistical measures and group comparisons for the entire European sample as well as for all nine participating countries separately led to the following main results:

TTM stages and processes

Most course participants of both, DUI and DUID offenders, went through the entire stages and processes necessary for change according to the TTM (Transtheoretical Model of Change) successfully. This means that the attendees' awareness of their problem behaviour regarding drink-

driving or drug-driving was established or increased, that they started to think about this problem more deeply taking the pros and cons of changing into account. Due to these cognitive-affective self reflection processes taking place during the DR course in a group setting thus taking the position, experiences, feelings and thoughts of the other course participants into account as well, their motivation and willingness to behavioural change increased. As a consequence, concrete plans to take actions in the immediate future or first efforts to chance were made. Along with the duration of the course participants' initial intention to change was actively transformed into action and already established behavioural changes were strengthened. Course participants even reached the final maintenance stage which is important for holding up the achieved change and prevent relapse to an earlier stage. These outcomes result from the attendees' assessments as regards the scales consciousness raising, dramatic relief, environmental re-evaluation, self re-evaluation, social liberation, self-liberation, stimulus control and counter conditioning, helping relations and reinforcement management. It is important to mention that having reached above all the behavioural change processes, but also the cognitive affective ones was strongly confirmed by the participants of the DR courses.

As regards recidivists, i.e. prior DUI offences and repeated DUI course participation, it was found that in general both sub-groups were also able to proceed successfully through all TTM stages and processes of change. Although the differences to non-recidivists are small, course participants with prior drink-driving convictions tend to having become more aware of and insight on an emotional and rational level of how the problem behaviour affects not only the self and self-perception but also the physical and social environment and further to be better in the position to substitute the problem behaviour for an alternative, new behaviour as the results in the corresponding TTM scales self-re-evaluation, environmental re-evaluation and counter-conditioning reveal.
DUI offenders with prior course participation only tend to show slightly better results in the last stage of change dimension, namely reinforcement management, meaning that they better developed self-rewarding strategies in order to keep in the behavioural than non-course repeater.

Diamond of Change key elements

Both, DUI and DUID offenders confirmed the importance of all five key elements in this type of intervention as postulated by the Diamond of Change. Thereby, above all the participant-trainer relation, but also the other components, namely the individual, the methods, the contents and the participant-participant relation are the driving forces for change. As the duration of the DR courses which had been evaluated is restricted to a few weeks only, it is important to use these different elements simultaneously. This concept and general approach has been proven to be adequate for the target groups according to their own assessments.

DUI recidivists confirmed the high value of all key element of change as well. But while course repeaters do not show any differences in the Diamond of Change compared to non-repeaters, the sub-group of drivers with prior DUI offences tend to judge the individual, but also the method to be more important change factors than those drivers without prior DUI convictions.

Overall course evaluation

Both target groups evaluate the entire DR course in a very positive way. About 95% of all European the DUI offenders who participated in this feedback study assess the DR course as good or very good. Only about 2% rate the course as bad or very bad (about 3% are missing data). About 90% of the DUID offenders judge the entire DR course as good or very good. Only about 6% assess the intervention as bad or very bad (about 4% are missing data). These outcomes again confirm the adequacy of this kind of intervention for drivers having had an offence due to drink-driving or drug-driving.

Both recidivist sub-groups do not differ in their positive to very positive overall assessments of the entire DR course from non-recidivists.

Further differences and similarities of DUI and DUID course participants

Although DR courses for DUID offenders could not be analysed on that broader scale like DUI attendees (as only Germany was in the position to provide considerable numbers within the limited time frame of data collection), some socio-demographic and offence related differences became obvious:

Both target groups differ highly in age, as DUID course participants are about 10 years younger in average than DUI offenders.

Both target groups differ highly concerning their accident involvement at the offence which led to the course participation, too. 24% of the DUI course participants had an accident compared to only 6% in the DUID group.

Similar in both groups is the fact that either DUI or DUID course participants are predominantly male.

Regarding the level of intoxication, respectively the kind of detected illegal drugs, the data reveal averaged BAC levels of 1.4 ‰ for the DUI course participants in the total European sample. The predominant substance while driving under the influence was cannabis (about 80%), followed by amphetamines/ecstasy/cocaine (about 40%), while heroine and LSD are of no major importance (about 4% totalized).

Recidivists differ in age (considerably older) and gender (more males) as well as regarding their BAC-level (higher especially drivers with prior DR courses) compared to non-recidivists. Accident involvement is rather similar than that of non-recidivists.

In sum, the study on the process and components of change in driver rehabilitation courses, supplemented by an overall participant feedback and considering recidivists as well indicate that the DR programmes applied in several Member States for certain groups of substance impaired drivers at present led to very positive outcomes. The specific course concept (psychological-psychotherapeutic with educational elements carried out in a group setting) provides the key elements of change (individual, method, content, participant-participant relationship, trainer-participant relationship) which led to reaching/passing the necessary stages and processes of change. Thereby, the DR courses are strongly focussing on cognitive-affective but especially on behavioural changes that are necessary for preventing new DUI or DUID convictions in traffic. Moreover, the positive to very positive overall feedback indicates that the DR course could meet the expectations and needs of most of the course participants. Initiating and/or motivating/strengthening change is confirmed by recidivists as well after having passed their second course. Nevertheless, it has to be said that the focus of the study at hand was the analysis of the change process and its key elements. Thus, no direct conclusion can be drawn from a positive course evaluation to not having recidivism.

3. Conclusions

Bringing the results of both studies, namely the in-depth analysis on reasons for recidivism and the analysis of change process and components in driver rehabilitation courses together, the following practical implications can be drawn although no final recommendations on good practice will be given at this phase of DRUID WP5.2 research:

- DUI recidivists differ in several aspects from non-recidivists which influence their readiness to change. This enhanced recidivism risk can be identified in the course of driver assessment.

- An assignment procedure for certain high risk recidivism groups (e.g. DUI drivers with a re-offence in a defined time period, DUI drivers with a very high BAC at the first offence) can clarify the adequate DR intervention. This can be done in the course of driver assessment.
- DR courses can target on DUI and DUID offenders. They can be an adequate measure for recidivists as well as they can profit from a second course participation to the same extent than non-recidivists. Yet, the matching of both, DUI and DUID offenders, in one and the same DR intervention should be avoided as they do not only differ regarding the drug and its legality/illegality but also in relevant socio-demographic and offence related aspects.
- The psychological/psychotherapeutic/educative intervention concept, carried out in a group setting within this study and led by a specially qualified trainer with psychological background seems to be adequate for DR courses.
- No gender specific DR courses are necessary as both males and females can profit from this intervention, although the vast majority of DR course participants are male. Specific courses according to further socio-demographic variables, e.g. age, do not seem necessary as well.
- DR courses can be applied throughout Europe as this measure was very positively evaluated across different Member States and due to the similar change effects obtained despite more or less differences of assignment and realization of this measure in single European countries.

All in all, the outcomes of both empirical studies provide important in-depth information on successful/non successful DR course participation in Europe. The results will be considered further in the next research steps, namely the development of an integrated evaluation instrument for DR measures in WP5.2.2 and the validation of existing DR schemes including final recommendations in WP5.2.4.

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Annex

List of variables included in the in-depth study on recidivism reasons

List of variables from traffic psychological DA expertises:

GERMAN - Variables	**ENGLISH translation of variables**
Nachname	Family name
Vorname	First name
Geschlecht (M;W)	Gender (f;m)
Geburtsdatum (TT.MM.JJ)	Date of birth (day, month, year)
PLZ - Postleitzahl	Zip – postal code
Untersuchungsstelle	Test centre
Untersuchungsdatum (TT.MM.JJ)	Date of assessment
Auftragsnummer	Business code
Migrationshintergrund (0...nein, 1...ja)	Migration background (0…no, 1…yes)
Höchste abgeschlossene Schulbildung (0...kein Pflichtschulabschluss; 1...Pflichtschulabschluss, 2...Lehre/berufsbildende Schule ohne Matura, 3...Matura, 4...akademischer Abschluss)	Highest education level completed (0…no graduation from compulsory school; 1… compulsory school graduation; 2…apprenticeship//vocational school; 3…A-levels; 4….academic degree)
Dzt. Beruf (inkl. arbeitslos, Student als Text)	Current job (including jobless, student as text)
Dzt. Partnerstand (0...allein, 1...verheiratet/ Partnerschaft)	Current partnership (0…alone; 1…married/part-nership)
Führerschein auf Probe (0...nein, 1...ja)	Driving licence on probation (0…no, 1…yes)
Mopedführerschein ab 16 (0...nein; 1...ja)	Moped licence with 16 years (0…no, 1…yes)
Führerscheinerwerb B (Jahr)	Obtaining driving licence B (year)
Welche Führerscheingruppen (durch Beistrich trennen)	Which driving licence groups (divided by commas)
Jährliche Fahrpraxis über alle Verkehrsmittel (niedrigere Angabe)	Annual mileage with all types of vehicles (lower statement)
Anzahl aktenkundiger Alkoholdelikte	Number of alcohol delicts on record
Jahreszahlen und Promillehöhe und Monate Entzug und Unfall und Nachschulung (durch Beistriche trennen; V...Verweigerung, 0...nein, 1...ja/KFV/A)	Date and BAC-level and suspension months and accident and driver rehabilitation (divided by commas; V…refusal, 0…no, 1…yes/KFV/A)
Fahrzeug beruflich notwendig (0...nein; 1...ja)	Need of car for work
früherer gewohnheitsmäßiger Konsum (0...nein, 1...ja)	Prior habitual alcohol consumption (0…no, 1…yes)
Aktueller gewohnheitsmäßiger Konsum bzw. keine Änderung des Trinkverhaltens (0...nein, 1...ja)	Continuation of drinking habits resp. no change in drinking habits (0…no, 1…yes)
Erhöhte Alkoholtoleranz (0...nein, 1...ja)	Increased alcohol tolerance (0…no, 1…yes)
Subjektives Beeinträchtigungsgefühl (0...nein, 1...ja)	Felt impaired at actual DUI offence (0…no, 1…yes)
Subjektive Folgewirkungen (0...nein, 1...ja)	Negative consequences of alcohol (0…no, 1…yes)
Alkoholbezogene Gesundheitsprobleme (0...nein, 1...ja)	Alcohol related health problems (0…no, 1…yes)
Fühere Abstinenzphasen (0...nein, 1...ja)	Prior periods of abstinence (0…no, 1…yes)
Aktuelle Abstinenzphase (0...nein, 1..., ja)	Current period of abstinence (0…no, 1…yes)
Wenn ja, Dauer in Monaten	If yes, duration by months
Trinkmengen wurden relevant eingeschränkt (0...nein, 1...ja)	Relevant duction of alcohol quantity (0…no, 1…yes)
Erhöhte Rückfallgefahr (0...nein, 1...ja)	Enhanced recidivism risk (0…no, 1…yes)
Trinkmengen werden beschönigt (0...nein; 1...ja)	Alcohol quanta is belittled (0…no, 1…yes)
Alkoholaffiner Freundeskreis/Arbeitsumfeld (0...nein, 1...ja)	Alcohol related circle of friends/work environment (0…no, 1…yes)
Nikotin (0...keine;1...<=10; 2...11-20; 3...21-30; 4...>=31)	Nicotine (0…no, 1...<=10; 2...11-20; 3...21-30; 4...>=31)
Drogenkonsum (0...nein, 1...ja)	Illegal drugs (0…no, 1…yes)
wenn ja, welche Substanzen	If yes, which
LL5_TOT – Test für visuelle Strukturierungsfähigkeit_Bearbeitete	LL5_TOT – Visual Structuring Ability Test_Total answers
LL5_PINC – Test für visuelle Strukturierungsfähigkeit_Prozent Falsche	LL5_PINC – Visual Structuring Ability Test_Percentage incorrect

