Assessment of personal resources for safe driving

The principles of medical psychological assessment in Germany

Jürgen Brenner-Hartmann
Thomas Wagner
Frank Mußhoff
Hannelore Hoffmann-Born
Sabine Löhr-Schwaab
Joachim Seidl

German Society for Traffic Medicine

German Society for Traffic Psychology

KIRSCHBAUM VERLAG BONN

Schriftenreihe Fahreignung

Assessment of personal resources for safe driving
The principles of medical psychological
assessment in Germany

DGVP
Deutsche Gesellschaft
für Verkehrspsychologie e.V.

Assessment of personal resources for safe driving

The principles of medical psychological assessment in Germany

Jürgen Brenner-Hartmann
Thomas Wagner
Frank Mußhoff
Hannelore Hoffmann-Born
Sabine Löhr-Schwaab
Joachim Seidl

KIRSCHBAUM VERLAG BONN

ISBN 978-3-7812-1923-6

Typeset by Mohr Mediendesign, Hennef
Printed by Medienhaus Plump, Rheinbreitbach
Juli 2014 · Order no. 1923

Preamble

I appreciate the work of Deutsche Gesellschaft für Verkehrsmedizin, German Society for Traffic Psychology (DGVP), Society of Toxicological and Forensic Chemistry (GTFCh), and the Federal Highway Research Institute (BASt), regarding the assessment of fitness to drive.

The medical and psychological diagnostics of fitness to drive are an important basis for road safety. In order to promote and increase road safety in Europe, we need high-quality, Europe-wide standards, especially in the evaluation of road users who need to undergo the driving ability test. The evaluation according to standard criteria can be an example of "best practice" in Europe. Only on the basis of a Europe-wide catalogue, it will be possible to ensure that the driving ability of each driver is judged by comparable, objective and non-discriminatory criteria, regardless of whether he is traveling in his own or in a foreign country.

I very much appreciate this publication as an essential component that supplies the European Institutions with knowledge and scientific findings from Germany. In particular, I appreciate the multidisciplinary cooperation and approach. I called for such an approach in my report on European Road Safety 2011–2020. Also I urgently recommend to use the assessment criteria and the intensive, interdisciplinary research that has already been done at the German level as a basis for European standards to the expert groups within the European Commission for the revision of the directive on driving licences.

For further radical reduction of the number of road accident deaths and life-threatening injuries, we need a coordinated effort between the various scientific disciplines and the social and economic areas. This establishes a solid basis for a coherent, holistic and integrated approach in order to improve road safety.

We need the scientific basis to establish uniform definitions and harmonized data sets, which for their part make individual measures of road safety comparable, empirically verifiable and, if necessary, modifiable. In addition, a coordination of activities between all stakeholders at local, regional, national and European levels has to take place.

Technical improvements, enhancements and new developments in vehicle technology and infrastructure have led to significant successes. The human, however, is still the No. 1 risk factor. Therefore, its behaviour remains the key factor in the work to drastically reduce the number of road accident fatalities. I not only see the

right of the individual to road safety but also I call for an obligation to co-operation of each individual. In this context, I demand a European concept of lifelong learning in road safety. This is the road safety education for all modes and types of personal mobility, which already starts at a young age supported by the family and the school.

For the later driving licence I demand a multi-stage model which contains practical driver training for specific target groups and for special risk situations during and after the purchase of the licence. Such trainings, where young and novice drivers gain practical experience under guidance, enable them to anticipate problems and to react appropriately in difficult situations.

Road rules may change, new reservations about technical possibilities, as they result from the use of mobile navigation, communication and information devices and the Internet while driving are expressed. But also the human body changes over the years. The sight, which is an essential part of the acquisition of the license, is in the rarest cases preserved up to an old age. Therefore, I call for a control of the sight every 10 years and for all drivers over 65 years for a control every 5 years. Additionally, I urge Member States to introduce a mandatory medical examination after a certain age on the basis of their statistical accident data. This is to determine whether the driver has sufficient physical, mental and psychological fitness. The aim is not to prohibit the driving of vehicles, but to create ways to get or restore safe mobility and fitness to drive.

In addition to speeding, the abuse of alcohol is one of the main causes of accident and death in road traffic. Therefore, I engage myself for the mandatory introduction of Alcolocks in commercial vehicles and as a measure of rehabilitation and reintegration for car drivers and motorcyclists who failed rules on alcohol consumption. Such devices provide verifiability and transparency for all, and therefore serve as a confidence-building measure between the various traffic participants.

With a fitness to drive assessment on the basis of scientifically proved medical and psychological assessment we get a step closer to the aim of “Vision Zero”.

Sincerely yours,

Dr. Dieter-L. Koch,
Member of the European Parliament
Vice-Chairman of the Committee
for Transport and Tourism

Preface

For more than 60 years the medical psychological assessment of drivers in Germany has contributed substantially to traffic safety.

This is the first time the German system of the assessment of fitness to drive is presented on a large scale in English. CIECA welcomes this effort as it enables a large number of experts to get access to the concept of using the measurement of driver characteristics to assist in the determination of whether a driving licence should be reinstated. At the same time the principle of using diagnostic information in this decision-making process can balance the more repressive sanctions and penalties applied to initiate behaviour change.

Although CIECA is primarily a driver testing organization, it has increasingly realized the importance of looking holistically at the process of licensing. Preconditions of fitness to drive, driver training and qualification are linked inseparably. Fitness to drive is defined by fulfilling physical, mental and behavioural requirements. The driver demonstrates the acquisition of competencies in a final theoretical and practical driving test. This process will also have to be a part of the European harmonization of driver testing by developing the European legislation on licensing. The present text is setting important benchmarks for future European standards concerning testing of drivers at risk.

The multidisciplinary approach in German testing of driver fitness synthesizes psychological, medical and toxicological know-how for the purpose of testing results which fulfill the requirements of individual justice. The idea of interdisciplinary assessment offers methods with helpful modules that will enable the European member states to fulfill their duty to protect their citizens against the harmful consequences of mobility. This helps achieve a balance between safety and mobility.

CIECA is supporting the development of European licensing legislation with numerous activities such as the publication of minimum health standards in 1999, the admission of the German Society for Traffic Psychology as an associate member and their expertise in 2012, a workshop

on danger recognition in Istanbul 2012, and the Road User Education Project for the development of unified European standards for the competencies of drivers, driving trainers and accompanying persons in 2013.

CIECA is confident that the present book will set a course to improve traffic safety in Europe and welcomes this publication. We hope that the ideas and methods described herein will get a wide distribution and generate positive effects.

Kari Hakuli
President of CIECA

Foreword

Driving impairment associated with alcohol or other drug use was initially of concern primarily in Western countries with high levels of motorization. However, the past decade has seen growing international commitment to reducing this harm.

In the broadest context the range of disciplinary perspectives concerned with reducing this problem is very wide. Among those that contribute to the deliberations of the International Council on Alcohol, Drugs and Traffic Safety (ICADTS) are the disciplines of forensic science, pharmacology, psychiatry, policy and planning and enforcement through the disciplines of law and criminology. All these areas make essential contributions to managing this serious problem. However, for over 60 years there has been increasing knowledge and specialisation in Germany on the scientific development of evidence-based assessment and rehabilitation with clinical applications.

The key issues raised in assessing the individual's fitness to drive is the prime concern of this important book. It is written and informed by contributions from leading academics and clinicians with long established expertise in the field. A number of these are members of ICADTS, including Wolf-Rüdiger Nickel who is the Past President who has supported associated expert working groups and the dissemination of relevant reports. Over the years much of the work developed by the writers has been considered by peers as presentations at the tri-annual ICADTS scientific conference.

At the same time the access to the important work reported here and its comprehensive international dissemination to researchers, administrators and decision makers has been restricted by the constraints of German publications being the major outlet. This book in English is an important step forward and will bring this corpus of work to the broader international audience at a particularly relevant time.

In recent years there has been increasing concern and commitment to reducing road crash related mortality and morbidity. Targeted policies have increased community rejection of

the association of drinking alcohol and driving. In turn, research and policy have begun to concentrate more attention on the seriously impaired and unfit driver. The insights and directions provided in the work reported in this book are particularly timely and pertinent. As just one example this publication presenting evidence-based medical, psychological and toxicological assessment for fitness to drive will be highly relevant because interlock technology has clarified the particular difficulties of serious and recidivist offenders.

This is a significant and important book in the field, and very well suited to its intended audience.

For so many reasons this book will be of enormous value to academic researchers, clinicians, administrators and decision makers.

Professor Mary Sheehan AO
President ICADTS
May 2014

Introduction

The assessment of driver fitness in Germany applies to drivers whose fitness is questioned by the driving licence authority as a consequence of risky driving (i. e. diseases, driving under the influence of drugs or alcohol, criminal offenses, and traffic offences). The assessment is based on the current state of science and applied technology. These tests must be carried out according to accepted scientific principles. To meet this requirement, the 'assessment guidelines' of fitness to drive were developed by the Federal Highway Research Institute (BASt) and the 'assessment criteria' have been introduced by the scientific associations (German Society for Traffic Psychology and German Society for Traffic Medicine). Since these publications are mainly intended for medical and psychological experts, and toxicologists, a series of questions by the offenders as well as the professional groups in the field of fitness assessment, such as lawyers, addiction counselling centers, doctors and psychologists, arose. To answer these questions the 'Compendium of driver fitness assessment' was published in German. In consequence, this publication contributed to increase the clarity and transparency of the assessment process and thus road safety. Also equal opportunities, legal certainty and the principle of proportionality in the driver fitness assessment must be maintained.

Due to questions of the Member States of the European Union and other countries on the topic of driver fitness assessment the idea to publish the most important aspects of driver fitness assessment in English was born. With this publication we hope to contribute to the harmonization and further development of basic principles of driver fitness, i. e. in the context of the 4th EU Driving Licence Directive (Annex III). We also aim at the international cooperation of physicians, psychologists and engineers working in the field of traffic safety with an emphasis on the interdisciplinarity.

With this publication, an international audience has the chance to learn the fundamental principles of driver fitness assessment. The holistic view of man as a bio-psycho-social unit in the assessment process is essential and replaces the previously existing view of the disease orientation or focus on certain 'body parts'. The aim is an assessment oriented towards discharge and resources with recommendations (rehabilitation) linked to concrete solutions. So the individual possibilities of compensation (technical, medical, behavioural) are taken into

account. The aim of the assessment of fitness to drive is to promote, maintain and restore the physical and mental fitness to drive motor vehicles.

Finally, we thank the members of the corporate 'Permanent Working Group Assessment Criteria' of the German Society for Traffic Psychology and German Society for Traffic Medicine:

Jürgen Brenner-Hartmann, MA (Ulm)
Thomas Wagner, PhD (Dresden)
Prof. Frank Mußhoff, (München)
Hannelore Hoffmann-Born, MD (Frankfurt/Main)
Sabine Löhr-Schwaab, MD (Stuttgart) and
Joachim Seidl, PhD (Dresden).

We would especially like to thank

Thomas Wagner, PhD (Dresden)
Wolf-Rüdiger Nickel, MA (Braunschweig)
Jürgen Brenner Hartmann, MA (Ulm)
Prof. Frank Mußhoff (München)
Joachim Seidl, PhD (Dresden)
Hannelore Hoffmann-Born, MD (Frankfurt/Main)
Peter Jaensch, translator (Dresden)

for their dedication in the translation, the professional debate and editorial work as well as our publisher Kirschbaum for the overall support.

Prof. Dr. rer. nat. Wolfgang Schubert
President of the German Society
for Traffic Psychology (DGVP e. V.)

Prof. Dr. med. Volker Dittmann
President of the German Society for
Traffic Medicine (DGVM e. V.)

Content

1 Legal Aspects of Assessing Driving Fitness in Germany

1.1 Driving fitness and acquired driving skills as prerequisites for road safety

Driving a car is something that people cannot go without if they want to remain mobile in people's free time and on their jobs. Owning a car has become a matter of course and holding a driving licence is for young people a part of modern life. That is why drivers must acquire the necessary driving skills through basic training and sufficient driving experience to be able to cope with today's traffic hazards. Despite this, crashes and drivers breaking the rules are still a common occurrence in Europe today. But why would a driver want to pass another vehicle just before entering a bend? And why do people tailgate each other and break the speed limit on country roads on a clear day? Traffic experts like to explain the influence of these phenomena on our behaviour by using a term called control system. Control systems refer to the links between situational demands – in terms of the need to take action in a specific traffic situation – and the different ways in which people will respond to this requirement (e.g. Michon, 1986; Rasmussen, 1983, compare figure 1.1).

In descending order, the typical demands placed on drivers are thus:

– navigating the vehicle (planning),
– keeping the vehicle on track (guidance) and
– stabilizing (operational control) it.

The first navigation level includes deciding on where to go and how to get there as well as on selecting a suitable vehicle. Next in line is keeping the vehicle on track with the necessary orientation and driving manoeuvres in more closely defined spaces, e.g. knowing which way to turn at intersections, selecting the appropriate speed for varying traffic situations and following changing traffic signs. At the stabilizing level we then have the direct selection and implementation of the manoeuvres required

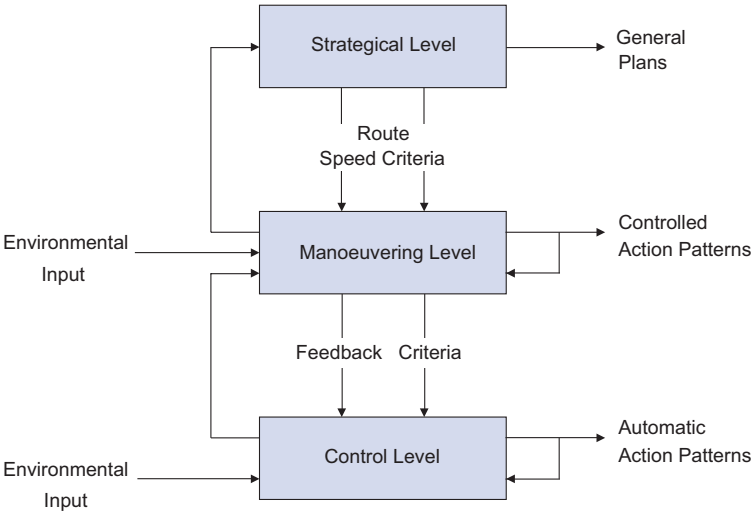

Figure 1.1: The structure of the driving task (Michon, 1986)

to operate the vehicle and avert a danger, e. g. keeping the vehicle on the road when turning, adapting the car's speed to various driving situations affecting driving physics, and avoiding traffic obstacles that suddenly appear.

These action levels describe the demands placed on drivers. They also describe the demands being placed on a driver through his driving responsibilities, and they thus define the skills that a driver must display to safely navigate a vehicle on public roads. On the other hand, a person's individual control levels consist of the driver's knowledge-based, rule-based and skill-based coping styles that reveal which personal resources a driver uses when confronted with these demands. These personal resources mean that the driver also has to fulfil a minimum of physical, mental and behavioural, i. e. personal requirements, to be able to safely drive a motor vehicle. If a person fulfils these criteria, he is considered to be fit to drive a car. The term "driving fitness" (German "Fahreignung", French "aptitude à conduire", Italian "idoneità a condurre") must be distinguished from the terms "qualification" and "competency" (German "Befähigung", French "qualification nécessaire à conduire", Italian "competenza a condurre", compare Bächli-Bietry, 2003).

Definition of driving fitness: Being fit to drive a motor vehicle can be defined as a relatively stable characteristic that is independent of parameters such as present situations and mental states. Along with health requirements, this fitness also includes aspects of a person's personality and psychophysical variables within the context of a person's disposition. These aspects are essential requirements for establishing and maintaining a person's driving fitness.

The term driving fitness is distinguished from a person's driving ability. Driving fitness focuses on a person's physical and mental fitness, and of course on a safe driving style without being impaired by drugs or alcohol. These fitness variables may be seen as fundamental personal resources to safely drive a vehicle. When people get their driving licence in Germany, they are automatically presumed to be fit to drive a car. Only their vision is checked. This is justifiable as long as the driver concerned is not listed in one of the central registers (Central Index of Traffic Offenders, Federal Central Criminal Register). Thus the driving licence applicant is in a favourable situation because the administration believes in his positive characteristics to obey rules at traffic and keeping the laws. Insofar as the applicant does not mention any possible shortcomings when he applies for a driving licence, a novice driver will then begin his motoring career with a positive appraisal of his driving fitness without this having been proven beforehand. It is the driver himself who erases this benefit through his own fault. He only has to prove that he is able to drive a car by passing a theoretical and practical driver's test. This ability to drive a motor vehicle is also known by the commonly used term driving competence. The issuing of a driving licence documents a person's ability to actually drive a motor vehicle. This document therefore entitles him to drive a motor vehicle on public roads.

The above explanations only refer to the abilities or attributes that are required to drive a car safely. The explanations in the following sections look at the legal aspects of determining a person's fitness to drive a motor vehicle.

1.2 Applicable EU and national law for dealing with drivers displaying behavioural problems

Any restriction of civil rights and liberties requires a legal basis. The origins of the authority to regulate road traffic lie in the European Convention for the Protection of Human Rights and Fundamental Freedoms.

European Convention for the Protection of Human Rights and Fundamental Freedoms

Article 1 – Obligation to respect human rights

The High Contracting Parties shall secure to everyone within their jurisdiction the rights and freedoms defined in Section 1 of this Convention.

Article 2 – Right to life

(1) Everyone's right to life shall be protected by law. …

Article 8 – Right to respect for private and family life

(2) There shall be no interference by a public authority with the exercise of this right except such as is in accordance with the law and is necessary in a democratic society in the interests of national security, public safety or the economic wellbeing of the country, for the prevention of public disorder or crime, for the protection of health or morals, or for the protection of the rights and freedoms of others.

Notice: Relevance for road traffic

Protecting the general public from people unfit to drive is of greater social importance than the right to individual mobility.

Road safety in Europe is gaining in significance, particularly since the United Nations (UN) has also recognized this as being an important goal.

According to information from the World Health Organization, (WHO) more than **1.3 million people die on the roads every year**.

Half of them are pedestrians, cyclists and motorcyclists.

In addition, another **50 million people are injured**.

This is why in May 2011 the United Nations **(UN)** announced the **"Road Safety Decade"**.

The goal of this initiative is to reduce the human, social and economic consequences of this toll.

The **UN action plan** includes the following **fields of action**:

Road users, automotive engineering, casualty care, road safety management and infrastructure.

By 2010 the death toll was reduced by 36 % in Europe, in Germany alone by 48 %. At the beginning of the last decade the European Commission targeted a halving of the death toll between 2001 and the end of 2010, thus heralding a new era in their commitment for more road safety, which has been extended to the year 2020.

What can the EU do to mobilize its member states? Basic conditions are created through the overriding regulations of the EU and with the help of guidelines where the protection of individual life and health is given the highest priority. This duty of the state to protect the general public from motorists who are unfit to drive a motor vehicle has already been established in the EU Convention, whereby personal mobility needs are subordinate to this fundamental basic standard (compare figure 1.2). Here the EU Convention defines the requirements of the regulations of the member states to control hazards and to reduce accidents and minimize risks.

For quite some time now the individual motorist has already been affected by overriding regulations with regard to his driving licence as a document (including but not limited to design, issuing, validity, standard classes). Directive 91/439/EWG of the European Commission from 29.7.1991 already recognized the need to establish minimum requirements for issuing and extending driving licences. The harmonization efforts within the EU concerning the

acquisition, design and validity period of driving licences are now being followed by a more or less standard procedure for dealing with drivers displaying behavioural problems to help ensure that the road safety goals are reached.

Another goal of the European Driving Licence Directive was to increase the freedom of movement of persons intending to settle in another member state. This was meant to be facilitated by the mutual recognition of driving licences by the EU member states. To avoid any conflict with the road safety goal, this would, however, require that all member states have a standard procedure for specifying the minimum requirements for issuing a driving licence and for testing a person's driving fitness.

What are the minimum requirements for issuing and extending a driving licence which the European Driving Licence Directive (2006/126/EC of the European Parliament from 20.12.2006) is referring to as a further development of Directive 91/439/EEC regarding a person's driving ability?

Standards for driving fitness contained in the EU Directive from 2006 mainly refer to physical requirements for safe driving. Aside from these remarks regarding substance abuse (alcohol and drugs) have also been included. The European Driving Licence Directive refers to alcohol abuse as follows:

"Drink driving is a great danger for road safety. Because it is such a serious problem, great vigilance is called for on a medical level. People applying for driver licences or motorists who are addicted to alcohol or who are unable to keep driving and drinking apart shall not be issued a driver licence nor may their existing driver licence be renewed. After a proven period of sobriety and subject to the medical expertise of a competent medical authority and regular medical controls, applicants and drivers who have been addicted to alcohol may be issued a driver's licence or their existing driver licence may be renewed."

The directive contains the following provisions on drugs and medicines:

"Applicants or motorists who are addicted to psychoactive substances or who without being addicted make regular use of such

substances may not be issued a driver licence irrespective of the driver licence class they are applying for nor may an existing driver licence be renewed."

Regulations regarding behavioural problems are therefore limited to substance abuse in Annex III of the European Driver Licence Directive. Other infringements (e. g. frequent speeding offences, running red lights and offences committed by car owners such as driving without insurance protection or with worn out tyres) are not accounted for here, even though dangerous driving is one of the major causes of road accidents. However, Annex II, Section II requires that "through their considerate behaviour" motorists must always be able to contribute to "the safety of all road users (…)."

The directive does, however, distinguish between driving ability as a skill and individual resources which define fitness factors. It contains differentiated statements about the necessary knowledge, skills and behaviours regarding a person's ability to drive

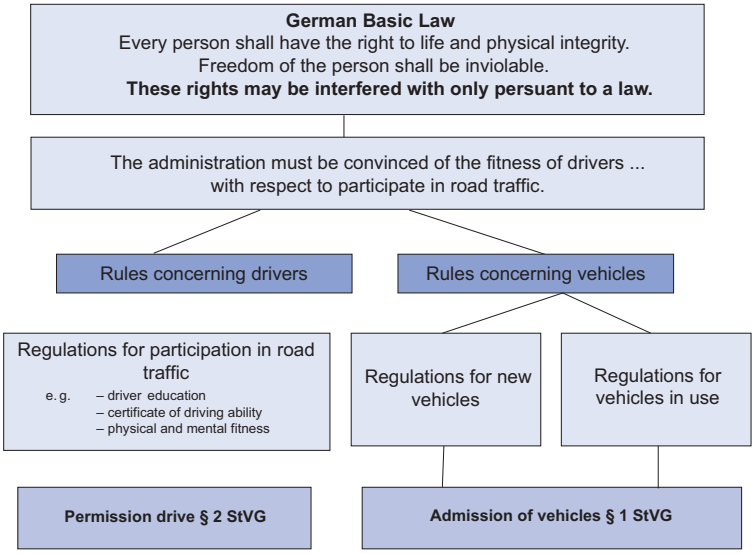

Figure 1.2: Legal Foundations and Principles regarding road traffic

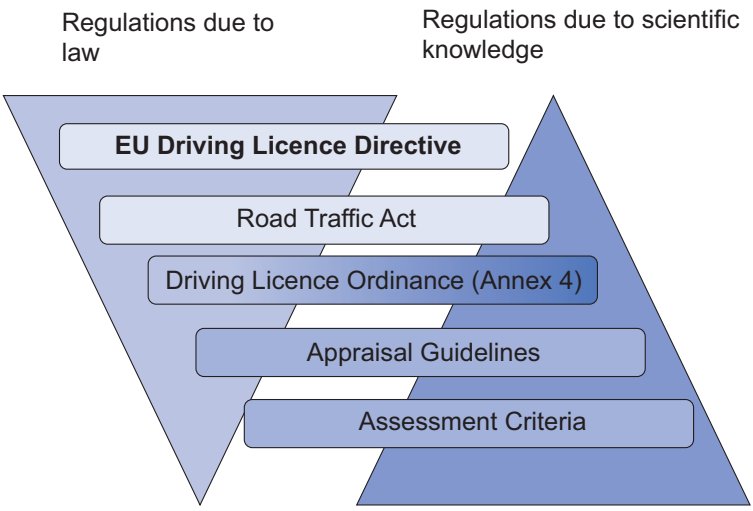

Figure 1.3: From the EU Driving Licence Directive to Assessment Criteria

a motor vehicle and their review during a driving test have been elaborated on. This is the perspective of the competence level. On the other hand it is being stressed that a driver licence may only be issued to applicants who meet the medical requirements according to Annex III (meaning that they are at least physically able to drive a motor vehicle).

Annex III, Item 5 of the European Driving Licence Directive places the establishment of stricter measures, such as minimum requirements for safe driving, at the discretion of the member states:

"When issuing or renewing driver licences, member states may use requirements exceeding those mentioned in this annex."

This allows for the flexibility required to address the differences in the respective problems and the composition of the behavioural problems of motorists in the various member states.

While the EU specifies the basic conditions of regulations, the actual drafts are left to the individual states with their implementation being left to the local authorities. However, the collaboration of the individual institutes working on road safety will only work if laws, regulations and technical rules are consistently applied and correctly implemented by the authorities and

specialists. This requires an adequate conversion and definition of EU directives in national law which complies with the actual safety requirements of the individual member states.

In Germany, EU directives to test a person's driving fitness are incorporated in national law through the German constitution (protection obligation of the state), the Road Traffic Act (StVG) and the Driving Licence Ordinance (FeV) including its annexes (compare figure 1.3). This is where the regulations regarding procedures for checking the risky behaviour of motorists, e. g. of people with a heightened aggressiveness, have been codified. In such doubtful cases the traffic authorities will not make their own decision on the driving fitness of a motorist. They will moreover rely on the expertise available from institutes specializing in assessing driving fitness by requiring the persons concerned to take driving fitness tests which focus on predetermined criteria. The gap between the legal standards and their practical implementation is bridged by the requirement that a person's driving fitness can only be assessed using acknowledged scientific principles. These scientific principles include state-of-the-art driving fitness tests, which according to the current level of knowledge are seen as being

– theoretically correct,
– proven in practice over an extended period of time, and
– acknowledged among experts.

(compare Schubert & Mattern, 2006).

Figure 1.4: Number of MPA participants and total number of driving licence holders in Germany

Driving fitness tests end with a written assessment which the person concerned can present to the traffic authorities if it is in his favour. Otherwise it will be assumed that the person is unfit to drive a motor vehicle.

Assessment definition: A medical psychological assessment is an interdisciplinary examination of a person's driving fitness that renders the research results produced according to the diagnostic procedures of the current state of scientific knowledge relating to a specific situation which is completed by answering a given question.

Every year about 100 000 medical psychological assessments are conducted in Germany, whereby with a total of about 50 million motorists only 0.2 % of the motorists are affected by this measure. Approx. 60 % of these assessments relate to alcohol abuse, whereby this percentage has been decreasing for years while the amount of assessments being prepared for drug abuse has been steadily increasing.

To ensure that the diagnostic process is applied using standard methods and generally accepted assessment criteria, the scientific principles need to be differentiated further and specified for their specific area of use. In Germany this is being done in the guidelines for the evaluation of driver fitness of the Federal Highway Research Institute (Begutachtungsleitlinien zur Kraftfahreignung, bearbeitet von Gräcmann, N., Albrecht, M., Bundesanstalt für Straßenwesen – Verkehrsblatt Dokument Nr. B 4022, Januar 2014).

The criteria used to assess the driving fitness of motorists were compiled on behalf of the Federal Ministry of Transport, Building and Urban Development (BMVBS) and the Federal Highway Research Institute (BASt) with the help of medical and psychological experts and then put into force by the top state authorities with the aid of edicts and general administrative regulations. The criteria thus possess a superordinate legal force. The appraisal guidelines have been supplemented by a legal commentary (Schubert et al., 2005) containing detailed explanations with practical examples thereby contributing to a scientific foundation of the driving fitness assessments. Additional topics such as quality management, the principles used to assess driving fitness, psychological test procedures

and the compensation of deficits require a standard approach in the assessment procedure, thus helping increase the comprehensibility and verifiability of assessments.