PVT_RT (optional) – Test für periphere Wahrnehmung mit Tracking-Aufgabe_Mittlere Reaktionszeit	PVT_TT (optional) – Peripheral Perception Test including Tracking Task_Mean reaction time
TT15_COR – Test für verkehrsspezifische Überblicksgewinnung_Anzahl Richtige	TT15_COR – Traffic-specific Visual Perception Test_Total answers
DR2_DT – Entscheidungs-Reaktionstest_Mittlere Entscheidungszeit	DR2_DT – Decision-Reaction Test_Mean decision time
DR2_RT – Entscheidungs-Reaktionstest_Mittlere Reaktionszeit	DR2_RT – Decision-Reaction Test_Mean reaction time
DR2_DE – Entscheidungs-Reaktionstest_Anzahl Entscheidungsfehler	DR2_DE – Decision-Reaction Test_Number of decision errors
DR2_RE – Entscheidungs-Reaktionstest_Anzahl Reaktionsfehler	DR2_RE – Decision-Reaction Test_Number od reaction errors
DR2_OMI – Entscheidungs-Reaktionstest_Anzahl Ausgelassene	DR2_OMI – Decision-Reaction Test_Numbe of omitted signals
RST1_COR – Test für reaktive Belastbarkeit_Phase1_Richtige	RST1_COR – Reactive Stress Tolerance Test_Phase1_Correct
RST1_PDEL – Test für reaktive Belastbarkeit_Phase1_Prozent Verzögerte	RST1_PDEL – Reactive Stress Tolerance Test_Phase1_Percentage delayed of all correct ones
RST1_PINC – Test für reaktive Belastbarkeit_Phase1_Prozent Falsche	RST1_PINC – Reactive Stress Tolerance Test_Phase1_Percentage incorrect
RST1_OMI – Test für reaktive Belastbarkeit_Phase1_Auslassungen	RST1_OMI – Reactive Stress Tolerance Test_Phase1_Omissions
RST2_COR – Test für reaktive Belastbarkeit_Phase2__Richtige	RST2_COR – Reactive Stress Tolerance Test_Phase2_Correct
RST2_PDEL – Test für reaktive Belastbarkeit_Phase2_Prozent Verzögerte	RST2_PDEL – Reactive Stress Tolerance Test_Phase2_Percentage delayed of all correct ones
RST2_PINC – Test für reaktive Belastbarkeit_Phase2_Prozent Falsche	RST2_PINC – Reactive Stress Tolerance Test_Phase2_Percentage incorrect
RST2_OMI – Test für reaktive Belastbarkeit_Phase2_Auslassungen	RST2_OMI – Reactive Stress Tolerance Test_Phase2_Omissions
RST3_COR – Test für reaktive Belastbarkeit_Phase3_Richtige	RST3_COR – Reactive Stress Tolerance Test_Phase3_Correct
RST3_PDEL – Test für reaktive Belastbarkeit_Phase3_Prozent Verzögerte	RST3_PDEL – Reactive Stress Tolerance Test_Phase3_Percentage delayed of all correct ones
RST3_PINC – Test für reaktive Belastbarkeit_Phase3_Prozent Falsche	RST3_PINC – Reactive Stress Tolerance Test_Phase3_Percentage incorrect
RST3_OMI – Test für reaktive Belastbarkeit_Phase3_Auslassungen	RST3_OMI – Reactive Stress Tolerance Test_Phase3_Omissions
Q1_TOT – Aufmerksamkeitstest unter Monotonie_Bearbeitete	Q1_TOT – Test of Attention under montony_Total answers
Q1_PINC– Aufmerksamkeitstest unter Monotonie_Prozent Falsche	Q1_PINC – Test of Attention under monotony_Percentage incorrect
FAT_TOT – Aufmerksamkeitsflexibilitätstest_Bearbeitete	FAT_TOT – Flexibility-Attention Test_Total answers
FAT_PINC – Aufmerksamkeitsflexibilitätstest_Prozent Falsche	FAT_PINC – Flexibility-Attention Test_Percentage incorrect
SENSO_DBE – Sensomotoriktest_Dauer großer Fehler	SENSO_DBE – Sensormotor Coordination Test_Duration of big errors
SENSO_DSE – Sensomotoriktest_Dauer kleine Fehler	SENSO_DSE – Sensormotor Coordination Test_Duration of small errors
SENSO_TT – Sensomotoriktest_Gesamtzeit	SENSO_TT – Sensormotor Coordination Test_Total time
MAT_COR – Nonverbaler Intelligenztest_Bearbeitete	MAT_COR – Nonverbal Intelligence Test_Total answers
GEMAT_COR – Optischer Merkfähigkeitstest_ Bearbeitete	GEMAT_COR – Optical Memory Test_Total answers
VPT2_OS – Verkehrsbezogener Persönlichkeitstest_Offenheit der Selbstbeschreibung	VPT2_OS – Traffic-related Personality Test_Openness of self-description
VPT2_ES – Verkehrsbezogener Persönlichkeitstest_Expressivität-Selbstsicherheit	VPT2_ES – Traffic-related Personality Test_Social expressivity
VPT2_AP – Verkehrsbezogener Persönlichkeitstest_Soziale Anpassung	VPT2_AP – Traffic-related Personality Test_Social adjustment
VPT2_AS – Verkehrsbezogener Persönlichkeitstest_Emotionale Ansprechbarkeit	VPT2_AS – Traffic-related Personality Test_Emotional engagement

VPT2_SK – Verkehrsbezogener Persönlichkeitstest_Selbstkontrolle	VPT2_SK – Traffic-related Personality Test_Self control
VPT2_SR – Verkehrsbezogener Persönlichkeitstest_Selbstreflexion	VPT2_SR – Traffic-related Personality Test_Self reflection
FRF-Version – Fragebogen zur Risikobereitschaft (1...1. Version, 2...Version.2)	FRF-Version – Questionnaire Measuring Risk Proneness (1...1. Version, 2...Version.2)
FRF_1 – Fragebogen zur Risikobereitschaft_Physische Risikobereitschaft	FRF_1 – Questionnaire Measuring Risk Proneness_Physical risk proneness
FRF_2 – Fragebogen zur Risikobereitschaft_Soziale Risikobereitschaft	FRF_2 – Questionnaire Measuring Risk Proneness_Social risk proneness
FRF_3 – Fragebogen zur Risikobereitschaft_Finanzielle Risikobereitschaft	FRF_3 – Questionnaire Measuring Risk Proneness_Financial risk proneness
VIP_SE – Verkehrsspezifischer Itempool_Orientierung an sozialer Erwünschtheit	VIP_SE – Traffic-specific Itempool_Orientation at socially desired answering
VIP_US– Verkehrsspezifischer Itempool_Unkritische Selbstwahrnehmung	VIP_US – Traffic-specific Itempool_Uncritical self-perception
VIP_AI– Verkehrsspezifischer Itempool_Aggressive Interaktion mit anderen Verkehrsteilnehmern	VIP_AI – Traffic-specific Itempool_Aggressive interaction
VIP_EA– Verkehrsspezifischer Itempool_Emotionales Autofahren	VIP_EA – Traffic-specific Itempool_Emotional relation to car and driving
TAAK_DS – Testverfahren für alkoholauffällige Kraftfahrer_Alkoholspezifische Dissimulation	TAAK_DS – Test for Alcohol Conspicuous Drivers_Alcohol specific dissimulation
TAAK_ID – Testverfahren für alkoholauffällige Kraftfahrer_Alkoholspezifische Informationsdefizite	TAAK_ID – Test for Alcohol Conspicuous Drivers_Information on alcohol specific issues
TAAK_GF – Testverfahren für alkoholauffällige Kraftfahrer_Alkoholspezifisches Gefahrenbewusstsein	TAAK_GF – Test for Alcohol Conspicuous Drivers_Awareness od alcohol specific risks
TAAK_NA – Testverfahren für alkoholauffällige Kraftfahrer_Alkoholspezifische Normenakzeptanz	TAAK_NA – Test for Alcohol Conspicuous Drivers_Alcohol specific norm acceptance
TAAK_AE – Testverfahren für alkoholauffällige Kraftfahrer_Alkoholaffine Einstellungen	TAAK_AE – Test for Alcohol Conspicuous Drivers_Attitudes favouring alcohol consumption
TAAK_AU – Testverfahren für alkoholauffällige Kraftfahrer_Alkoholaffines Umfeld	TAAK_AU – Test for Alcohol Conspicuous Drivers_Influence of alcohol related environment

Description of traffic specific ART2020 system and tests

Traffic specific test device

Although many tools for this type of assessment derive from the clinical setting, specific traffic psychological test systems have been developed, such as the ART2020 (Bukasa, 1999, Bukasa & Wenninger, 2004; see the following figure).