The assessment criteria are meant to supplement the appraisal guidelines and to check whether the assessors have been preparing their individual assessments with their large amount of findings according to the principles formulated in the guidelines. We could say that assessment criteria are the expert tool box used by the assessor during the diagnostic process.

Progress in science and technology including the field of toxicology as well as in therapies and in current contributions from the administration of justice also influence the assessments. These developments are often more practical and therefore applicable than the largely theoretical appraisal guidelines. This is where data from laboratory, medical and psychological findings are combined. The level of knowledge that is reflected in the classification systems ICD-10[1] (Dilling, Mombour & Schmidt, 2011) and DSM-IV-TR[2] (Saß et al., 2003) is also incorporated. They help to ensure that the assessments are completed "according to the scientific state of the art" as required in Annex 4a No. 1 c) FeV, and according to No. 2 a) they save the appraisers from having to quote the scientific sources of every single finding and interpretation. The assessment criteria have been summarized in

> Urteilsbildung in der Fahreignungsbegutachtung – Beurteilungskriterien [Schubert, W., Dittmann, V., Brenner-Hartmann, J. (Hrsg.). (2013). 3. Auflage, Kirschbaum Verlag Bonn]. **(Evaluation of driving fitness – Assessment criteria [Schubert, W., Dittmann, V., Brenner-Hartmann, J. (Eds.). (2013). 3rd edition, Kirschbaum Verlag Bonn].)** (Figure 1.5)

These criteria are binding for licenced centres assessing driving fitness according to the Federal Highway Research Institute (BASt) in its requirements for operators of these centres.

With its review, the present compendium gives the interested reader a quick overview of the relevant research and the appraisal criteria relating to the assessment of driving fitness.

1 ICD = International Statistical Classification of Diseases and Related Health Problems.
2 DSM = Diagnostic and Statistical Manual of Mental Disorders.

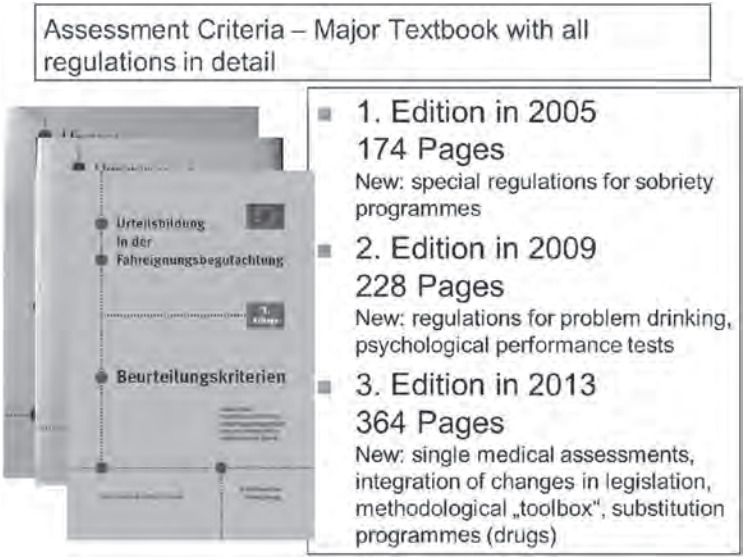

Figure 1.5: Major book of Assessment Criteria

1.3 The example of the "problem drinkers"

Medical psychological assessments in Germany are an integral part of an administrative procedure consisting of a sequence of clearly defined steps (figure 1.6).

Assuming that a person has been caught while drinking and driving with a blood alcohol level of e. g. 1.75 ‰, this incident will of course initiate criminal investigation proceedings which in the case of an application for having a driving licence reissued will be followed by steps being taken as outlined in administrative law.

Initially the local court will be responsible for the criminal investigation proceedings of the drink driving offence. It will establish a fine or a prison sentence and usually revoke the driving licence. It will also establish a retention period for renewing the licence. To justify the withdrawal of the driving licence, the court penalty order or the court order will contain a finding that because he was driving while intoxicated, the driver has shown that he is unfit to drive a motor vehicle. With this an essential condition for being

issued a driving licence is no longer given and the driving licence will therefore be revoked. By imposing a retention period (e. g. twelve months) the judge will also instruct the local administration (e. g. driving licence agency) not to issue a new driving licence before this period has lapsed. The court procedure is designed to achieve two goals: The fine or the prison sentence is meant to sanction the infringement of the legal order. The withdrawal of the driving licence and the retention period as a restriction order are meant to protect the general public and prompt the person concerned to change his behaviour (i. e. to mend his ways). This intended process of changing a person's attitude and behaviour with the goal of increasing a person's safety awareness will then also be the object of the following driving fitness assessment.

Here we can see that the criminal procedure is limited to a person's driving fitness, in this case the court can withdraw a person's driver licence without questioning the person's ability to drive a car.

How can a motorist recover his driving licence? This can be done by starting an administrative procedure for reissuing a driving licence which is subordinate to the penal procedure. Such an administrative procedure will be initiated by the driving concerned with the authority responsible for issuing driving licences, whereby the authority must then check for any relevant fitness issues. However, in connection with penal proceedings the authority can only order additional investigations such as a medical psychological assessment if a final judgement has been pronounced and after the retention period has lapsed more or less completely.

When it checks a request for reissuing a driving licence, the authority will in this case come across the DUI offence with 1.75 ‰ blood alcohol level which is filed in the Central Register for Traffic Offences.

A comparison of the characteristics of the offence (e. g. a person's blood alcohol level) with the criteria contained in a law and ordinance textbook on driving fitness (Driving Licence Ordinance, FeV) used by authorities to make their decisions will reveal if any driving fitness issues still exist. In this case the textbook will show that according to Section 13 FeV the driver's fitness has to be assessed since he was caught while driving with a blood alcohol

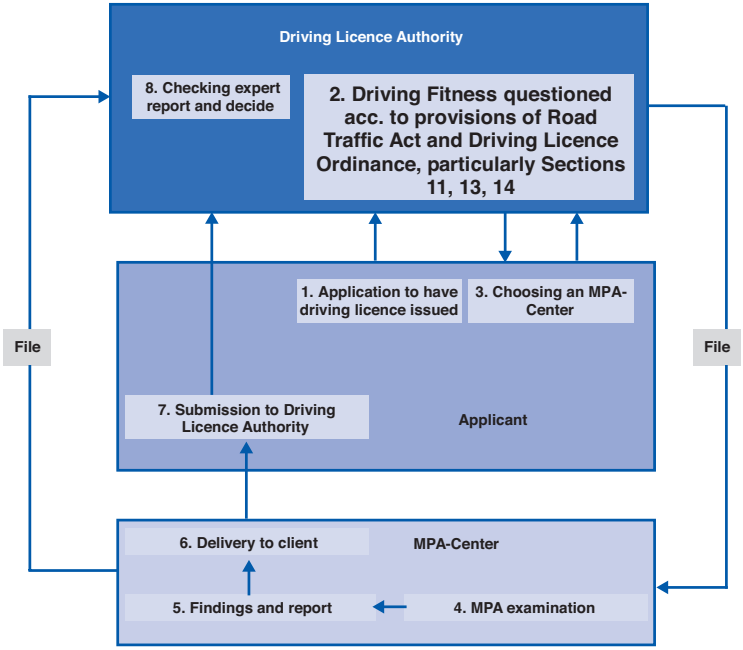

Figure 1.6: Assessment of driving fitness and measures of administration

level of more than 1.6 ‰. The doubt of a motorist's driving fitness based on this information will then be passed on to the concerned authority together with the reasons contained in the relevant ordinance and tied to a request to have a medical psychological assessment carried out.

Here the individual driver can decide for himself which of the licenced centres responsible for assessing driving fitness he would like to use. After he has informed the proper administrative body of his decision, the driving licence agency will forward his driving licence file with any relevant additional information while formulating a question with regard to the examination of the affected motorist's driving fitness.

The driving licence file contains all personal data relating to the driving licence. The basic data refers to information on when and where the person obtained his driving licence. In the case at

hand the driving licence file will also contain the penalty order of the sanctioned offence. Additional excerpts from the court files (reports on the blood taking and the medical examination, the police interrogation) can be included with the driving licence file. The driving licence authority as the superior authority of the administrative procedure will direct and coordinate the administrative steps. This authority will decide on the question that will be posed to the centre assessing the motorist's driving fitness, thereby specifying the object and scope of the investigation. A date for the examination procedure can be made once the file reaches the centre responsible for assessing the driver's fitness to drive a motor vehicle. The examination date is usually made within two to four weeks after the file has been received. After the examination has been carried out the preparation of a written assessment requires approximately another two weeks. At the beginning of the examination procedure, the driver concerned will register himself, fill in questionnaires, take a performance test and carry out a medical and psychological examination. The examination will be completed in a day and takes approximately three to four hours.

The examinations are carried out according to the applicable appraisal guidelines and the relevant assessment criteria. Beginning with the establishment of the underlying problem, the data are collected according to the hypothesis testing described in section 2.2 and 2.3 of this compendium. In our case it would have to be clarified if a blood alcohol level of 1.75 ‰, which indicates a certain degree of drinking habits, may be due to alcohol addiction, alcohol abuse or if it represents an alcohol hazard. Another goal of the examination is to find suitable criteria for a person's solution to his or her drink driving problem. This second part of the diagnosis process focuses on the changes in attitude and behaviour of the driving licence applicant.

Finally, least the data (medical, toxicological, psychological, tests) is analyzed and integrated to generate a specific outcome (positive, negative, training course) and then the question posed by the administrative body is answered. The written assessment is usually sent to the applicant. He can pass the assessment documentation to the authority responsible for issuing driving licences. The driving licence file is sent to the proper authority at the same

time that the assessment is forwarded. If the applicant does not present an assessment to the administrative body, it will then be able to conclude that he is unfit to drive.

Before the administrative procedure can be closed, the case officer of the authority issuing the driving licences will check the assessment. This is necessary before a decision can be made as to whether the driving licence will be returned or further measures (e. g. a training course) have to be taken. Alternatively, the driving licence cannot be returned yet because the assessors have reached a comprehensible negative forecast of the driver's fitness and because the high risk of a relapse would place road safety at risk. Here the driver concerned can draw his own conclusions from the recommendations of the assessors and either begin a treatment for his addiction or take other suitable measures to dispel the objections of the authorities. However, an unfavourable assessment does not necessarily mean that a person will not regain his driving licence for the rest of his life. It only means that at the time that the assessment was being made his attitude and behaviour had not changed sufficiently for a favourable forecast to be made regarding his future compliance with traffic rules and regulations while driving. The person concerned can now use this feedback to create the conditions that will allow him to achieve a better result at a later point in time.

"Drink-driving" has been used here to illustrate the administrative procedure involved in testing a person's driving fitness. There are of course numerous other situations where traffic authorities will want to question a person's driving fitness and have this assessed even though a person's unfitness to drive has not been documented in a penal procedure. These cases would include when someone has committed serious or repeated traffic offences (e. g. speeding offences), when the person shows signs of drug abuse or of unprovoked aggression, and in cases of risky behaviour during a driving test or when the requirements for transporting passengers are being checked.

Along with the medical psychological assessment, the traffic authorities can also arrange for a medical opinion if required. This will be done in all those cases where a person's driving fitness is not being questioned because of conspicuous behaviour

or alcohol or drug abuse, but rather because of certain chronic illnesses or health impairments such as heart attacks, diabetes or injuries that have led to a loss of limb.

Different from other countries in Europe, Germany's hospitals and surgery doctors do not have to report illnesses that could have a negative influence on a person's fitness to drive. In other words, an administrative procedure can only be initiated if reliable and documented facts indicate that someone has lost his driving fitness. Along with a voluntary disclosure of confidential information during an application procedure, this could also occur through a notification by the police. This would be the case if abnormalities indicating a likely impairment to a person's health were noticed when police report an accident.

In contrast to the described statutory offence "drink-driving" where the criminal judge has already established a person's unfitness to drive and summed this up in a penalty order, a person's unfitness to drive a motor vehicle is not always so obvious. That is why the purpose of the examinations in these cases is not to change a person's behaviour or to find evidence indicating only a temporary driving unfitness, but rather to clarify the question of whether or not a temporary driving fitness problem exists which could perhaps be followed up by an exonerating diagnosis at a later point in time.

Other diagnostic objectives require a medical opinion rather than a medical psychological assessment. This will affect the questions being asked and the assessment being made, for example with regard to an illness that has been insufficiently treated and therefore has a temporary affect on a person's driving fitness. This information will then be made available to the administrative body deciding on a person's driving fitness.

1.4 The development of assessment criteria for conducting medical psychological assessments of drivers with behavioural problems

Compulsory assessment criteria serve to ensure a high standard during the assessment process. This is particularly important because of the ongoing development of scientific knowledge

which has to be incorporated in the fundamental assessment principles. This is the task of a standing commission of scientific societies compromising the German Society for Traffic Psychology DGVP[3] , and the German Society for Traffic Medicine DGVM[4]. This enables legal developments, epidemiological trends, progress in science and technology, empirical data (e. g. relapse studies) and changes in the motorist population (e. g. an increase in older drivers) to be accounted for in the further development.

The application of assessment criteria is closely tied to the development of the assessment of driving fitness in Germany. This began in the 1950s focusing on the assessment of physical-mental deficits (26 % of the cases) of people applying for a driving licence (the premature issuing of driving licences, the issuing of driving licences to persons over 60 years of age and conspicuous test behaviour together accounted for another 25 % of the cases), and of drivers with a particular responsibility (driving instructors, drivers transporting passengers, driving ability tests for enterprises). Drivers with conspicuous behaviour or drivers that had committed criminal offences accounted for only 17 % of the examinations.

The German technical control board TÜV as the agency responsible for the centres assessing driving fitness already recognized the necessity of applying specific standards to the assessment of driving fitness at an early stage and in 1977 summarized relevant information and rules in a comprehensive TÜV information system (TÜVIS).