Figure 57: The ART2020 test system

ART 2020 is based on a long term tradition in the composition of tests and test systems for different groups of traffic participants at the KfV. ART2020 is a multifunctional testing device that allows a comprehensive assessment of traffic-relevant performance and personality dimensions. It is a user-friendly, ergonomically designed device and is equipped with monitor, accelerator/brake pedal, steering wheel and peripheral displays besides several reaction buttons. It provides highly standardized and objective procedures, guarantees test fairness and objectivity (Wenninger, 2001). Multimedia assisted test instructions explain the individual task of the tests visually and acoustically which eases learning of the individual tests. More realistic response modes with enhanced user interaction, e.g. steering wheel or pedals with an acceleration and break mode are included in order to enhance user acceptance. Not only the performance tests but also the personality questionnaires are presented on the device. In general, pre-defined test batteries – according to the specific assessment question - are available. This procedure guaranties equal conditions for the offenders as well as quick and error free analyses of the test results whereby the outcomes are directly compared to a large representative sample of drivers having underwent the test procedure.

Traffic specific performance measures and tests

In the following the traffic psychological ART2020 performance test battery is described shortly.

Regarding visual perception, structuring ability is measured with the LL5 test. The test material consists of several images; each contains nine mutually intertwined lines of identical length. The task is to follow each line from start to finish under time pressure. Visual orientation is measured with the TT15 test. Several traffic situations are displayed shortly and relevant details have to be perceived in a short time. Peripheral perception is measured with the PVT test. Analogue to real-life driving, visual stimuli are moving from the periphery to the central view, some of them are relevant and have to be

stopped as early as possible by pressing a pedal. Simultaneously a tracking task has to be carried out by using a steering wheel.

Regarding attention and concentration, the Q1 test measures the concentration capacity under monotonous conditions. The test material consists of model and changing comparison figures, the latter have to be compared with the model figures by indicating, whether they are identical or different. Flexibility of attention is measured with the FAT test. Different to the Q1, the model figures change as well. Again comparisons between the model and comparison have to be carried out.

Regarding reaction capacity several aspects are tested. Speed and accuracy of reaction is measured with the DR2 test. In traffic sequences showing a city drive from the driver's perspective contain, stimuli are presented from time to time, on one of them has to be reacted This is done by leaving the foot from the right pedal and change over to the left pedal ("brake") as quick as possible. Reactive stress tolerance is measured with the RST 3 test. Different visual and acoustical signals are presented under low high and medium time pressure. Responses are made by pressing different buttons and pedals.

Coordination capacity is measured by the SENSO test. A small circular figure has to be kept within a curvy track by using a steering wheel. Phase 1 and 3 consist of self-paced speed which has to be controlled by means of a pedal with n acceleration function. Phase 2 has a default speed on a faster level.

Regarding intelligence and memory two aspects are checked: Logical reasoning is measured with the MAT test, whereby pattern of increasing difficulty have to be completed. The ability to memorize relevant information for a short time is assessed with the GEMAT test. Sets of three subsequent figures are presented and have to be memorized. By means of the multiple-choice method, the before presented figure has to be recognized out of four alternatives.

These ART2020 traffic psychological performance tools and dimensions have confirmed traffic related relevance as they were validated on offenders (e.g. Bukasa, 2000, Bukasa et al., 2003).

Traffic specific personality tests

With respect to the measurement of traffic specific personality dimensions, substance and non substance related tools are available.
The following non substance related tools are included for example in the ART2020 test system:

- VPT2 – traffic-related personality test. By means of this questionnaire social expressivity/self-confidence, social adjustment, emotional engagement, self control, self perception and self reflection is measured.
- VIP – traffic-related item pool. This questionnaire measures uncritical self-perception, aggressive interaction, emotional relationship to vehicles and driving. Moreover, a control scale for social desirable answering is included.
- FRF – questionnaire for willingness to take risks. By means of this tool, willingness to take physical, social and financial risks is assessed.

The following traffic specific personality test included in the ART2020 test system is a special substance related tool:

- TAAK – test for alcohol conspicuous drivers. It has been developed for DUI offenders measuring alcohol related dimensions on a multidimensional basis by KfV. The construction of TAAK is based on empirical results concerning differences between DUI offenders and drivers with no alcohol offences in traffic. Furthermore, long term experiences with the traffic-psychology assessment

clientele and driver rehabilitation clientele at the KfV contributed considerably not only to the test construction but also the development of a specific presentation and answering concept. The following scales are measured with TAAK (see also Bukasa, 2000):

- Attitudes favoring alcohol consumption: This scale focuses on functional drinking, subjective meaning and expected effect of alcohol (e.g. reduction of social restraints, relaxation, enhanced social competency or enhanced experience/adventure).
- Influence of alcohol related social environment: This scale refers to individually perceived peer group pressure regarding alcohol consumption as well as regarding driving under the influence of alcohol or being passenger of a drunk driver.
- Alcohol specific norm acceptance: This scale comprises attitudes towards regulations on alcohol and driving, enforcement and criteria for enforcement, e.g. with or without suspicion.
- Risk awareness related to DUI: This scale contains aspects uncritical attitudes towards DUI drivers, amongst others in case of being passenger, individually perceived low probability having an accident due to drunk driving, trust in the decision still being able to drive.
- Lack of knowledge about alcohol specific issues: This scale focuses on lack of basic knowledge regarding alcohol, i.e. absorption, the physical and psychological effect, duration of drinking and speed of break down, residual alcohol.
- Alcohol specific dissimulation: An alcohol specific dissimulation scale has been added to the above five categories in order to measure the individual tendency to answer in a social desirable way.

Methodological analyses of the TAAK confirm the reliability of the scales (.79 up to .87) as well as regarding the construct and criterion validity. Significant differences in the TAAK scales between DUI offenders and non offenders were found (Hutter, 2005).

Participating providers in data collection on the analysis of change process and components in driver rehabilitation courses

List of participating providers / organisations

Country	Name of provider / organisation
Austria	AAAV AAP fair partner Gute Fahrt INFAR KfV Sicherheit Service GmbH Kuratorium für Verkehrssicherheit sicher unterwegs 1A Sicherheit
Belgium	Belgian Road Safety Institute (Department Behaviour and Policy)
France	ANPER AUTOMOBILE-CLUB APAVE LA PREVENTION ROUTIERE FORMATION COMARIS
Germany	AFN Gesellschaft für Ausbildung, Fortbildung und Nachschulung e.V.; Nord-Kurs GmbH & Co. KG, Pluspunkt GmbH Gesellschaft für sichere Mobilität, TÜV Hessen Consulting GmbH, Dekra Akademie GmbH, Impuls GmbH, TÜV Thüringen Anlagentechnik GmbH & Co. KG, IVT Hö© Individualpsychologische Verkehrstherapie, TÜV Süd Life Service GmbH, TÜV Nord Mobilität GmbH & Co. KG, Dekra e.V. Dresden
Great Britain	Drivers SEAT DTS Alcohol Support Ltd Reform Road Safety & Education Lincolnshire Road Safety Partnership Kent Probation Service Vernon Manfield (Consultancy) Ltd dde - drink driver education TTC Gloucestershire County Council Albert Centre Devon NECA OGWR-DASH PRISM CLEARWAY
Hungary	National Transport Authority Department for Training and Examination, Central Office; Exam Supervising Unit, Central Office; Driver Testing and Drivers' Rehabilitation Unit, Regional Directorate for Dél-Dunántúl; Driver Testing and Drivers' Rehabilitation Unit, Regional Directorate for Észak-Magyarország; Driver Testing and Drivers' Rehabilitation Unit, Regional Directorate for Dél-Alföld; Driver Testing and Drivers' Rehabilitation Unit, Regional Directorate for

	Közép-Dunántúl; Drivers' Rehabilitation Unit, Regional Directorate for Közép-Magyarország; Driver Testing and Drivers' Rehabilitation Unit, Regional Directorate for Észak-Alföld; Driver Testing and Drivers' Rehabilitation Unit, Regional Directorate for Nyugat-Dunántúl; Periodical Aptitude Testing Unit, Directorate for Psychological Testing of Drivers, Pályaalkalmasság Vizsgálati Igazgatóság – Idoszakos Alkalmasságvizsgálati Osztály.
Italy	Azienda Sanitaria dell'Alto Adige - Settore di Psicologia Viaria/Medicina Legale
Netherlands	CBR
Poland	Centralny Zarząd Służby Wiezienej (Polish Prison Service)

Original questionnaire versions from the analysis of change process and components in driver rehabilitation courses

DUI original participant questionnaire – Form Total (English version) - page 1

DRUID_Participant Questionnaire_Form T_English_02_05_07

FORM T **Driver Rehabilitation - Feedback**

European Research Project on Alcohol, Drugs, Medicines and Driving

Dear Participant,

We kindly ask for your participation in this short survey about your rehabilitation course. We assure you that all your answers and statements will be handled anonymously and that they will be used for purely scientific research only.

☐ My participation in this questionnaire survey is voluntary. Date:_____

Date of the actual drink-driving offence: _____ (Month/Year); BAC level: _____ (Promille)

How was the offence detected: ☐ General traffic control ☐ Accident ☐ Others: _____

Did you have prior drinking and driving offences in the past: ☐ No ☐ Yes; if yes, please indicate for each:

1. Year: _____/Promille: _____ 2. Year: _____/Promille: _____ 3. Year: _____/Promille: _____

Did you already participate in a rehabilitation course prior to this one: ☐ No ☐ Yes; if yes, in which year: _____

DUI original participant questionnaire – Form Total (English version) - page 2

DRUID_Participant Questionnaire_Form T_English_02_05_07

Please evaluate the following statements:

	agree completely	agree mostly	disagree mostly	disagree completely
8. This course strengthened me to stick to my goals regarding drinking and driving	☐	☐	☐	☐
11. I can practically apply the contents of this course	☐	☐	☐	☐
6. Through the way the course was conducted I see some of my troubles in a different way	☐	☐	☐	☐
3. In the end I feel that the course influenced my attitude towards drinking and driving for the better	☐	☐	☐	☐
5. It strikes me now, that some of my friends drink little or no alcohol	☐	☐	☐	☐
7. I could trust my trainer	☐	☐	☐	☐
10. Through this course I have improved my ability to control my use of alcohol in relation to driving	☐	☐	☐	☐
12. The trainer helped me to make some behavioural changes	☐	☐	☐	☐
4. What other participants in the course said sometimes upset me, relieved me, or cheered me up	☐	☐	☐	☐
1. Through this course I got to know more about myself	☐	☐	☐	☐
13. When I stick to my goals regarding drinking and driving I am more content with myself	☐	☐	☐	☐
2. Now I know that I underestimated my alcohol consumption at the time of the offence	☐	☐	☐	☐
9. I have the feeling that the course influenced my drinking and driving behaviour for the better	☐	☐	☐	☐
8. The trainer encouraged me not to drive under the influence of alcohol in the future	☐	☐	☐	☐
11. The way in which the contents of this course were presented helped me to take necessary steps for change	☐	☐	☐	☐
6. Changing my drinking habits makes me feel better about myself	☐	☐	☐	☐

DUI original participant questionnaire – Form Total (English version) – page 3

DRUID_Participant Questionnaire_Form T_English_02_05_07

	agree completely	agree mostly	disagree mostly	disagree completely
5. Now I see even clearer that my alcohol consumption had negative consequences on people who are important to me	☐	☐	☐	☐
7. Other participants in the course strengthened my convictions to change my behaviour in relation to drinking and driving	☐	☐	☐	☐
10. The course supported me to avoid future situations which encourage me to drink when I have to drive	☐	☐	☐	☐
12. In the course I felt free to speak openly about my opinions and experiences with the other participants	☐	☐	☐	☐
4. The contents of the course touched me deeply	☐	☐	☐	☐
1. The course communicated important information on alcohol and driving	☐	☐	☐	☐
13. The course made it clearer to me that I can be more content with myself refusing alcohol in situations when I still have to drive	☐	☐	☐	☐
2. Now I am much more aware that alcohol impairs my driving behaviour	☐	☐	☐	☐
8. The contents of the course strengthened me not to drive under the influence of alcohol in the future	☐	☐	☐	☐
11. In the course I learned practical ways to avoid driving under the influence of alcohol in the future	☐	☐	☐	☐
6. What other participants in the course said made me think about myself as well	☐	☐	☐	☐
5. The course strengthened my conviction that it is better for my personal and professional situations to reduce my alcohol consumption	☐	☐	☐	☐
7. I experienced the trainer as a competent course leader	☐	☐	☐	☐
10. The course has been helping me to refuse alcohol in certain future situations more often	☐	☐	☐	☐
12. Through the course I learned that talking with other people can be helpful	☐	☐	☐	☐

DRUID_Participant Questionnaire_Form T_English_02_05_07

	agree completely	agree mostly	disagree mostly	disagree completely
4. The things we discussed during the course did not pertain to my personal situation.....	☐	☐	☐	☐
1. The way the course was run awoke interest in the topic.....	☐	☐	☐	☐
13. Now I spend more time with people who think it is cool that I drink less or not at all.....	☐	☐	☐	☐
2. It was purely bad luck that this drink-driving offence happened to me.....	☐	☐	☐	☐

Please give an overall evaluation of this rehabilitation course you participated in:

Very good ☐	Good ☐	Poor ☐	Very poor ☐

Please give additional information:

☐ Male ☐ Female; Age:_____

☐ Living alone ☐ Cohabiting; Inhabitants of place of residence: ☐ Below 100.000 ☐ 100.000 – 500.000 ☐ Over 500.000

Highest education level: _____ Actual occupation: _____

THANK YOU for your feed back !

DRUID_Participant Questionnaire_Form A_English_24_05_07

FORM A Driver Rehabilitation - Feedback

Dear Participant

DRUID is an EU research project on Alcohol, Drugs, Medicines and Driving. One part of this project evaluates training programmes regarding alcohol and driving (contact person for this research part in .....country.....: e-mail address).

We kindly ask for your voluntary participation in this short survey about your course; not answering does not have any negative consequences for you.
We assure you that all your answers and statements will be handled anonymously and that they will be used for purely scientific research only.

Date:_____

Date of the actual drink-driving offence: _____ (Month/Year); BAC level: _____ (Promille)

How was the offence detected: ☐ General traffic control ☐ Accident ☐ Others: _____

Did you have prior drinking and driving offences in the past: ☐ No ☐ Yes; if yes, please indicate for each:

1. Year: _____/Promille: _____ **2.** Year: _____/Promille: _____ **3.** Year: _____/Promille: _____

Did you already participate in a rehabilitation course prior to this one: ☐ No ☐ Yes; if yes, in which year: _____

DUI original participant questionnaire – Form A (English version) – page 2

DRUID_Participant Questionnaire_Form A_English_24_05_07

Please evaluate the following statements:

	agree completely	agree mostly	disagree mostly	disagree completely
This course strengthened me to stick to my goals regarding drinking and driving.....	☐	☐	☐	☐
I can practically apply some contents of this course.....	☐	☐	☐	☐
Through the way the course was conducted I see some of my troubles in a different way.....	☐	☐	☐	☐
At the end I feel that the course influenced my attitude towards drinking and driving for the better.....	☐	☐	☐	☐
It rather strikes me now, that some of my friends drink little or no alcohol.....	☐	☐	☐	☐
I could trust my course leader.....	☐	☐	☐	☐
Through this course I have improved my ability to control my use of alcohol in relation to driving.....	☐	☐	☐	☐
The course leader encouraged me to make some behavioural changes.....	☐	☐	☐	☐
What other participants in the course said was responsive to me as well.....	☐	☐	☐	☐
Through this course I got to know more about myself.....	☐	☐	☐	☐
When I stick to my goals regarding drinking and driving I am more content with myself.....	☐	☐	☐	☐
Now I know that I underestimated my alcohol consumption at the time of the offence.....	☐	☐	☐	☐
I have the feeling that the course influenced my drinking and driving behaviour for the better.....	☐	☐	☐	☐

DUI original participant questionnaire – Form A (English version) – page 3

DRUID_Participant Questionnaire_Form A_English_24_05_07

Please give an overall evaluation of this rehabilitation course you participated in:

Very good ☐ Good ☐ Poor ☐ Very poor ☐

Please give additional information:

Which driving license(s) have you made:

☐ A (Motorcycle) ☐ B (Passenger car) ☐ C (Lorry) ☐ D (Bus)

Are you within the license on probation period: ☐ Yes ☐ No

☐ Male ☐ Female; Age:_____

☐ Living alone ☐ Cohabiting; Inhabitants of place of residence: ☐ Below 100.000 ☐ 100.000 – 500.000 ☐ Over 500.000

Highest education level: _____ Actual occupation: _____

THANK YOU for your feed back !

FORM B Driver Rehabilitation - Feedback

Dear Participant

DRUID is an EU research project on Alcohol, Drugs, Medicines and Driving. One part of this project evaluates training programmes regarding alcohol and driving (contact person for this research part in .....country.....: e-mail address).

We kindly ask for your voluntary participation in this short survey about your course; not answering does not have any negative consequences for you.
We assure you that all your answers and statements will be handled anonymously and that they will be used for purely scientific research only.