A significant event in the development of the diagnosis of driving fitness was the introduction of rehabilitation courses in the second half of the 1970s. This led to the need for a more differentiated diagnosis procedure with a distinction between a positive assessment outcome, the possibility of changing someone's future behaviour through training and a completely negative assessment outcome.

To do justice to this task, the relevant panel of experts of the association of technical control boards (VdTÜV) installed an assessment criteria working group in 1980 that initially developed the

3 Deutsche Gesellschaft für Verkehrspsychologie (www.dgvp-verkehrspsychologie.de).
4 Deutsche Gesellschaft für Verkehrsmedizin (www.gesellschaft-verkehrsmedizin.de).

indicators applying for having someone take the training and a system of criteria that would exclude someone from the training. This can be seen as being the birth of the assessment criteria that are still being used and developed further today (cf. Nickel, Utzelmann, Weigelt, 1990).

The assessment criteria have since progressed from a classical status diagnosis to a de facto behaviour-oriented change diagnosis and therefore directed more at the prognosis of another drink-driving-relapse in the future (compare figure 1.7). This change in approach was facilitated by the fact that the examinations for physical and mental deficits decreased while at the same time the assessment of behavioural problems increased. It was noticed that a driver's failure to follow traffic regulations was based on deficits in his behavioural control which had not become obvious until after the driving licence had been issued and which would then lead to the traffic offences. The reasons for such aberrations are a part of the driver's own world of cognitive experience, something which is not assessable by modern medicine. Yet both "deviant" and "normal" human behaviour can be examined and modified individually using psychological

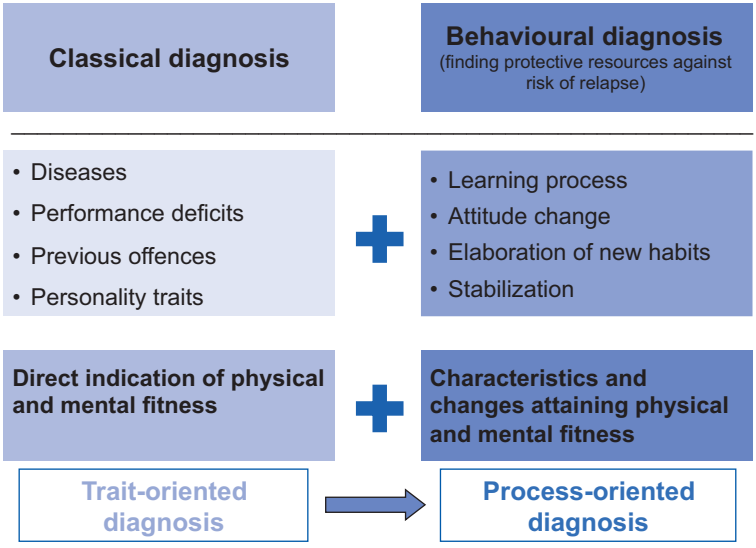

Figure 1.7: From classical diagnosis to behavioural diagnosis

methods. This is why a combination of medical and psychological examinations and of interdisciplinary appraisals of the findings proved to be the technically correct method for assessing the causes of behavioural problems and of establishing the changes needed to ensure road safety.

This led to the research group developing assessment criteria concerning the main questions which are contained in a catalogue that can be used by medical experts and psychology professionals to base their decisions related to alcohol abuse and behavioural driving problems on. The appropriate committee of experts decided on the following guiding principle which was initially adopted by all technical control board agencies responsible for the centres assessing driving fitness, which later also included the DEKRA:

"The assessment criteria and indicators must be used by all assessors. Any exception must be justified by detailed explanations."[5]

The assessment criteria are being continuously developed further and optimized using the results of research. In their practical work with the criteria the assessors soon felt the need to use indicators based on actual findings, facts and statements in answering the question of whether or not a criterion could be fulfilled. Such a catalogue of indicators on how to apply the criteria was then prepared for assessing drink-driving and behavioural driving problems.

The "guidelines for assessing driving fitness" no longer provided satisfactory answers (Brenner-Hartmann, 2000) to the growing complexity of the questions the assessors were being confronted with. In 2004 the German Society for Traffic Psychology and the German Society for Traffic Medicine jointly took over the responsibility for the management and ongoing development of the assessment criteria from the association of technical control boards VdTÜV. They established a permanent working group consisting of psychologists, medical experts and toxicologists to work on the assessment criteria and incorporate the suggestions that had been made by the users and the discussions among experts into the criteria. After being published in 2005, the assessment

5 TÜVIS-Prüfgrundlagen MPU, Band 1, Kap. 50, S. 14 (Fassung Juni 1998).

criteria have been made available to both the agencies operating the centres responsible for assessing driving fitness as well as to other interested parties.

The results of a medical psychological assessment have far reaching consequences for the driver concerned. That is why it is not only necessary that the centres assessing a driver's fitness apply standardized procedures, but also that the effectiveness of the driving fitness assessments is evaluated scientifically.

Consequently, the association of technical control boards (VdTÜV) together with its commission on driving fitness and the formerly associated agencies of certified centres for assessing driving fitness[6] carried out a survey on the probation period of first-time alcohol offenders and repeat offenders (Hilger et al., 2012) in 2010. The survey was supervised and evaluated by the University of Bonn. More than ¾ of the surveyed driving fitness assessments had been carried out by the participating partners in Germany for issues relating to alcohol abuse.

The probation periods imposed on 1600 people whose driving fitness had been assessed by the participating organizations between November 2005 and October 2006 were evaluated. The probation periods were tracked over a period of three years after the medical psychological assessments had been carried out by examining the information provided by the central traffic register (VZR) of the Federal Motor Transport Authority (KBA). The survey participants who had been examined medically and psychologically consisted of clients from the participating organizations in proportion to the respective number of alcohol-related issues. Half of them respectively had received a positive forecast for their future during the medical psychological examination or been referred to a training course for drivers with alcohol problems. With the assistance of the Federal Motor Transport Authority (KBA), a random sample consisting of 3200 motorists who had shown signs of behavioural driving problems by committing alcohol-related offences without having their driving licence revoked or their driving fitness questioned was carried out at the

6 Participants included the testing associations of the technical control boards TÜV Nord, TÜV Thüringen, TÜV Hessen, TÜV SÜD and DEKRA as well as the TÜV Rhineland with its successor organization ABV.

same time and in the same region and used as a reference group (drivers who had committed traffic offences). All drink-driving offences committed within a three-year period after the driving licence had been reissued or after the last traffic offence had been committed were considered a relapse.

The results of the analyses of the probation periods showed that the relapse rate of the persons with behavioural driving problems who had been examined medically and psychologically were not that much different when compared among their group or with regard to their relapse rate from that of the group of drivers who had committed regulatory offences. Compared with the results of earlier studies such as ALKOEVA (Winkler, Jacobshagen & Nickel, 1988) and EVAGUT (Jacobshagen & Utzelmann, 1996), the relapse rate of those groups after medical psychological examinations was significantly lower.

Specifically, the selected groups had the following results (table 1.1):

The accuracy of the prognoses for the positively assessed first-time alcohol offenders was 93.5 % and 92.0 % after they had taken part in training, whereby that of the positively assessed repeat offenders was 91.7 %, and after they had taken part in training 93.2 %. Whilst in the assessed group, i. e. those persons with a higher BAC and obvious symptoms of a drinking problem, only 6.5 % suffered a relapse, this percentage was 8.2 % in the

Table 1.1: Positive prognosis of persons passing an MPA compared to a control sample (rate of licence holders without a new alcohol-related offence)

		Alcohol	
		First offenders	Repeat offenders
MPA	Positive	**93.5 %** (21/325)	**91.7 %** (27/326)
	Section 70	**92.0 %** (25/312)	**93.2 %** (20/296)
Control Sample (regulatory offences)		91.8 % (261/3180)	–

reference group (probation 91.8) who had been caught drinking and driving again.

Despite their more severe initial situation which would explain the order for a medical psychological examination to verify the considerable concerns regarding their driving fitness, there were no greater relapse rates among the groups that had been examined medically and psychologically than with the group that had committed regulatory offences where aside from a fine and a driving ban no further steps had been taken, the driving licences had not been revoked and the driving fitness of the motorists had not been questioned. Compared to earlier studies, a further improvement in the behaviour of the intoxicated drivers during their probation period following a successful medical psychological examination was noticeable. This can be seen as clear empirical evidence of the quality of the medical psychological examination of drivers with alcohol problems. At the same time it also proves the results of the medical psychological examinations regarding the relapse effect of the current procedure in reissuing driving licences in Germany where a series of measures designed to modify people's behaviour are being used prior to the medical psychological examinations.

2 The Function and Structure of the Assessment Criteria

2.1 The purpose and use of the assessment criteria

2.1.1 The examination assignment

As mentioned in the last chapter, a driver's fitness will only be questioned for a specific reason. The reason will always be associated with the driver's maladaptive behaviour, such as a drinking and driving offence. In this case his unfitness will be determined by a court, his driving licence will be revoked and a probation period imposed before the licence will be reissued. Only at the end of a probation period will the official reservations concerning driving fitness be reviewed through an assessment procedure before a licence is actually reissued. Here the assessment is meant to check an assumed ongoing unfitness and, with a favourable finding, it will refute this assumption. This driving fitness review will usually take place approx. one year after the offence was committed (i.e. at the end of the probation period).

Insofar as such an assessment has been stipulated, it will be performed on the basis of guidelines and statutory provisions as well as the scientific principles contained in the "assessment criteria" outlined here and described in more detail in section 1.2. In the following we will be explaining the use of the assessment criteria using the example of alcohol-related problems. The same procedure also applies to behavioural problems related to drug abuse. This will only be referred to in order to point out any differences. To enhance the comprehensibility of the explanations, the many other reasons for examining a driver's fitness, such as repeated driving offences and criminal offences, aggressive behaviour, doubt about someone's driving fitness for health reasons and the assessment of drivers with special responsibilities will not be covered here.

Driving fitness assessments always begin with an initial question describing the official reservations about a person's driving ability. A typical question relating to drinking and driving would be:

„Is it likely that Mr ____ will continue to drive a motor vehicle while under the influence of amounts of alcohol that are likely to threaten his driving fitness and/or are any impairments in connection with an uncontrolled alcohol consumption noticeable which would question the safe use of a motor vehicle in category 1/2 (driving licence class ___)?"

The onus on authorities to pose a question that directly relates to a specific driving offence is meant to ensure that assessments are only carried out to clarify actual driving offences without generally making the driver's entire personality the object of an assessment. Interventions into a person's rights are meant to be limited to addressing a specific problem at hand. The question allows the assessor to validate his hypothesis (see below); it also limits the scope of an assessment and can also include information on specific topics that are also of interest (e. g. a more comprehensive performance assessment with regard to alcohol dependence and group 2 driving licences).

2.1.2 Carrying out the assessment

Driving fitness is assessed through the interdisciplinary cooperation between a physician and a psychologist within the scope of a Medical Psychological Assessment (MPA). The psychologist is in charge when driving fitness is being questioned for driving behavioural problems. This is because the definition of driving fitness in Germany today is the result of decades of assessment work. The term driving fitness is not seen as being a person's ability to drive a car at a certain point in time, but rather it signifies a complex construct that changes over time. A person's former attitude, his health and life situation from the time when his behavioural problems were first recorded are probably no longer the same when a subsequent assessment is called for later. An offending driver will have changed his ways through the experience of his problems and their consequences, whereby it still has to be seen if his behaviour has improved or worsened. This is why the following aspects are at the centre of attention in assessing driving fitness:

– How severe was the disorder at the time of the offence?
– What developments have taken place since the offence that would affect the driving fitness?
– How severe is the disorder (still) at the time of the assessment and what consequences does this have for the person's driving safety?
– If a favourable finding has been assessed, how stable will it be?

Each individual assessment is based on a combination of findings that can be depicted on a coordinate system. The severity of the disorder is first entered on the Y-axis. This may have been different when the problems were first observed or in the past from the present situation during the assessment. This is accounted for by the changes since that time which are shown on the X-axis. A comparison of both axes allows the seriousness of the disorder to be followed over time. It also allows the stability of a (favourable) change to be assessed (compare the various goals in figure 2.1).

Irrespective of how a behavioural problem develops, it should always be examined if the alcohol misuse has caused serious damage to a person's psycho-physical performance or his health. This leads to a third dimension on the coordinate system of assessing

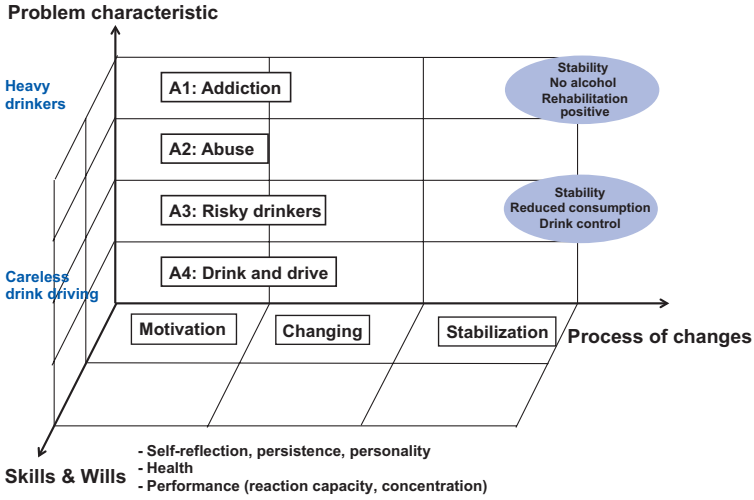

Figure 2.1: Problem characteristic and process of change combined in a coordinate system to describe stages of driving fitness

driving fitness. The physical-mental performance would be entered on a Z-axis, which would also potentially change over time and correlate with the characteristic of a problem. The individual traits and conditions and the client's requirements would be entered on this dimension.

According to this system the severity of a drinking problem would first have to be established before the functional damages to a person's cognitive performance and his health are determined. Both are dependent on each other and will affect a person's expected future development. For example, with alcohol dependence it is reasonable to expect that physical-mental deficits will have manifested themselves, and also that the person concerned will frequently drive a motor vehicle while drunk. On the other hand, findings of physical damage such as an enlarged liver together with vegetative abnormalities would call for the diagnosis of a severe case of alcohol abuse.