Date: _____

Date of the actual drink-driving offence: _____ (Month/Year); BAC level: _____ (Promille)

How was the offence detected: ☐ General traffic control ☐ Accident ☐ Others:_____

Did you have prior drink-driving offences in the past: ☐ No ☐ Yes; if yes, please indicate:

1. Year: _____/Promille: _____ **2.** Year: _____/Promille: _____ **3.** Year: _____/Promille: _____

Did you already participate in a rehabilitation course prior to this one: ☐ No ☐ Yes; if yes, in which year: _____

DUI original participant questionnaire – Form B (English version) – page 2

DRUID_Participant Questionnaire_Form B_English_24_05_07

Please evaluate the following statements:

	agree completely	agree mostly	disagree mostly	disagree completely
The course leader encouraged me not to drive under the influence of alcohol in the future	☐	☐	☐	☐
The way in which the course was conducted helped me to take necessary steps for change	☐	☐	☐	☐
Changing my drinking habits makes me feel better about myself	☐	☐	☐	☐
At the end I feel that the course influenced my attitude towards drinking and driving for the better	☐	☐	☐	☐
Now I see even clearer that my alcohol consumption had negative consequences on people who are important to me	☐	☐	☐	☐
Other participants in the course strengthened my conviction to change my behaviour in relation to drinking and driving	☐	☐	☐	☐
The course supported me to avoid future situations which encourage me to drink when I have to drive	☐	☐	☐	☐
In the course I felt free to speak openly about my opinions and experiences with the other participants	☐	☐	☐	☐
The contents of the course touched me personally	☐	☐	☐	☐
The course communicated important information on alcohol and driving	☐	☐	☐	☐
The course made it clear to me that I can be more content with myself refusing alcohol in situations when I still have to drive	☐	☐	☐	☐
Now I am much more aware that alcohol impairs my driving behaviour	☐	☐	☐	☐
I have the feeling that the course influenced my drinking and driving behaviour for the better	☐	☐	☐	☐

DUI original participant questionnaire – Form B (English version) – page 3

DRUID_Participant Questionnaire_Form B_English_24_05_07

Please give an overall evaluation of this rehabilitation course you participated in:

Very good ☐ Good ☐ Poor ☐ Very poor ☐

Please give additional information:

Which driving license(s) have you made:

☐ A (Motorcycle) ☐ B (Passenger car) ☐ C (Lorry) ☐ D (Bus)

Are you within the license on probation period: ☐ Yes ☐ No

☐ Male ☐ Female; Age:_____

☐ Living alone ☐ Cohabiting; Inhabitants of place of residence: ☐ Below 100.000 ☐ 100.000 – 500.000 ☐ Over 500.000

Highest education level: _____ Actual occupation: _____

THANK YOU for your feed back !

FORM C Driver Rehabilitation - Feedback

Dear Participant

DRUID is an EU research project on Alcohol, Drugs, Medicines and Driving. One part of this project evaluates training programmes regarding alcohol and driving (contact person for this research part in .....country.....: e-mail address).

We kindly ask for your voluntary participation in this short survey about your course; not answering does not have any negative consequences for you.
We assure you that all your answers and statements will be handled anonymously and that they will be used for purely scientific research only.

Date: _____

Date of the actual drink-driving offence: _____ (Month/Year); BAC level: _____ (Promille)

How was the offence detected: ☐ General traffic control ☐ Accident ☐ Others: _____

Did you have prior drink-driving offences in the past: ☐ No ☐ Yes; if yes, please indicate:

1. Year: _____/Promille: _____ 2. Year: _____/Promille: _____ 3. Year: _____/Promille: _____

Did you already participate in a rehabilitation course prior to this one: ☐ No ☐ Yes; if yes, in which year: _____

DUI original participant questionnaire – Form C (English version) – page 2

DRUID_Participant Questionnaire_Form C_English_24_05_07

Please evaluate the following statements:

	agree completely	agree mostly	disagree mostly	disagree completely
The contents of the course strengthened me not to drive under the influence of alcohol in the future.....	☐	☐	☐	☐
In the course I learned practical ways to avoid driving under the influence of alcohol in the future.....	☐	☐	☐	☐
What other participants in the course said made me think about myself as well.....	☐	☐	☐	☐
At the end I feel that the course influenced my attitude towards drinking and driving for the better.....	☐	☐	☐	☐
The course strengthened my conviction that it is better for my personal and professional situation to reduce my alcohol consumption.....	☐	☐	☐	☐
I experienced the trainer as a competent course leader.....	☐	☐	☐	☐
The course has been helping me to refuse alcohol in future more often.....	☐	☐	☐	☐
Through the course I learned that talking with other people can be helpful.....	☐	☐	☐	☐
The things we discussed during the course did not pertain to my personal situation.....	☐	☐	☐	☐
The way the course was run awoke interest in the topic.....	☐	☐	☐	☐
Now I spend more time with people who think it is positive that I drink less or no alcohol at all.....	☐	☐	☐	☐
It was purely bad luck that this drink-driving offence happened to me.....	☐	☐	☐	☐
I have the feeling that the course influenced my drinking and driving for the better.....	☐	☐	☐	☐

DUI original participant questionnaire – Form C (English version) – page 3

DRUID_Participant Questionnaire_Form C_English_24_05_07

Please give an overall evaluation of this rehabilitation course you participated in:

Very good ☐ Good ☐ Poor ☐ Very poor ☐

Please give additional information:

Which driving license(s) have you made:

☐ A (Motorcycle) ☐ B (Passenger car) ☐ C (Lorry) ☐ D (Bus)

Are you within the license on probation period: ☐ Yes ☐ No

☐ Male ☐ Female; Age:_____

☐ Living alone ☐ Cohabiting; Inhabitants of place of residence: ☐ Below 100.000 ☐ 100.000 – 500.000 ☐ Over 500.000

Highest education level: _____ Actual occupation: _____

THANK YOU for your feed back !

FORM A - D Driver Rehabilitation - Feedback

Dear Participant

DRUID is an EU research project on Alcohol, Drugs, Medicines and Driving. One part of this project evaluates driver rehabilitation programmes for drugs and driving (contact person for this research in Germany: simone.klipp@bast.de).

We kindly ask you to volunteer to take part in this study by completing this short questionnaire about your course. Your decision not to complete this questionnaire will not have any negative consequences for you. We assure you that all your answers and statements will be handled anonymously and that they will be used for purely scientific research only.

Today's date:_____

Date of the current drug offence: _____ (Month/Year)

Kind of substance(s): ☐ Marihuana/Cannabis ☐ Heroine ☐ Cocaine ☐ Ecstasy ☐ Speed ☐ LSD ☐ Other _____

Did you had a drug offence in traffic:

☐ No ☐ Yes; under the following conditions: ☐; General traffic control ☐ Accident; ☐ Other:_____

Did you had any previous drug and driving convictions:

☐ No ☐ Yes; when and due to which substances 1.Offence: Year: _____ Substance(s)_____
2.Offence: Year:_____ Substance(s)_____

Did you attend a driver rehabilitation course prior to this one: ☐ No ☐ Yes, due to the following reason:
☐ Drugs ☐ Alcohol ☐ Other:_____; Please indicate the year:_____

DUID original participant questionnaire – Form A – D (English version) – page 2

DRUID_Participant Questionnaire_Form A_Drugs_English_for deliverable

For each of the following statements please tick one box showing how much you agree or disagree:

	completely agree	mostly agree	mostly disagree	completely disagree
This course gave me the strength to stick to my goals regarding drugs and driving	☐	☐	☐	☐
I can apply some contents of this course in practice	☐	☐	☐	☐
Because of the way the course was conducted I see some of my problems in a different way	☐	☐	☐	☐
Now that I am at the end of the course I feel that the course influenced my attitude towards drugs and driving	☐	☐	☐	☐
I now realise more if friends don't take drugs	☐	☐	☐	☐
I could trust my course trainer	☐	☐	☐	☐
Because of this course I improved my ability to control my behaviour related to drugs	☐	☐	☐	☐
The course trainer encouraged me to change some of my behaviour	☐	☐	☐	☐
What other participants in the course said moved me as well	☐	☐	☐	☐
Through this course I got to know more about myself	☐	☐	☐	☐
When I stick to my goals regarding my drug consumption I am more content with myself	☐	☐	☐	☐
Now I know that I underestimated my drug consumption at the time of the offence	☐	☐	☐	☐
I believe that the course influenced my behaviour regarding drug consumption	☐	☐	☐	☐

DUID original participant questionnaire – Form A –D (English version) – page 3

DRUID_Participant Questionnaire_Form A_Drugs_English_for deliverable

Please give an overall mark for your course:

Very good ☐ Good ☐ Poor ☐ Very poor ☐

Please provide the following additional information:

Which driving license(s) you hold:

☐ A (Motorcycle) ☐ B (Passenger car) ☐ C (Lorry) ☐ D (Bus)

Do you hold a license on probation: ☐ Yes ☐ No

Are you:

☐ Male ☐ Female; Age:_____

☐ Living alone ☐ Cohabiting or married/civil partnership;

What is the population of the village/town/city you live in: ☐ Below 100.000 ☐ 100.000 – 500.000 ☐ Over 500.000

Highest educational qualification: _____ Current occupation: _____

THANK YOU for your feedback !

DUID original participant questionnaire – Form B – D (English version) – page 1

DRUID_Participant Questionnaire_Form B_Drugs_English_for deliverable

DRUID

FORM B - D Driver Rehabilitation - Feedback

Dear Participant

DRUID is an EU research project on Alcohol, Drugs, Medicines and Driving. One part of this project evaluates driver rehabilitation programmes for drugs and driving (contact person for this research in Germany: simone.klipp@bast.de).

We kindly ask you to volunteer to take part in this study by completing this short questionnaire about your course. Your decision not to complete this questionnaire will not have any negative consequences for you. We assure you that all your answers and statements will be handled anonymously and that they will be used for purely scientific research only.