To predict a person's future behaviour his pattern of alcohol consumption pattern would first have to be checked. Here the events both before and after an offence are of significance. If several drinking and driving offences have already been recorded in the past, the prognosis will be worse than after an initial offence. On the other hand it can be assumed that the experience of a sobriety checkpoint or a crash will also have led to a change of attitude and behaviour. The examination will have to assess the extent and stability of a change in a person's behaviour as well as in his physical and mental performance. A diagnosis of the change is of major importance for predicting a person's future behaviour. The assessment focuses on examining whether or not sanctions such as withdrawing a driving licence and imposing a probation period have been successful as protective and educational measures. This also allows a person's driving fitness to be reviewed and, as the case may be, to have this confirmed quicker than in other European jurisdictions.

In answering these questions an assessor can rely on various resources. Basically these are an examination of the file with the case history and the use of his findings and data including third party findings which will also be available in most cases. This will be explained in more detail in a separate section of chapter 3. An

opinion can only be formed and an assessment produced in an integrative manner while considering the relevant medical and psychological findings and weighing up the material accordingly. A comprehensible assessment will ascribe the many findings to the individual finding levels and questions in a proper way. The assessment criteria are thus a valuable aid for correctly assigning the significance and the validity of the individual findings to the initial question.

The diagnosis will answer the sample question posed above in a diagnostic finding ("There are (no) impairments") and a behaviour prognosis ("It can(not) be expected that …"). The assessment and particularly the final opinion are not binding on the authorities, but rather they are meant to serve as a qualified decision aid.

2.2 Structure of the assessment criteria: hypotheses, criteria and indicators

An assessment examines relevant diagnostic hypotheses. These must be distinguished from scientific hypotheses. A driving fitness assessment is based on the hypothesis of reasoned assumptions of an expected future development that has been empirically derived from a case history (relapse risk) and likely consequential damages, e. g. damage associated with an addictive disorder. These hypotheses are often formulated to link a diagnostic classification with the behavioural change required for a positive assessment. The hypotheses are assigned to criteria representing a standard for making a judgement or a decision required to substantiate the diagnostic features of the seriousness of a disorder and the desirable changes, thereby enabling a hypothesis to be examined whose assumptions must be fulfilled as an indispensable condition for making a positive assessment.

The assessment criteria usually follow a hierarchical structure according to the diagnostic hypotheses, beginning with the most serious disorder and moving on to less severe problems (i. e. from alcohol dependence to a failure to keep drinking and driving apart with socially still acceptable alcohol consumption). This is

described in figure 2.1 by the help of an example with regard to an alcohol problem.

A hypothesis which indicates a less severe disorder can only be used as a decision-making tool after a diagnosis with regard to a more serious disorder. A general rule that also applies to alcohol abuse is that once the relevance of hypothesis A 1 (alcohol dependence) has been rejected, alcohol-related questions with relevance of the following applicable hypotheses A 2, A 3 and A 4 will then be examined. If an expert decision has already been made within the scope of the examination of a hypothesis or secured through third-party findings, the following less serious disorders are of course no longer relevant and would therefore also no longer apply.

In order to make this classification, a series of diagnostic criteria are included with the hypothesis to enable the assessor to assign the case history data and his own findings to the seriousness of the disorder as described under the hypothesis. The criteria are defined and developed by assigning them indicators representing the individual findings (see also figure 2.2). The indicators serve as diagnostic elements (findings, data) of a lower level of abstraction and are therefore used to bridge the gap between a situation established during the assessment (e. g. statements made by the client in a first interview) and the criteria.

The diagnostic criteria are supplemented by criteria for assessing a client's change process which describes the problem changes in a client's behaviour. These criteria represent requirements

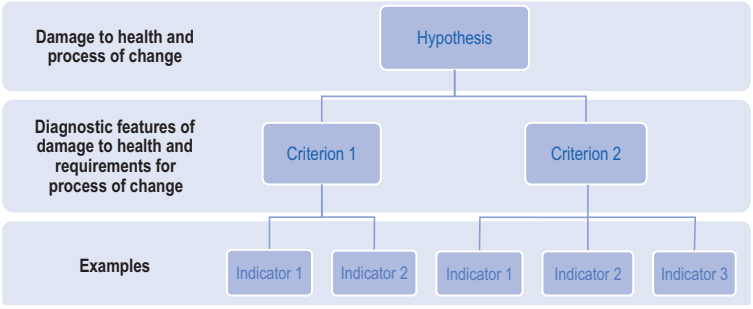

Figure 2.2: The system of hypotheses, criteria, and indicators

Criteria (Problem characteristic)	Criteria (problem focused coping strategy/process of change)
→ A 3.1 K Alcohol tolerance and/or binge drinking episodes	→ A 3.3 K Reduced alcohol consumption over a sufficient period of time
→A 3.2 K Non-social drinking motives, tendency to problem drinking	A 3.4 K Coping strategy is adaquetly motivated (problem awareness) and reinforced by positive experiences →A 3.5 K The changing process is stabilized by gained self-efficacy and improved control on antecedents and consequences of drinking situations

Figure 2.3: Criteria of hypothesis A3 (problem drinking)

that must be completely fulfilled so that a favourable prognosis can be made (for an example with alcohol see figure 2.3). The criteria for describing changes are also assigned to descriptive indicators. They serve to elucidate the criteria without substantiating a decision as such. This remains the reserve of the criteria. In many cases indicators will only have an exemplary character or in individual cases they will describe the different conditions under which the criteria can be considered as having been fulfilled. They are usually weighted differently and do not claim to be complete. Occasionally individual (exonerating) indicators are assigned to so-called contraindicators with examples for when a criterion representing a requirement has not been fulfilled.

The three levels of hypotheses, criteria and indicators thereby serve to explain with an increasing level of detail and concretization advisory opinion, conclusions and findings regarding the situation and the surveyed individual findings. The individually surveyed data (indicators) can be assessed and weighted with regard to their contribution to a decision regarding the fulfillment of criteria whereby the criteria are important for making a diagnosis (confirming or rejecting the hypothesis). The formulation of hypotheses and of criteria used to examine alcohol abuse is described in more detail in section 2.3. The quality and function of the indicators is explained here using hypothesis A 3 for the diagnosis of problem drinking shown in figure 2.3.

Hypothesis A3

A drinking style with exposure to health risks existed that manifested itself in increased alcohol tolerance, uncontrolled heavy episodic drinking and distinct relief drinking. Through his full awareness of the problem, the client has sufficiently changed his use of alcohol so that it can now be assumed that he will be able to control his alcohol consumption in the future.

Criteria for the necessity of reducing the drinking level

Criterion A 3.1

There is an above-average increase in alcohol tolerance and/or uncontrolled binge drinking.

Assigned indicators (selection)

1. Drinking and driving with a blood alcohol content (BAC) of 1.6‰ or more is on record.

…

4. Despite an absolute driving unfitness (BAC of 1.1‰) or of more than 0.55 mg/l breath alcohol content, the circumstances of the recorded drinking and driving offences do not indicate any impairments (long distances driven without a crash, no noticeable signs of alcohol induced impairment in the police or medical report).

…

7. While socializing the client often drank amounts of alcohol producing a blood alcohol content of 1.1 to 1.3‰.
8. The client describes occasions where he lost track of how much he had been drinking.
9. The average alcohol consumption was in the range of considered as a health risk (average daily consumption of 60 to 120 grams of alcohol with men and 40 to 80 grams with women).

…

Criteria for an appropriate treatment of alcohol abuse

Criterion A 3.4

A change in behaviour is considered stable when it is based on an appropriate awareness of the problem and is supported by learning experiences.

Assigned indicators (selection)

1. The client is aware of his danger of becoming addicted and of the need to reduce his alcohol consumption.
   Contraindications
   (1) The client has changed his drinking habits only because of outside pressure or for irrelevant reasons (e. g. because of the mandatory Medical Psychological Assessment or on the advice of his solicitor) without seeing this as being a necessary consequence of the disadvantages he has suffered from.
   (2) The client says that drinking and driving "can happen to anyone."

…

3. The client accepts and follows the advice of the attending physician to drink less or to stop drinking altogether.
4. The client sees how his increased drinking has been causing him problems and concluded that his previous coping behaviour will not help him in the long run.

…

6. The client has recognized the situations where ineffective strategies have to be replaced by alternatives.

…

8. By changing his drinking habits the client has gained positive experiences (increased social acceptance, more enthusiasm for his work, new hobbies, new friends, etc.), so that it can be reasonably assumed that he will be able to sustain this new drinking behaviour.

…

11. Psychological driver improvement measures have led to far-reaching changes in the client's attitude and to effective strategies that have been experienced positively.

Of a more general nature are hypotheses that address the applicability of findings (H 0[7]), the exclusion of relevant health problems and individual performance. Figure 2.4 shows the use of hypotheses in assessment criteria and how they are assigned to specific case groups (see sections 2.3 and 2.4).

7 This hypothesis has been formulated first before all the other diagnostic hypotheses and has been given the serial number 0 to highlight its general character as a meta hypothesis. It must not be confused with the scientific null hypothesis.

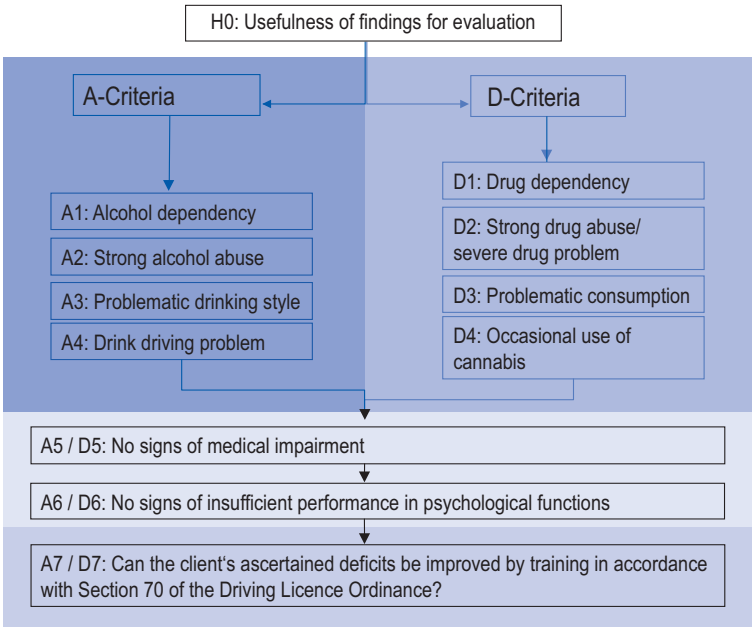

Figure 2.4: The architecture of alcohol and drugs hypotheses

A positive driving behaviour can only be predicted after all the details of a person's behavioural change have been confirmed. In other words, all of the assessment requirements must be met. If the client fails to meet only one requirement associated with the initial question, the official reservations concerning his driving fitness will remain. Individual requirements or criteria may not be exchanged or offset against each other. Hypotheses and criteria must be verified until a decision has been confirmed. This particularly applies to the scope of the psychological assessment which will continue until a decision has been made.

German law relating to driving fitness not only covers an assessment to establish if specific criteria have been met, but it will also recommend personal driver improvement by the help of special training courses. A licence that has been withdrawn will be reissued upon the successful completion of such driver training. If the findings have been unsatisfactory, the psychological examiner will have to decide whether remaining doubts regarding the problem

at hand and its resolution can be successfully addressed through such an intervention. When an unfavourable prognosis of a client's driving behaviour is being based on his failure to fulfil a corresponding criterion, then according to hypothesis A 7 it must also be checked to see whether the client will be able to take part in training and, with consideration for his language and intellectual skills, if he will be able to benefit from such a measure.

By using the case record and his analysis of the file and collecting the required data in a diagnostic process using the assessment hypotheses, the assessor will be able to assess the criteria required to make a decision and clarify this in order to answer the initial question posed by the administration officials.

2.3 Contents of the assessment criteria using the example of drinking and driving

Below is a verbatim account of the hypothesis of the assessment criteria and a summary of the relevant criteria. This overview is meant to improve the comprehensibility of the structure of the assessment criteria and provide insight into the decision as well as the structure of the argumentation during the assessment process.

Hypotheses and the assigned assessment criteria

When dealing with drinking and driving offences the following hypotheses must either be rejected or verified. Before interpreting the collected findings the assessor will have to determine the extent to which he can base his diagnostic classifications on statements made by the client. He must affirm his decision by answering hypothesis 0.

The information required to answer the authority's initial question was collected during the assessment and it proved useful for interpreting the findings.

Meta hypothesis o

Assigned criteria

The client cooperates sufficiently, he is willing to talk and he accepts the official reservations at least in principle. He is open

enough so that the background information required to analyze the behavioural problem can be collected. The information volunteered by the client does not contradict the experiential or scientific knowledge or the situation outlined in the file. This is consistent with the other findings (medical and performance-related findings).

Alcohol hypotheses

The group of alcohol-impaired drivers exhibits alcohol disorders of varying degrees of seriousness. This can range from simple drinking and driving problems with otherwise predominantly controlled drinking habits without any serious social or health problems up to alcohol dependency which has been reinforced over the years and previous records of a wide variety of behavioural problems. Here the assessor will initially have to document the extent of the alcohol misuse and refer to the international diagnostic schemes ICD 10[8] and DSM IV-TR[9] before he can make a prognosis on his future driving behaviour.

Hypothesis A1

Alcohol dependency exists here. A withdrawal therapy or comparable problem-focused coping followed by a treatment of the addiction has led to a stable condition of alcohol abstinence.

Criteria for alcohol dependency

Alcohol dependency has been diagnosed previously or such a diagnosis is now assessed according to ICD 10 or DSM IV respectively because of the present findings and/or previous unverified diagnoses can now be verified.