Today's date:_____

Date of the current drug offence:_____ (Month/Year)

Kind of substance(s): ☐ Marihuana/Cannabis ☐ Heroine ☐ Cocaine ☐ Ecstasy ☐ Speed ☐ LSD ☐ Other_____

Did you had a drug offence in traffic:

☐ No ☐ Yes; under the following conditions: ☐; General traffic control ☐ Accident; ☐ Other:_____

Did you had any previous drug and driving convictions:

☐ No ☐ Yes; when and due to which substances 1.Offence: Year:_____Substance(s)_____
2.Offence: Year:_____Substance(s)_____

Did you attend a driver rehabilitation course prior to this one: ☐ No ☐ Yes, due to the following reason:
☐ Drugs ☐ Alcohol ☐ Other:_____; Please indicate the year._____

DUID original participant questionnaire – Form B – D (English version) – page 2

DRUID_Participant Questionnaire_Form B_Drugs_English_for deliverable

Please evaluate the following statements:

	agree completely	agree mostly	disagree mostly	disagree completely
The course trainer encouraged me not to drive under the influence of drugs in the future	☐	☐	☐	☐
The way in which the course was conducted helped me to take the necessary steps for change	☐	☐	☐	☐
Changing my drug consumption makes me feel better about myself	☐	☐	☐	☐
Now that I am at the end of the course I believe that the course influenced my attitude towards drugs and driving	☐	☐	☐	☐
I now see even clearer that my drug consumption had also negative consequences on people who are important to me	☐	☐	☐	☐
Other participants in the course strengthened my determination to change my behaviour in relation to drugs	☐	☐	☐	☐
The course supported me in avoiding future situations which encourage me to take drugs	☐	☐	☐	☐
During the course I felt free to speak openly with the other participants about my opinions and experiences	☐	☐	☐	☐
The contents of the course moved me	☐	☐	☐	☐
The course provided me with important information on drugs and driving	☐	☐	☐	☐
The course made me realise that I can be more content refusing drugs	☐	☐	☐	☐
I am now much more aware that drugs impair my driving behaviour	☐	☐	☐	☐
I believe that the course influenced my behaviour regarding drug consumption	☐	☐	☐	☐

DUID original participant questionnaire – Form B – D (English version) – page 3

DRUID_Participant Questionnaire_Form B_Drugs_English_for deliverable

Please give an overall mark for your course:

Very good ☐ Good ☐ Poor ☐ Very poor ☐

Please provide the following additional information:

Which driving license(s) you hold:

☐ A (Motorcycle) ☐ B (Passenger car) ☐ C (Lorry) ☐ D (Bus)

Do you hold a license on probation: ☐ Yes ☐ No

Are you:

☐ Male ☐ Female; Age:_____

☐ Living alone ☐ Cohabiting or married/civil partnership;

What is the population of the village/town/city you live in: ☐ Below 100.000 ☐ 100.000 – 500.000 ☐ Over 500.000

Highest educational qualification: _____ Current occupation: _____

THANK YOU for your feedback !

FORM C - D Driver Rehabilitation - Feedback

Dear Participant

DRUID is an EU research project on Alcohol, Drugs, Medicines and Driving. One part of this project evaluates driver rehabilitation programmes for drugs and driving (contact person for this research in Germany: simone.klipp@bast.de).

We kindly ask you to volunteer to take part in this study by completing this short questionnaire about your course. Your decision not to complete this questionnaire will not have any negative consequences for you. We assure you that all your answers and statements will be handled anonymously and that they will be used for purely scientific research only.

Today's date:_____

Date of the current drug offence: _____ (Month/Year)

Kind of substance(s): ☐ Marihuana/Cannabis ☐ Heroine ☐ Cocaine ☐ Ecstasy ☐ Speed ☐ LSD ☐ Other _____

Did you had a drug offence in traffic:

☐ No ☐ Yes; under the following conditions: ☐; General traffic control ☐ Accident; ☐ Other:_____

Did you had any previous drug and driving convictions:

☐ No ☐ Yes; when and due to which substances 1.Offence: Year: _____Substance(s)_____
2.Offence: Year:_____Substance(s)_____

Did you attend a driver rehabilitation course prior to this one: ☐ No ☐ Yes, due to the following reason:
☐ Drugs ☐ Alcohol ☐ Other:_____; Please indicate the year:_____

DUID original participant questionnaire – Form C – D (English version) – page 2

DRUID_Participant Questionnaire_Form C_Drugs_English_for deliverable

Please evaluate the following statements:

	agree completely	agree mostly	disagree mostly	disagree completely
The contents of the course gave me the strength to not drive under the influence of drugs in the future	☐	☐	☐	☐
During the course I learned practical ways to avoid driving under the influence of drugs in the future	☐	☐	☐	☐
What other participants in the course said made me think about myself as well	☐	☐	☐	☐
Now that I am at the end of the course I feel that the course influenced my attitude towards drugs and driving	☐	☐	☐	☐
The course strengthened my conviction that it is better for my situation to make changes regarding my drug consumption	☐	☐	☐	☐
I experienced the trainer as competent course leader	☐	☐	☐	☐
The course has helped me to be able to refuse drugs in future	☐	☐	☐	☐
Through the course I learned that talking with other people can be helpful	☐	☐	☐	☐
The things we discussed during the course were not relevant to my personal situation	☐	☐	☐	☐
The way the course was run made the topic interesting for me	☐	☐	☐	☐
I now spend more time with people who think that it is good if I don't take drugs	☐	☐	☐	☐
It was purely bad luck that I was convicted of drug-driving	☐	☐	☐	☐
I believe that the course influenced my behaviour regarding drug consumption	☐	☐	☐	☐

DUID original participant questionnaire – Form C – D (English version) – page 3

DRUID_Participant Questionnaire_Form C_Drugs_English_for deliverable

Please give an overall mark for your course:

Very good ☐ Good ☐ Poor ☐ Very poor ☐

Please provide the following additional information:

Which driving license(s) you hold:

☐ A (Motorcycle) ☐ B (Passenger car) ☐ C (Lorry) ☐ D (Bus)

Do you hold a license on probation: ☐ Yes ☐ No

Are you:

☐ Male ☐ Female; Age:_____

☐ Living alone ☐ Cohabiting or married/civil partnership;

What is the population of the village/town/city you live in: ☐ Below 100.000 ☐ 100.000 – 500.000 ☐ Over 500.000

Highest educational qualification: _____ Current occupation: _____

THANK YOU for your feedback !

TTM - Kognitive affektive Prozesse	Itemreihenfolge in Endversionen
consciousness raising	
1a Through this course I got to know more about myself.	Item 10; Form A
1a Durch den Kurs habe ich mehr über mich erfahren.	
1a-D Durch den Kurs habe ich mehr über mich erfahren.	
1b The course communicated important information on alcohol and driving.	Item 10; Form B
1b Der Kurs hat mir wichtige Informationen über Alkohol und Fahren vermittelt.	
1b-D Der Kurs hat mir wichtige Informationen über Drogen und Fahren vermittelt.	
1c The way the course was run awoke interest in the topic.	Item 10; Form C
1c Die Art, wie der Kurs abgelaufen ist, hat mein Interesse am Thema geweckt.	
1c-D Die Art, wie der Kurs abgelaufen ist, hat mein Interesse am Thema geweckt.	
2a Now I know that I underestimated my alcohol consumption at the time of the offence.	Item 12; Form A
2a Jetzt weiß ich, dass ich meinen Alkoholkonsum zum Zeitpunkt des Vorfalls unterschätzt habe.	
2a-D Jetzt weiß ich, dass ich meinen Drogenkonsum zum Zeitpunkt des Vorfalls unterschätzt habe.	
2b Now I am much more aware that alcohol impairs my driving behaviour.	Item 12; Form B
2b Mir ist jetzt deutlicher bewusst, dass Alkohol mein Fahrverhalten verschlechtert.	
2b-D Mir ist jetzt deutlicher bewusst, dass Drogen mein Fahrverhalten verschlechtern.	
2c It was purely bad luck that the drink-driving offence happened to me.	Item 12; Form C
2c Es war reines Pech, dass mir dieser Alkoholvorfall passiert ist.	
2c-D Es war reines Pech, dass mir dieser Drogenvorfall passiert ist.	

3 At the end I feel that the course influenced my attitude towards drinking and driving for the better.	Item 4; Form A, B, C
3 Am Ende habe ich das Gefühl, dass der Kurs meine Einstellung zu Alkohol am Steuer positiv beeinflusst hat.	
3-D Am Ende habe ich das Gefühl, dass der Kurs meine Einstellung zu Drogen und Autofahren beeinflusst hat.	
dramatic relief	
4a What other participants in the course said was responsive to me as well.	Item 9; Form A
4a Was andere Kursteilnehmer gesagt haben, hat mich auch persönlich angesprochen.	
4a-D Was andere Kursteilnehmer gesagt haben, hat mich auch persönlich angesprochen.	
4b The contents of the course touched me personally.	Item 9; Form B
4b Die Kursinhalte haben mich angesprochen.	
4b-D Die Kursinhalte haben mich angesprochen.	
4c The things we discussed during the course did not pertain to my personal situation.	Item 9; Form C
4c Was im Kurs besprochen wurde, hat meine Situation nicht betroffen.	
4c-D Was im Kurs besprochen wurde, hat meine Situation nicht betroffen.	
environmental re-evaluation	
5a It rather strikes me now, that some of my friends drink little or no alcohol.	Item 5; Form A
5a Es fällt mir nun eher auf, dass einige meiner Bekannten wenig oder gar keinen Alkohol trinken.	
5a-D Es fällt mir nun eher auf, wenn Bekannte keine Drogen nehmen.	
5b Now I see even clearer that my alcohol consumption had negative consequences on people who are important to me.	Item 5; Form B
5b Ich sehe jetzt noch deutlicher, dass mein Alkoholkonsum negativ für Personen war, die mir wichtig sind.	

5b-D Ich sehe jetzt noch deutlicher, dass mein Drogenkonsum auch negativ für Personen war, die mir wichtig sind.	
5c The course strengthened my conviction that it is better for my personal and professional situations to reduce my alcohol consumption.	Item 5; Form C
5c Der Kurs hat meine Überzeugung gestärkt, dass es für meine private und berufliche Situation besser ist, meinen Alkoholkonsum zu reduzieren.	
5c-D Der Kurs hat meine Überzeugung gestärkt, dass es für meine Situation besser ist, meinen Drogenkonsum zu ändern.	
Self re-evaluation	
6a Through the way the course was conducted I see some of my troubles in a different way.	Item 3; Form A
6a Durch die Art wie der Kurs abgelaufen ist, erscheinen wir einige meiner Schwierigkeiten in neuem Licht.	
6a-D Durch die Art wie der Kurs abgelaufen ist, erscheinen mir einige meiner Schwierigkeiten in neuem Licht.	
6b Changing my drinking habits makes me feel better about myself.	Item 3; Form B
6b Meine Trinkgewohnheiten zu ändern, trägt dazu bei, dass ich mich besser fühle.	
6b-D Meinen Umgang mit Drogen zu ändern, trägt dazu bei, dass ich mich besser fühle.	
6c What other participants in the course said made me think about myself as well.	Item 3; Form C
6c Was andere Teilnehmer während des Kurses gesagt haben, hat dazu geführt, dass ich auch über mich nachgedacht habe.	
6c-D Was andere Teilnehmer während des Kurses gesagt haben, hat dazu geführt, dass ich auch über mich nachgedacht habe.	
social liberation	
7a I could trust my course leader.	Item 6; Form A
7a Ich konnte meinem Kursleiter/meiner Kursleiterin vertrauen.	

7a-D Ich konnte meinem Kursleiter/meiner Kursleiterin vertrauen.	
7b Other participants in the course strengthened my conviction to change my behaviour in relation to drinking and driving.	Item 6; Form B
7b Durch die anderen Kursteilnehmer wurde meine Überzeugung gestärkt, mein Verhalten im Umgang mit Alkohol und Fahren zu ändern.	
7b-D Durch die anderen Kursteilnehmer wurde meine Überzeugung gestärkt, meinen Umgang mit Drogen zu ändern.	
7c I experienced the trainer as a competent course leader.	Item 6; Form C
7c Ich habe den Trainer/die Trainerin als professionellen Kursleiter erlebt.	
7c-D Ich habe den Trainer/die Trainerin als professionellen Kursleiter erlebt.	
TTM - Verhaltensorientierte Prozesse	
self -liberation	
8a This course strengthened me to stick to my goals regarding drinking and driving.	Item 1; Form A
8a Der Kurs hat mich gestärkt, meine Vorsätze zu Alkohol und Autofahren einzuhalten.	
8a-D Der Kurs hat mich gestärkt, meine Vorsätze zu Drogen und Autofahren einzuhalten.	
8b The course leader encouraged me not to drive under the influence of alcohol in future.	Item 1; Form B
8b Der Kursleiter/die Kursleiterin hat mich bekräftigt, künftig nicht mehr alkoholisiert zu fahren.	
8b-D Der Kursleiter/die Kursleiterin hat mich bekräftigt, künftig nicht mehr unter Drogeneinfluss zu fahren.	
8c The contents of the course strengthened me not to drive under the influence of alcohol in future.	Item 1; Form C
8c Durch die Kursinhalte bin ich motiviert worden, in Zukunft nicht mehr alkoholisiert zu fahren.	
8c-D Durch die Kursinhalte bin ich motiviert worden, in Zukunft nicht mehr unter Drogeneinfluss zu fahren.	
9 I have the feeling that the course influenced my drinking and driving behaviour for the better.	Item 13; Form A, B, C

9 Ich habe das Gefühl, dass der Kurs mein Verhalten in Bezug auf Alkohol und Fahren positiv beeinflusst hat.	
9-D Ich habe das Gefühl, dass der Kurs mein Verhalten in Bezug auf meinen Drogenkonsum beeinflusst hat.	
stimulus control	
10a Through this course I have improved my ability to control my use of alcohol in relation to driving.	Item 7; Form A
10a Durch den Kurs kann ich meinen Alkoholkonsum in Bezug auf das Autofahren besser kontrollieren.	
10a-D Durch den Kurs kann ich mein Verhalten in Bezug auf Drogen besser kontrollieren.	
10b The course supported me to avoid future situations which encourage me to drink when I have to drive.	Item 7; Form B
10b Der Kurs hat mich unterstützt, künftig Trinkanlässen aus dem Weg zu gehen, wenn ich selbst fahre.	
10b-D Der Kurs hat mich unterstützt, künftig Anlässen, bei denen ich Drogen konsumieren würde, aus dem Weg zu gehen.	
10c The course has been helping me to refuse alcohol in future more often.	Item 7; Form C
10c Der Kurs hat mir geholfen, in Zukunft Alkohol öfters abzulehnen.	
10c-D Der Kurs hat mir geholfen, in Zukunft Drogen abzulehnen.	
counter-conditioning	
11a I can practically apply some contents of this course.	Item 2; Form A
11a Einige Kursinhalte kann ich praktisch umsetzen.	
11a-D Einige Kursinhalte kann ich praktisch umsetzen.	
11b The way in which the course was conducted helped me to take necessary steps for change.	Item 2; Form B

11b Wie der Kurs abgehalten wurde, hat mich unterstützt, nötige Schritte zur Veränderung zu machen.	
11b-D Wie der Kurs abgehalten wurde, hat mich unterstützt, nötige Schritte zur Veränderung zu machen.	
11c In the course I learned practical ways to avoid driving under the influence of alcohol in future.	Item 2; Form C
11c Im Kurs habe ich praktische Möglichkeiten gelernt, um künftig nicht mehr alkoholisiert zu fahren.	
11c-D Im Kurs habe ich praktische Möglichkeiten gelernt, um künftig nicht mehr unter Drogeneinfluss zu fahren.	
helping relationships	
12a The trainer helped me to make some behavioural changes.	Item 8; Form A
12a Der Kursleiter/die Kursleiterin hat mich bestärkt, etwas in meinem Verhalten zu ändern.	
12a-D Der Kursleiter/die Kursleiterin hat mich bestärkt, etwas in meinem Verhalten zu ändern.	
12b In the course I felt free to speak openly about my opinions and experiences with the other participants.	Item 8; Form B
12b Im Kurs konnte ich meine Meinungen und Erfahrungen gegenüber den anderen Teilnehmern offen äußern.	
12b-D Im Kurs konnte ich meine Meinungen und Erfahrungen gegenüber den anderen Teilnehmern offen äußern.	
12c Through the course I learned that talking with other people can be helpful.	Item 8; Form C
12c Durch den Kurs habe ich bemerkt, dass Gespräche mit anderen Leuten hilfreich sein können.	
12c-D Durch den Kurs habe ich bemerkt, dass Gespräche mit anderen Leuten hilfreich sein können.	
Reinforcement management	

13a When I stick to my goals regarding drinking and driving I am more content with myself.	Item 11; Form A
13a Wenn ich meine Vorsätze im Zusammenhang mit Trinken und Fahren beibehalten kann, bin ich zufriedener mit mir.	
13a-D Wenn ich meine Vorsätze im Zusammenhang mit meinem Drogenkonsum beibehalten kann, bin ich zufriedener mit mir.	
13b The course made it clearer to me that I can be more content with myself refusing alcohol in situations when I still have to drive.	Item 11; Form B
13b Der Kurs hat mir deutlich gemacht, dass ich mit mir zufriedener sein kann, wenn ich in Situationen Alkohol ablehne, weil ich noch fahren muss.	
13b-D Der Kurs hat mir deutlich gemacht, dass ich mit mir zufriedener sein kann, wenn ich Drogen ablehne.	
13c Now I spend more time with people who think it is positive that I drink less or no alcohol at all.	Item 11; Form C
13c Jetzt verbringe ich mehr Zeit mit Leuten, die es gut finden, wenn ich weniger oder keinen Alkohol trinke.	
13c-D Jetzt verbringe ich mehr Zeit mit Leuten, die es gut finden, wenn ich keine Drogen nehme.	

Information for course providers on the analysis of change process and components in driver rehabilitation, called feedback study with participants of DR courses (in German) – page 1

Driving under the Influence of Alcohol, Drugs and Medicines
Workpackage 5 (Rehabilitation)

Proj. No. TREN-05-FP6TR-S07.61320-518404-DRUID

02.07.2007

Betr: Information zur Feedback-Studie mit Teilnehmern aus Nachschulungskursen im Rahmen des EU-Projekts DRUID

Liebe Kollegin, lieber Kollege !

Das DRUID Team, Workpackage (WP) 5 freut sich über Deine/Ihre Beteiligung an der Teilnehmer Feedback Studie Deiner/Ihrer Nachschulungsstelle. Wie telefonisch vorangekündigt, werden nunmehr die Unterlagen zur Befragung übermittelt. Nachstehend dazu nochmals die wichtigsten Infos:

EU-Projekt DRUID und WP 5

Das EU-Projekt DRUID befasst sich mit dem Problem des Lenkens von Kraftfahrzeugen unter dem Einfluss von psychoaktiven Substanzen (siehe auch http://www.druid-project.com/). Ziel dieses interdisziplinären Forschungsprojekts ist, die wissenschaftlichen Grundlagen für die künftige EU-Verkehrspolitik in diesem Bereich zu schaffen.