Criteria for an appropriate problem-focused coping strategy

The problem behind the dependency has been overcome, usually with the help of a withdrawal therapy. The withdrawal has been followed by a proven sobriety period of at least one year. The client understands the disease and is motivated to adopt a

8 International Statistical Classification of Diseases and Related Health Problems (Dilling et al., 2011).

9 Diagnostic and Statistical Manual of Mental Disorders (Saß et al., 2003).

permanently sober lifestyle. The sobriety has remained stable because it is being supported by measures preventing a relapse and through a supportive social environment.

Hypothesis A2

Since the client cannot avoid alcohol misuse, he has completely stopped drinking.

Criteria for complete abstinence necessity

As defined by DSM IV, alcohol abuse is given when it shows itself in a continued alcohol intake despite its clear negative effect on a person's lifestyle (e. g. repeated alcohol abuse problems with the police, courts or authorities, severe alcohol-related health problems).

We can learn from past experience, particularly from the client's case history, that he is unable to control his drinking habit (e. g. he has had his driver licence withdrawn more than twice for drinking and driving, after taking part in training or receiving a positive prognosis he has repeatedly had drink driving offences). His inability to control his alcohol intake has already led to impairments which were treated previously without success.

Criteria for an appropriate problem-focused coping strategy

There has been a proven period of sobriety of 6 to 12 months.[10] The client is aware of the conditions leading to prolonged periods of alcohol abuse and has a desire to permanently stop drinking. By not drinking the client was able to experience his own abilities again. This experience will help him to avoid alcohol in the future. If psychotherapy was used, this proved successful. The client's social environment supports his abstinence from alcohol or at least does not pose an additional risk.

10 Here it must be seen if a person's behaviour has been modified long enough for it to have been reliably integrated into his overall behaviour. This can only be realistically assumed after one year or, depending on the seriousness of the problem, in exceptional cases before then.

Hypothesis A3

A drinking style with exposure to health risks existed that manifested itself in increased alcohol tolerance, uncontrolled heavy episodic drinking and distinct relief drinking. Through his full awareness of the problem, the client has sufficiently changed his use of alcohol so that it can now be assumed that he will be able to control his alcohol consumption in the future.

Criteria for problem drinking

A powerful alcohol tolerance exists that is characterized by repeated unhealthy and high drinking levels over an extended period of time. This has reversible short-term negative consequences (e. g. mental blackouts and uncontrolled binge drinking leading to improper behaviour and impaired judgement) which the affected person is able to compensate. His increased alcohol tolerance has led to a shift in his threshold of sensitivity with physical symptoms signalling his intoxication no longer being noticed.

Criteria for appropriate problem-focused coping mechanisms

Appropriate problem-focused coping is characterized by a stable reduction in alcohol consumption over a period of several months to a year accompanied by low-risk drinking. There is sufficient awareness of the previous heavy alcohol consumption and an earnest desire to change one's ways. The positive change in the drinking behaviour can be seen as being permanent when the cause of the problem and the consequences of the previous drinking behaviour no longer exist or are no longer effective, and when they have been replaced by a significant increase in self-confidence.

Hypothesis A4

The client no longer exhibits a drink driving problem and he is willing to accept and follow the rules of driving sober.

This hypothesis has not been assigned to diagnostic criteria because it must always be applied when no complete alcohol abstinence is called for or if the verification of hypothesis A 3 has indicated a sufficiently reduced drinking level and

therefore the issue of separating drinking and driving needs to be addressed.

If no alcohol-related problem according to A 1, A 2 or A 3 can be determined by diagnosis, the client will then exclusively be assessed according to the criteria of hypothesis A 4. This would be the case if for example during social drinking the dangers of drinking and driving were underestimated or the dangers of alcohol for controlling one's own action misjudged. This group of drinkers usually has a blood alcohol count of less than 1.1 ‰ and finds it difficult to accept or follow the rules. The affected persons are able to control their behaviour once they have developed realistic risk awareness and a correct insight into the need to adapt their behaviour accordingly while driving.

Criteria for an appropriate coping mechanism

The appropriate resolutions have been made and the necessary assertiveness to drive without drinking exists. Drinking occasions are being arranged suitably thus ensuring that drinking and driving are kept apart even in the face of unforeseen events. The client is sufficiently aware of the negative effects of drinking and driving to appreciate the need to keep the two apart.

The client no longer shows signs of a medical impairment through his previous alcohol misuse that would question his present driving fitness.

Hypothesis A5

Assigned criteria

The exclusion of perceptual, internistic, psychiatric-neurologic and orthopaedic impairments respectively in response to specific demands which could be related to the initial question. There are no secondary diseases due to alcohol or substance abuse. Developmental and personality disorders can be ruled out as the cause or result of substance abuse.

The client does not show any signs that his driving fitness would be impaired through an absence of the required mental and/or psychological functions.

Hypothesis A6

Assigned criteria

The client's psycho-physical performance requirements are sufficient for driving motor vehicles of the driving licence class that he has applied for. The defined lower performance limits have been reached or exceeded. Insofar as performance deficits still exist, an examination of the client's driving ability to compensate any deficits allows a sufficient safe driving behaviour to be predicted for the future. This observation method assesses the driver's basic functions (such as reaction capacity, orientation, concentration) while driving a vehicle on a special course on public roads.

Hypothesis A7 (driver improvement)

In accordance with Section 70 of the Driving Licence Act for drivers with alcohol-related behavioural problems, the client's ascertained deficits can be sufficiently influenced by training designed to restore his driving fitness.

Assigned criteria

The client's behavioural driving problems can be sufficiently influenced by rehabilitation measures. The client possesses enough self-reflection, is willing to assert himself and has the mental and communication skills required for the training. This assumes that the client either has already begun to change his drinking behaviour or that he is willing to change it because of the negative consequences he has experienced. However, the training is not meant to replace the required sobriety or stabilizing periods.

2.4 Overview of the hypotheses relating to drug abuse

As with alcohol abuse, the seriousness of the drug abuse has also been structured hierarchically here. The background of the recorded behavioural problems is very heterogeneous and ranges from keeping an occasional consumption of cannabis apart from driving to a chronic drug addiction. Different from alcohol, the varying consumption patterns and the varying degrees of drug addiction are not the only factors that must be considered, but also the varying potential and the addiction potential of the different types of substances. Here, too, the assessor will also have to first appreciate the extent of the drug consumption pattern (problem-focused) and on the other hand to assess the changes described by the client in order to reach a prognostic assessment on the basis of the diagnostic classification.

The assessment of the driving fitness of drug users and of people driving under the influence of drugs is largely dependent on the respective regulations of the individual member states of the EU. We are therefore limiting ourselves here to providing an overview of the existing drug hypotheses without going into the details of the assigned criteria, whereby these are more or less similar to the content of the alcohol hypotheses.

Hypothesis D1

Drug dependency exists here. A withdrawal therapy or comparable problem-focused coping supported by a treatment of the addiction has led to a stable condition of drug abstinence.

Hypothesis D2

A severe drug problem exists which has manifested itself in substance abuse, a polyvalent consumption pattern and in the use of highly addictive drugs respectively. This has been adequately accounted for and an abstinence from drugs has been reliably maintained for a sufficient period of time.

Hypothesis D3

A drug risk exists here without any signs of a severe drug problem being present. A sufficiently verifiable reasoning process has led to permanent drug abstinence.

Hypothesis D4	**Only an occasional use of cannabis exists here. The client can reliably avoid driving under the influence of drugs. This also applies to a further use should the occasion arise.**
Hypothesis D5	**With respect to the previous use of drugs, there are no organic, psychiatric and/or adaptive disorders which would rule out the client's driving fitness.**
Hypothesis D6	**After a previous use of drugs, the client no longer has any impairment of his mental and/or psychological functional requirements which would have a negative effect on his driving fitness.**
Hypothesis D7 (driver improvement)	**In accordance with Section 70 of the Driving Licence Act for drivers with substance-related behavioural problems, the client's ascertained deficits can be sufficiently influenced by training designed to restore his driving fitness.**

3 Proceeding from Findings to Assessments – Application Example

3.1 Different sources of findings

Various sources of findings are used to assess driving fitness. This section looks at how findings are interpreted and an official request is answered by first discussing the situation in general terms and then examining a specific example where findings have been interpreted and an official request answered with the aid of the assessment criteria and the use of a hypothesis and a selective finding. The different sources of findings (chemical-toxicological tests, psychological tests, medical findings, psychological interview) are described in more detail in Annex 1–4.

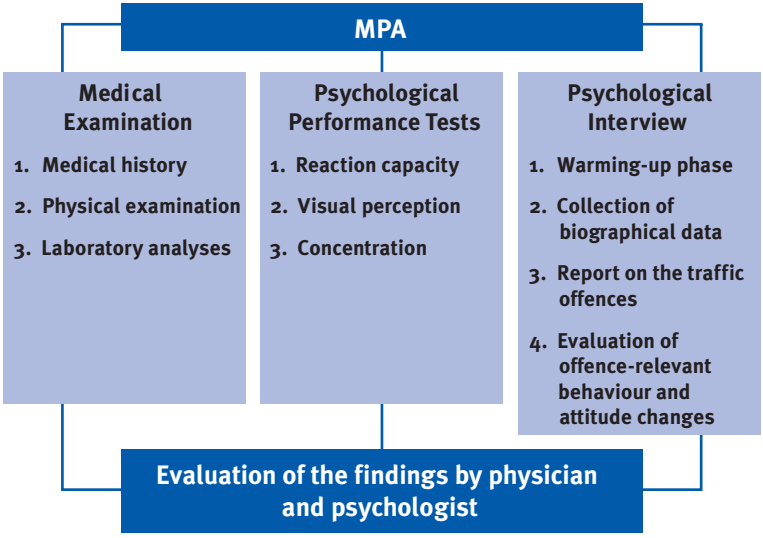

Figure 3.1: Sources of findings to be combined at MPA

Initial source of findings: An analysis of the file and the previous case history

A previous record, i. e. a file with a case history, is not only important when traffic authorities question a driver's fitness following an incident of drunk driving and then consult an assessment for answers (compare chapter 1). An official file will often already contain pertinent information on the severity of the problem and the development of behaviour patterns. The assessor will therefore carefully examine a motorist's driving record to check for any repetitive patterns in his behaviour and the severity of a problem. In the case of drinking problems, the amount of blood alcohol concentration (BAC), the documented impairment through intoxication, the time of day of driving under the influence of alcohol and the intervals between repeated drinking offences are important.

The assessment criteria themselves contain numerous references to the data of the case history, e. g. when the drinking behaviour is being classified in the categories alcohol dependence (A 1), the need to stop drinking (A 2) or problem drinking in the sense of a drinking style with exposure to health risks (A 3). For example, the indicators in A1 will contain actual derivatives from the BAC and the driving behaviour that will point to a massive tolerance (a criterion of the ICD 10 and the DSM IV respectively). Criterion 2.2 of A 2 mainly lists offences that indicate a lack of determination to limit drinking following previous negative experiences (behaviour patterns formed by reinforcement from alcohol-induced positive experiences).

A diagnosis of problem drinking (A 3) is also related to a previous case history when criterion 3.1 is being used to check if an incident of drunk driving shows an above-average degree of alcohol tolerance which has not yet reached an extent indicating alcohol dependence.

An assessor will of course not want to only have to rely on a file. Especially assessors in the field of traffic psychology will be able to derive valuable information on a person's drinking behaviour, his alcohol consumption and control mechanisms and his social environment in the personal interview dealing with the course of events and the background of the incidents recorded

in the file – information which will initially be used to clarify the seriousness of the problem. The analysis of the case history thus allows the validity of the diagnostic hypotheses to be tested and a more targeted examination strategy to follow later when further findings have been made.

The files also shed light on the plausibility of the client's statements. His statements on the origin of the problem and his behavioural changes should not contradict the established facts and data. This is the topic of hypothesis 0 which looks at the usefulness of the information provided by the client.

An assessment based only on current medical and psychological findings without a reference to the files would not only make it very difficult to interpret and categorize the findings against the background of past behavioural problems, but would also make it almost impossible to check the plausibility and usefulness of the client's statements.

Second source of findings: Medical and toxicological evidence

Depending on the problem at hand, the significance of medical and toxicological evidence in clarifying driving fitness varies considerably. For example, if a motorist's driving fitness is being questioned because of an illness, an assessment will often only focus on this issue. The assessment will be made in the context of medical opinions and only apply to physical dependence. With behavioural problems such as repeated speeding offences, an assessment will focus on aspects of behavioural psychology. In both cases the respective "neighbouring discipline" plays an important role in examining or excluding an illness as the cause of behavioural problems (such as when ADHS is seen as being the cause of antisocial behaviour), or when the effects of an illness on a person's behaviour, particularly their mental and functional performance, is at the centre of attention.

However, medical psychological assessments conducted jointly by physicians and psychologists mainly focus on substance abuse. In no other area of behavioural psychology affecting driving fitness is medical and psychological evidence linked so closely together and a coordinated approach so important.

When for example signs of sobriety are being interpreted, not only will the information provided by the person concerned be used, but also the evidence that he had recorded prior to the assessment (for example, joining a sobriety screening programme with six findings over one year). This toxicological evidence can really only be used to assess driving fitness if it comes from a neutral and competent authority and is described in a comprehensible manner. To corroborate the evidence the assessor will use the criteria laid down in hypothesis CTU (compare Annex 1).

Depending on the incident and the problem at hand, the medical evidence will be recorded more or less comprehensively. If the past history does not contain any information on a physical or mental illness or if complications from substance misuse are not being ruled out, the examination can basically be limited to an anamnestic diagnosis of possibly relevant medical influences. A background of alcohol or substance misuse will, however, require a more detailed anamnesis whereby physical findings and laboratory parameters will be gathered in order to diagnose the extent of the misuse (e. g. to exclude alcohol dependence according to A1 and to search for physical signs of a previous or a still existing heavy intake of alcohol according to A 3). The medical part of the assessment also contains an appraisal of the toxicological evidence confirming a person's abstinence from alcohol and drugs.