WP 5 ist eines der insgesamt sieben Workpackages, das sich mit der Frage der Rehabilitation von Lenkern nach Alkohol- oder Drogendelikten im Straßenverkehr befasst. Das Kuratorium für Verkehrssicherheit (KfV), vertreten durch meine Person (Birgit Bukasa) hat in WP 5 die Leitung inne. Weitere Partner in diesem WP sind die Bundesanstalt für Straßenwesen (BASt) sowie das Institut für Therapieforschung (IFT) in Deutschland, das National Institute for Transport und Safety Research (INRETS) in Frankreich, das Institut Belge pour la Sécurité Routière (IBSR) in Belgien sowie das Centre for Research and Technology Hellas in Griechenland.

Die WP 5-Forschungsaktivitäten umfassen im ersten Schritt eine Ist-Standerhebung. Diese beinhaltet neben Literaturanalysen und Befragungen der Nachschulungs- und Begutachtungsanbieter im EU-Raum auch empirische Analysen über die Wirksamkeit der Kurse. Zu letzterem werden die am KfV ab 2002 nachgeschulten Kurswiederholer, von denen auch VPUs vorliegen, analysiert. Zusätzlich wird eine Feedbackstudie mit Kursteilnehmern durchgeführt, diese in zahlreichen ermächtigten Stellen und EU-Ländern. Im zweiten Schritt der WP5-Forschungsaktivitäten wird dann auf Basis des Ist-Stands ein Evaluationsinstrument für *good practises* entwickelt, um bestehende Nachschulungsschemata daran zu evaluieren. Aus diesem Grund ist es wichtig, dass alle ermächtigten Nachschulungsstellen

1

Information for course providers on the analysis of change process and components in driver rehabilitation, called feedback study with participants of DR courses (in German) – page 2

mitmachen. Den Abschluss bilden Empfehlungen für geeignete Nachschulungsverfahren bei Alkohol- und Drogenlenkern im EU-Raum.

Feedback Studie mit Nachschulungsteilnehmern von Alkohol-Gruppenkursen

Theoretisches Konzept

Im Zentrum der Nachschulungsteilnehmer Feedback Studie steht der Veränderungsprozess. Dafür wurde das im Gesundheitsbereich bekannte und wissenschaftlich abgesicherte TTM - Transtheoretische Modell der Veränderung (Prochaska & DiClemente, 1983) herangezogen. Als wichtigste Einflussfaktoren auf den Veränderungsprozess, der sich auf der obersten Ebene in kognitiv-affektive und verhaltensbezogene Prozesse untergliedern lässt, wurden bei den Nachschulungen das Individuum, die Methode, die Inhalte, die Teilnehmer/Teilnehmer-Beziehung, die Teilnehmer/Trainer-Beziehung berücksichtigt. Die Items des Teilnehmer Feedback Fragebogen beziehen sich unmittelbar auf diese Veränderungsstufen bzw. Subkategorien davon sowie auf diese fünf Veränderungsdeterminanten. Aufgrund der Zuordnung der Fragen (Items) zu den TTM-Veränderungsstufen ist die einmalige Vorgabe möglich und kann eine Vorher-Nachher Erhebung entfallen.

Umsetzung

Um die Belastung für die Kursteilnehmer so gering wie möglich zu halten, wurden für den nachschulungsspezifischen TTM-Prozess einfach Fragen bzw. Statements formuliert, die mittels *multiple choice* (vier Antwortalternativen) zu beantworten sind. Außerdem wurde der Fragebogen in 3 inhaltsanaloge Formen (Form A, B, und C) unterteilt, so dass jeder Kursteilnehmer nur 13 TTM-Fragen zu beantworten hat, zusätzlich zu einigen wenigen anlassbezogenen und soziodemographischen Daten, die nach ANDREA und anderen Evaluationsstudien bedeutsam sind. Die Zeit für das Ausfüllen einer Form beträgt 5 bis höchstens 10 min.

Die Datenerhebung erstreckt sich von Juli – Dezember 2007, wobei innerhalb dieses Zeitraums möglichst viele Kurse einbezogen werden sollten. Hinsichtlich der Repräsentativität sollte die Erhebung auch örtlich gestreut werden, d.h. nicht nur Wien, sondern auch in Landes- und Regionalstellen.

Ethische Unbedenklichkeit und Datenschutz

Gemäß den EU-Richtlinien wurde für die Durchführung dieser Teilnehmer Feedback Studie das *ethical approval* einer dafür geeigneten nationalen Einrichtung eingeholt, und zwar von der SFU (Sigmund Freud Universität, Prof.Guttmann). Dies beinhaltet im Wesentlichen, dass für die Kursteilnehmer die Teilnahme freiwillig und völlig anonym ist und dass die Daten ausschließlich für wissenschaftliche Zwecke verwendet werden. Für die durchführenden Nachschulungsstellen ist gewährleistet, dass weder die Stelle, noch der Kursleiter/die Kursleiterin des jeweiligen Kurses erfasst werden. Die Kursteilnehmer geben ihre ausgefüllten Bögen in ein Kuvert, das sie selbst verschließen. Die verschlossenen Umschläge werden von der Stelle bis Jahresende gesammelt und dann direkt an die unabhängige Fa. EPS - Empirische Sozialforschung, statistisches Consulting und statistische Auswertungen (Adresse: EPS, Schilfweg 19, 7100 Neusiedl) geschickt, die die Auswertung durchführen wird.

Praktische Vorgehensweise bei der Teilnehmer Feedback Studie

Der Teilnehmerfeedbackbogen liegt in den drei inhaltsanalogen Formen A, B und C vor. Er wird von dem Kursleiter/der Kursleiterin ca. 15 min. vor Abschluss der letzten

2

Information for course providers on the analysis of change process and components in driver rehabilitation, called feedback study with participants of DR courses (in German) – page 3

Kurssitzung (d.h. bei erstmals Nachgeschulten in der letzten Gruppensitzung und bei Kurswiederholern am Ende des Zusatzgesprächs) ausgeteilt. Dabei sollten pro Kurs und Teilnehmer die Formen A, B und C zahlenmäßig möglichst gleich verteilt ausgegeben werden, gemeinsam mit dem DRUID-Umschlag. Nach den Ergebnissen von Vortests macht die Beantwortung den Kursteilnehmern keine Schwierigkeiten. Gegebenenfalls könnte von einem Kursteilnehmer, der zwar recht gut Deutsch sprechen kann, aber schriftlich doch gewisse Schwächen hat, nachgefragt werden, was eventuell ein Wort oder eine Frage bedeutet. In einem kurzen Leitfaden für die KursleiterInnen werden diese über die wichtigsten Punkte für die Durchführung informiert (Leitfaden_KursleiterInnen_DRUID_WP5_Feedback_Studie.doc). Den Leitfaden bitte in der ermächtigten Stelle den KursleiterInnen als Unterstützung zur standardisierten Vorgehensweise zur Verfügung stellen. Festzuhalten ist, dass die Vorgabe der Feedbackbögen für die KursleiterInnen mit sehr geringem Aufwand verbunden ist.

Den KursleiterInnen sollte mitgeteilt werden, wie die Sammlung der DRUID-Umschläge in der ermächtigten Stelle erfolgt.

Abschließend möchte ich noch anmerken, dass die an der Feedback Studie mitwirkenden Nachschulungsstellen im EU-Bericht namentlich angeführt werden. Ein Vertreter der Stelle hat außerdem die Möglichkeit, in Projektphase 2 im Zusammenhand mit der Erstellung eines Evaluationsinstruments for good practises an einem ExpertInnen-Workshop teilzunehmen.

Soweit die wichtigsten Informationen. Für allfällige Fragen stehe ich selbstverständlich jederzeit gern zur Verfügung.

Mit besten Grüßen

Für das DRUID WP 5 - Team

Dr.Birgit Bukasa
(Task Lead)

3

Information for course providers: Trainer's guide for the conduction of the feedback study

Driving under the Influence of Alcohol, Drugs and Medicines
Workpackage 5 (Rehabilitation)

Trainers' Guide

for the Driver Rehabilitation Feedback Study

- The feedback study is designed for participants (alcohol offenders) who undergo the driver rehabilitation course in a group setting.
- Appr. 15 minutes before the end of the last course session the procedure for the feedback study should start.
- The feedback questionnaire should be introduced to the course participants as an evaluation instrument, i.e. that they can give feedback about their course and that this feedback is carried out Europe wide (Austria, Belgium, France, Germany, Netherlands, Poland, Spain) in the frame of an EU project dealing with alcohol, drugs, medication and driving. Moreover, it should be empathised that the participants participation is voluntary and completely anonymous, without names and addresses. Therefore, each participant puts his/her filled out questionnaire into an envelope and closes it by him/herself.
- Then distribution follows. The trainer gives each participant a questionnaire form and an envelope. In order to assure an almost equal filling out of the three forms in each group, the forms should be distributed consecutively (i.e. 1st participant receives Form A, 2nd participant receives Form B, 3rd participant receives Form C, 4th participant receives Form A, etc...). Thus each course participant receives only one form.
- Principally, the course participants should answer the questions by themselves. In individual cases, participants might ask for explanation because they don't know exactly what is meant with a specific question. In this case the trainer should give some support, i.e. describing in other simple words what is meant without influencing the direction of answering. If it becomes evident for the trainer that a participant is not at all in the position to answer the questions then he/she must be excluded from the study.
- At the end the trainer collects the closed DRUID envelopes and deposes it at the defined place arranged with the responsible person (.....).
- In case of questions please contact xxx (Phone ....., e-mail: .....).