Third source of findings: Psychological test procedure (cognitive performance)

Physical-mental fitness not only refers to a driver's health but also to his cognitive performance. Road users must not only be alert and able to focus their attention on the traffic to fully recognize, evaluate and react to what is happening. The link between a person's sensory performance and his motoric control represent the cognitive performance parameters which describe his ability to assimilate information and process it in his central nervous system. Requirement specifications such as those listed in the driving licence regulations and in the assessment guidelines are described using concepts such as concentration ability, attentiveness, the ability to react, orientation response and the ability to cope with stress. A series of individual activities from the perception

of a visual impulse to the identification of the cue and assigning it significance followed by the arrival at a decision before a final reaction is produced are all invoked when a person drives a vehicle as well as when he takes a test, whereby the individual steps cannot really be analyzed separately. A screening process will therefore test as many performance indicators as possible by examining a person's ability to focus his attention, to respond to a variety of impulses by reacting quickly and accordingly, and to cope with the resulting stress. On the other hand, evidence must also be provided that the test correlates well with noticeable driving problems. Depending on the case history, special methods are also used to examine focal points such as attentiveness and visual orientation.

In individual cases a psychological test can also be supplemented with a standardised method of observing a person's driving behaviour which will give some indication of their compensation ability through their driving experience. However, this is a very demanding test which must be accompanied by suitable conceptual terms of reference to ensure the use of more or less standardized performance requirements as well as a standardized recording of the exhibited behaviour and documentation of the results.

The hypotheses A 6, D 6 and V 5 and the assessment criteria under hypothesis PTV (psychological test procedure) in the major textbook 8.2 contain a description of the cases in which a performance test must be carried out as well as the requirements placed on the selection and application of the test. Drivers with special responsibilities who operate high-risk vehicles (driving licence group 2) or who transport passengers must fulfil particular demanding requirements placed on their mental performance, indicated in higher test results above the average standard.

Specific questions, particularly with regard to a previous criminal offence, can also require the use of personality questionnaires. However, the results cannot be specifically related to a person's driving fitness, but rather they must be meaningfully related to the assessment criteria.

Fourth source of findings: The psychological interview

This part of the examination is decisive when past behavioural problems are involved. Since the interview will cover the case history as well as the following consequences and the current status, this will lead to a kind of system of coordinates in which all findings can be integrated. Discrepancies in the client's statements as well as between his information and the present results will be noticeable as well as discrepancies with regard to the evidence contained in the files which will then also be addressed and clarified. Medical, toxicological and performance results will be added to the overall picture and together with the results of the interview they will provide a diagnostic reference point for the time when the problem was first noticed and allow an assessment of how the problem has developed in the meantime.

The purpose of the psychological interview is to collect the facts and interpret them in a meaningful manner. For example, the situation that triggered the documented offence must be appraised and it must be clarified whether the described situation fits with the stated behaviour habits at the time and to what extent the course of events can be conclusively substantiated through the information provided by the client. Here the question that arises when the client's behaviour exhibits a loss of control is whether this is also clear to the client. Thus not only the assessor's view of

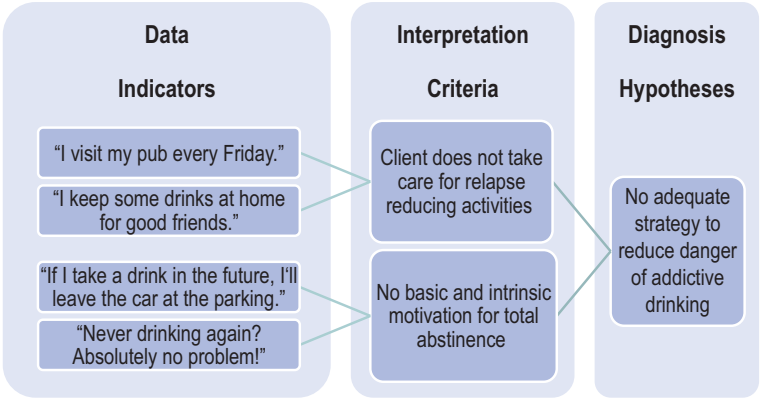

Figure 3.2: From single statement to validation of the hypothesis

the causes of the problem is important, but also the client's own view of the reason for his behaviour. Finally, what the client has inferred from this for his behaviour and whether or not his own explanations can be reconciled with the medical and toxicological evidence at hand also matters.

The constant change between the factual level (What happened?) and the client's own response (How does the client see and explain the situation?) constitutes the special challenge of the psychological interview. Offenders are more likely to attribute responsibility for their actions in other individuals, luck, chance, or situational factors beyond their control. Thus they don't perceive the necessity to change behaviour habits.

3.2 Application example of problem drinking

The use of the assessment criteria will now be illustrated using the example of a motorist whose driving fitness was questioned because of a drinking and driving incident. The example is based on the data of an actual client with only an extract from the information being used to illustrate the assessment procedure and not to discuss the decision by completely disclosing the findings. The names, places and dates have been altered. For a better understanding of the situation, one can safely assume that the assessment took place during the first quarter of 2012.

3.2.1 Statement of the facts and the findings

The case history according to the file

The file of the driving licence registration office contained the following circumstances of the case:

September 1975:	Driving licence issued for Class 3 (motorcars)
March 2011:	Careless driving while intoxicated. Mr A failed to negotiate a bend to the left outside of a built-up area on an open road while driving at 80 km/h. While attempting to correct his error he

completely lost control of the vehicle which then rolled over. The passenger in the vehicle suffered minor injuries. The accident happened at 11:55 p.m., the BAC measured at 0:35 a.m. amounted to 1.78‰. The diagnosis of the physician who took the blood: a clear case of intoxication.

This case history already contains several aspects that are relevant for a diagnostic assessment and for formulating the requirements for a favourable assessment of the situation. Mr A's alcohol blood level clearly shows signs of problem drinking with an increased alcohol tolerance (hypothesis A 3). The careless driving resulting in the accident and the degree of alcoholization established by the physician show that on that evening Mr A must have reached his personal tolerance limit by drinking an amount of alcohol that was unusual even for him. The file thus does not contain any clear evidence of a serious alcohol problem or alcohol addiction. This can also be seen in the fact that Mr A was 53 years old when after 35 years of normal driving he committed his first driving offence. Insofar as the diagnosis of the alcohol risk described in A 3 is confirmed and no other aggravating circumstances are added, the assessment criteria would demand a considerable and stable reduction in the amount of alcohol being consumed since the driver's accountability and his decision to drive a vehicle would also be questioned whenever he was under the influence of increased amounts of alcohol. Here even with a reduced intake of alcohol the person's willingness and ability to reliably avoid drinking and driving would have to be ensured (hypothesis A 4).

The medical, toxicological and tested psychological evidence

During the examination Mr A submitted the following document:

9.2.2012: A hair analysis was carried out (3 cm above the scalp) using ethyl glucuronide (EtG) at an assessment institute: no evidence, limit of determination: 0.007 ng/mg.

During the medical examination the following evidence was collected:

Size and weight: 180 cm, 75 kg

Blood pressure on the day of the examination: 135/95 mmHg

Physical and neurological examination: no evidence

Blood values:	GOT	21.2 U/L	(normal range < 50 U/L)
	GPT	33.5 U/L	(normal range < 50 U/L)
	GGT	17.9 U/L	(normal range < 60 U/L)

Traffic psychological driving performance tests: Reaction and ability to cope with stress were all within the average performance range which is also why no further tests were carried out.

Mr A thus obtained results that completely conform to standards without any indication of a currently increased intake of alcohol. No one would be able to question his driving fitness just because of these results. We can therefore note that the medical and psychological test assessment did not produce any evidence according to the hypotheses A 5 and A 6 of the assessment criteria that would rule out his driving fitness.

Mr A also had a hair analysis performed using EtG which verified his sobriety over a three month period. However, if we were to assume that he was unable to limit his alcohol intake this would require him to completely stop drinking within the meaning of hypotheses A 1 or A 2, which would make this three month sobriety period too short. On the other hand, if we are only looking at him discontinuing his alcohol intake so that he can break loose from his old habits and resist resuming drinking, then this would be seen differently.

The results of the psychological interview are indispensable for gaining an understanding of the seriousness of the former alcohol problem and for distinguishing this from hypothesis A 1, A 2 and A 3 in a differential diagnosis.

The traffic psychological interview

The psychological interview deals with the extent and the origin of the behavioural problems as well as with the further development following the criminal offence. External findings are also brought forward and the medical and psychological test results are discussed with the client. The medical anamnesis partly matches the interview conducted with the psychologist insofar

as it refers to the alcohol case history. It is not being dealt with separately here since the information contained in both sources can be summarized as one finding. In the following only excerpts from the information provided by the client in the interviews is being reproduced.

Mr A's story

Mr A is 53 years old. He reports that he is married and that he has two grown children. He has been working as an accountant for the same company for 25 years. The company was taken over by another company and various departments were going to be merged. This meant that his job was also on the line, which was already obvious before the drinking and driving incident. Six months ago he was transferred to another department at another company site. Although he was no longer worried about his job, getting to work without a driving licence wasn't so easy.

On the day that he was drinking and driving he had been at a works meeting where the restructuring plans were being discussed, and afterwards they had gone bowling. He had been going there for years; this was a regular event in the week. Normally, he would drink no more than two or three beers (à 0.5 l). On this night it "could have been more", and someone also shouted some schnapps since it was their birthday. He had intended to walk home but he had already promised a friend that he would give him a lift. He thought that if he drove carefully everything would be all right. On the way home he must have fallen asleep for a moment. When he hit the curb he couldn't react quickly enough. The next morning he was so ashamed that he felt like not getting up. Although his friend had required medical attention, he could go home that same evening.

This was when he decided to stop drinking for a while. He found that this wasn't very difficult. Then, after three or four weeks he began to drink a beer now and again, especially since he would walk home. Sometimes he would drink more than just one beer, but no more than the usual two or three beers (à 0.5 l). When he heard that he would most likely only get his driving licence back if he took an MPA, he stopped drinking

altogether again. He had now stopped drinking completely for more than half a year. He felt good; he was fit and he felt that he could cope better with life now. His colleagues knew that he was doing this because of the MPA. The bowling club was supporting him in his struggle to recover his driving licence. When he filed his application with the authorities he discovered that he had to prove stop drinking and to describe this change by the help of a sobriety programme. He had gone for a counselling interview and followed the psychologist's advice by having a hair analysis done.

During the time before the drinking and driving incident he had made sure that he wasn't drinking too much when he was driving. He would stop drinking after two beers at the most. This had always worked. Whenever there was a special event his wife would usually drive. Then he would sometimes forget to count and maybe drink five to six beers (à 0.5 l), or two beers and three to four quarter litres of wine. That's what he was doing from 2009 to 2011. Before then he wouldn't have been able to drink more.

3.2.2 Assessment of the findings

Classifying the alcohol problem

The psychological interview was able to largely confirm the first hypothetic considerations about the extent of the problem based on the case history and the medical data.

In **Mr A's** case it was during the time when his career was changing and he was worried about his job that he started drinking more alcohol and he began to drink to alleviate the pressure. His drinking pattern corresponds with the features described in hypothesis A 3. There are no signs of a more advanced or long-term alcohol problem as described in hypothesis A 2. Although he tends to trivialize the amount of alcohol he was consuming, his information is otherwise inherently consistent and explains the problem in the case history (hypothesis 0). In **Mr A's** case the assessors will nevertheless assume a drinking style with exposure to health risks (so-called alcohol hazard) and look at the way the

problem is being handled by using the criteria of hypothesis A3 and A4.

Evaluating the effect of the changes

Under the impression of the consequences of his drinking and driving, **Mr A** had at first believably reduced his intake of alcohol only to pick up his old habit again by beginning to drink regularly. Lately, he has stopped drinking completely and the information he provided in this respect has been corroborated by the normal physical evidence obtained during the examination and his hair analysis. However, his sobriety has been mainly motivated by his desire to recover his driving licence so that it is doubtful that he will remain abstinent after he has been given his driving licence again. Yet a complete abstinence from alcohol is not really necessary for a favourable prognosis of the diagnostic group related to hypothesis A3. Both the fact that he was able to keep his job as well as the impression which the consequences of his alcohol consumption and his drinking and driving had on **Mr A** along with the positive experience of his complete abstinence make it quite unlikely that he will continue to consume the same amounts of alcohol as between 2009 to 2011. On the other hand, his current abstinence has not prompted him to make plans for the future regarding his alcohol consumption and he has also not been able to see how well he will be able to continue his abstinence when socializing with his drinking friends. He has also had no experience in completely avoiding drinking and driving when he attends social events.

While on the whole the assessors will therefore be able to certify a favourable development, they will nevertheless advise him to take part in corrective training according to Section 70 of the driving licence regulations. **Mr A** already meets the requirements for the prognosis described in hypothesis A7 since he sees the merit in changing his ways and he has already begun this change.

Answering the official request

The assessment is brought to a close by answering the official request as completely and directly as possible. This is the end result of the close collaboration between the medical and the

psychological examiner. The final statement must be inferable from the appraisal of the findings that were made and the evidence that was produced. The advisory conclusions must be stated so that they are understood by the client and the traffic authorities.

Mainly assessments containing unfavourable findings will also provide advice for the individual on how he can meet the demands placed on his driving fitness before he faces his next assessment.

4 Driver Improvement

Road traffic safety no longer exclusively focuses on testing driving skills but also looks at promoting, restoring and securing driving fitness. Here behavioural measures like training, rehabilitation, counselling and individual therapy along with campaigns and police controls are seen as being effective complementary measures in addition to assessing driving fitness. These intervention measures aim at a person's learning ability and willingness to adapt to the reality of traffic and safe driving by showing him how he can change his attitude and behaviour. These programmes focus on the critical self-reflection of the participants and their willingness to accept responsibility for their behaviour. The intention here is to hold a person accountable for his own behaviour by shifting his attention from an external (situational) focus where the cause of a given behaviour is assigned to a situation to an internal attribution where the cause for this behaviour is attributed to his own characteristics such as fitness, effort or disposition. The various intervention measures differ in their objectives, their legal consequences and the allocation of competences, their scale and the length of time they take and according to the respective background of the participants as well as in the way in which the effectiveness of the programmes is controlled. Measures that are intended to influence driving behaviour will of course also impact on other aspects of a person's behaviour and thus in the end fundamentally affect his lifestyle.

The following sections will initially look at the development of intervention measures.

Germany has a long tradition in measures designed to restore fitness to drive after offences. Many decades ago experts already realized that negative sanctions and repressive measures alone were insufficient for reducing the risk of recidivism if they were not tied to a driver improvement scheme for offenders (Winkler, 1963; Schneider, 1966; Buikhuisen, 1968). This is why Germany already introduced the first corrective training courses in 1968 which were organized and held by psychologists of the Cologne Research Foundation "Der Mensch im Verkehr" (Spoerer, 1972).

These were followed in 1971 by the first group discussions for drink drivers in Leer in Eastern Frisia (Winkler, 1974) which were evaluated together with two other programmes (IRAK and IFT[11]) (Winkler, Jacobshagen and Nickel, 1988) using the acronym ALKOEVA.

The first training modules designed for drink drivers were introduced on the First International Workshop "Driver Improvement" in Salzburg in 1978 (Zuzan, 1979). Project groups from the German Federal Highway Research Institute have since developed the corrective training courses and their evaluation further.

Corrective training courses were established in Germany for the first time together with the introduction of "Learner's Permits" for newly licenced drivers in 1986. Additional legal requirements followed in 1999 when the driving licence regulations came into force, particularly with regard to courses within the scope of the repeat offender point system and for restoring sufficient driving fitness after the Medical Psychological Assessment.

In addition to the statutory measures, numerous measures presently exist in Germany for rehabilitating drink drivers without having a direct legal effect. They are usually directed at people who want to improve their chances of success during an assessment procedure (MPA). Here it is useful to distinguish between statutory measures with and without legal consequences.

4.1 Measures with legal consequences

Motorists who have been driving while drunk or after consuming drugs will as a rule have to take part in a Medical Psychological Assessment. The assessment will usually be completed with one of three typical results, either a

– positive finding and prognosis (re-licencing), a
– negative finding or a negative prognosis (no re-licencing) or a
– borderline negative finding with unfavourable residual findings with regard to the client's attitude (recommending he take part

11 IRAK: Individualpsychologisches Modell (Jensch and Lemm-Hackenberg, 1981); IFT: Verhaltenspsychologisches Modell (Kraemer, Kuhnert and Krauthan, 1978).

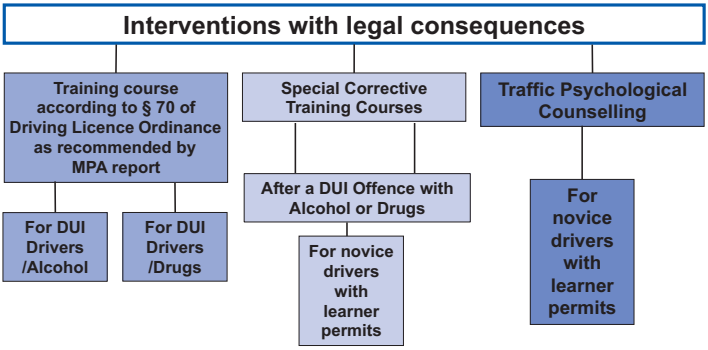

Figure 4.1: Interventions with legal consequences

in a particular course to restore his driving fitness as specified in Section 70 of the driving licence regulations). Following the approval of the authorities and a successful completion of the course, the suspended licence will be reissued.

The basic conditions for these courses are also specified in the driving licence regulations:

- The courses must have a scientific basis.
- An independent audit must confirm that the course is appropriate for the purpose.
- The course instructors must either hold a master's or a doctor's degree in psychology.
- They must be qualified traffic psychologists and they must be experienced in assessing driving fitness as well as being qualified as course instructors.
- The effectiveness of the training must be reviewed.
- A quality management system must be installed.

The Federal Highway Research Institute carries out regular audits of the institutes responsible for the courses.

Currently, several course providers are offering six different course prototypes for drivers under the influence of alcohol or drugs. The Federal Highway Research Institute publishes an up-to-date list of accredited course providers (www.bast.de/Qualitätsbewertung/Begutachtung).

Audits confirm the effectiveness of the courses, with 90 to 93 % of the participants permanently retaining their driving licence (Kalwitzki et al., 2011; Hilger et al., 2012).

The courses for problem drinkers usually run for 14 hours and are carried out in four weekly sessions. The number of participants is usually 4 to 10. A successful completion of the course is dependent on a complete and active participation without any alcohol influence (which is tested). Apart from this the courses are held under the pledge of secrecy. Participants acquire specialized knowledge (e. g. regarding the catabolism of alcohol), and they examine their personal motivation and the background of their alcohol problem. They develop behavioural strategies for avoiding future drinking and driving. Courses for drug offenders mainly focus on drivers who have been using cannabis. They are similar to the DUI courses, and they also require the participants to be "clean", i. e. the participants are subjected to an unannounced urine test for narcotics.

In addition, psychologists also conduct special "corrective" training courses for newly licenced drivers who misuse alcohol or drugs (regulated in section 2a of the road traffic act and section 36 of the driving licence regulations). Aside from being fined and having one's driving licence revoked, drivers with behavioural problems who are still in their two-year probation period will be instructed to take part in one of these special behavioural measures since it is well known that an early alcohol misuse represents a recidivist factor for similar offences. Although different from the course versions described above, a study has shown that the courses will lead to a significant reduction in the relapse risk of the course participants (Jacobshagen, 1997) even though the specific conditions of the course participants are not examined (according to a medical psychological assessment). However, affected drivers who do not attend the courses will automatically have their driving licence withdrawn.

The special corrective seminars are attended by groups of 6 to 12 people and include a personal interview and three three-hour sessions.

Special corrective training is presently still being provided within the scope of the repeat offender penalty points system (section 4

Road Traffic Act). Since May 2014 this training has been substituted by so-called "driving fitness seminars". At the time this book was being written the concept of these seminars was not yet known. According to former legislation, traffic offences in Germany were punished with 1 to 4 penalty points, while criminal offences had been punished with between 5 and 7 penalty points. With the introduction of a new penalty points system on 1.5.2014 (section 4 of the new Road Traffic Act), only 1 or 2 penalty points will be recorded for a traffic offence. Criminal offences that lead to the withdrawal of a licence will then be punished with 3 penalty points. When 8 penalty points are recorded, a driver is deemed unfit to drive and his driving licence will be withdrawn.

The new driving fitness training programme will no longer be compulsory. If only 1 to 5 penalty points have been recorded until then, a voluntary participation will lead to one penalty point being deducted from a person's "driving fitness register".

Former legislation enabled people with 14 penalty points to voluntarily take part in traffic psychological counselling. This took place in three individual sessions of one hour each. After having successfully taken part in the counselling sessions, two penalty points had been deducted from the person's penalty points register. In future only people with a probationary driver licence will be able to take part in these sessions. If committing another offence

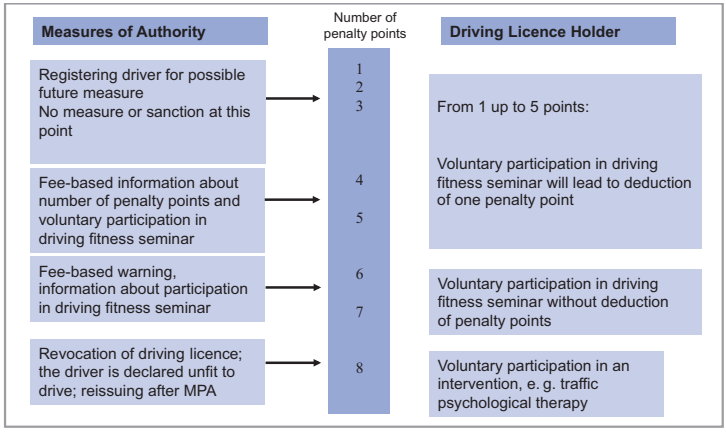

Figure 4.2: Voluntary intervention within the penalty point system

after having taken part in corrective training, the authorities will advise novice drivers to reduce their relapse risk through traffic psychological counselling. These counsellors will have to be officially accredited for this task.

The requirements for such an assignment are:

– a master's or doctor's degree in psychology
– a qualification in traffic psychology
– experience in the field of traffic psychology
– involvement in a quality management system.

4.2 Measures without a legal effect

After having his licence withdrawn for

– an alcohol-related offence with a BAC of 1.6‰ or more,
– consuming illegal narcotics (with the exception of cannabis),
– regularly consuming cannabis or driving while under the influence of cannabis or for having
– 18 penalty points recorded in the Central Card-Index for Traffic Offences
  (from 1.5.2014: 8 penalty points in the driving fitness register)

it will be assumed that a driver is unfit to operate a motor vehicle. In these cases in preparing for an MPA, a motorist's driving fitness will first have to be re-established so that he can have his licence reissued. The following medical psychological assessment will thus have to check whether the therapeutic treatment was successful and thus the person has actually changed his attitude and behaviour. This intervention must be carried out in consultation with a qualified traffic psychologist. On behalf of the Federal Department of Transportation (www.bast.de/mpu), the Federal Highway Research Institute provides information on the requirements which a favourable intervention must conform to. Psychological counselling in preparation for a medical psychological assessment is still being done on a voluntary basis as this has not been legislated in Germany.

Drivers will often be advised to have "traffic psychological therapy". This consists of a minimum of ten hours of individual sessions over at least a six-month period. The therapy is also available as group therapy. An overview is contained in Stephan, Brenner-Hartmann & Bartl (2009).

"Guidelines for Traffic Psychology Therapy" published by Sohn (2010) focus on the basic requirements of such a treatment:

- The therapy must be carried out by traffic psychologists who are also qualified therapists.
- The therapy must pursue a legally-defined standard goal (restoring a driver's ability to take part in road traffic in a safe and cooperative manner).
- The therapy must conform to scientifically proven standards of traffic psychology and clinical psychology.
- The therapy must be able to identify circumstances affecting driving fitness which are relevant for restoring a person's driving capacity.
- The therapy will be considered as being successful when the offender does not commit another offence.

The experiences in Europe have been summarized in the research project ANDREA (Bartl et al., 2002) with new practical experience being added by the large-scale research project DRUID (Bukasa, 2008; Bukasa, 2009). Although a comparison of the various corrective training courses revealed a considerable difference in the duration of the individual courses and the number of sessions that were held, there were also many features which the courses had in common (see also Raithel & Widmer, 2012):

- The interventions were designed for drivers without alcohol- or drug-related dependence, and they featured informative, educational and group-dynamic elements.
- Instead of being limited to road traffic, the contents also covered issues relating to private life, lifestyle and health.
- The courses were held by traffic psychologists with a therapeutic background.

Allhoff-Cramer et al. (2007) have proposed an interdisciplinary model for enhancing, preserving and regaining mobility

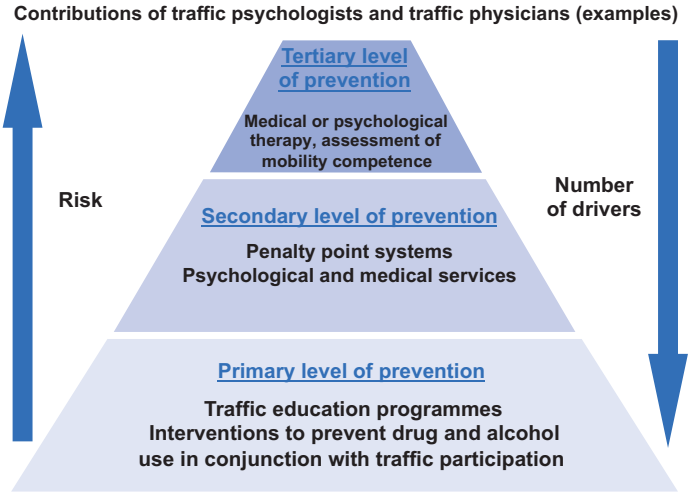

Figure 4.3: The PASS Model (**PASS** = **P**sychological and Medical **AS**sistance for **S**afe Mobility)

competency in Europe. It is called "PASS" for Psychological and Medical ASsistance for Safe Mobility first reported by Schubert & Mattern (2006). The objective is to bring the greatly diverging national driving licencing systems more into line with each other.

The PASS model represents a mobility competency concept comprising long-term qualifying physical, mental, behavioural and attitudinal standards required to safely operate a motor vehicle. The concept links tasks designed to influence driving behaviour and increase road safety that are related to traffic medicine and to traffic psychology. It connects driving skill with driving fitness as complementary elements in a motorist's driving career. PASS distinguishes between three prevention levels (see also figure 4.3):

– The first prevention level aims at developing and securing driving competency, e. g. through driving instruction and counselling for senior drivers.

– The second prevention level concerns specific measures that are used to enhance and preserve mobility in individual cases. Specific measures are designed to help physically impaired drivers and drivers with behavioural problems to remain mobile and continue to operate a motor vehicle for as long as possible.

This can be done through a point system (with corresponding assistance measures) or through health checks. Here the goal is to avoid losing a driving licence.

– The third prevention level concerns motorists who want to restore their driving fitness after losing their driving licence. This level focuses on quality management, state controls and an ongoing efficacy proof.

In keeping with the "Encourage and Support" motto, the PASS model offers various options for enhancing, maintaining and regaining driving fitness according to the seriousness of the respective problem at hand. This is meant to help improve road safety in accordance with the EU convention while ensuring that individual justice is guaranteed and overall efficiency is increased.

Annex 1 Chemical-toxicological Tests

Chemical-toxicological tests are used mainly to detect the use of drugs or alcohol in determining driving fitness. Because the window of detection for drugs or for ethyl glucuronide as an alcohol metabolite is markedly enhanced in urine or hair samples compared to blood, these matrices are considered to be more suitable test material for verifying abstinence.

Chapter 8.1 of the assessment criteria (major textbook) contains the following formulation of the **CTU hypothesis** (chemical-toxicological test):

Hypothesis CTU

The results of the toxicological tests used to assess abstinence were produced professionally. With regard to the prevailing conditions and the applied methods, they have also been clearly, and adequately documented and are therefore of use for forensic purposes in driving fitness assessments.

These requirements formulated in the hypothesis were fulfilled with the help of four CTU criteria.

Criterion CTU 1

Criterion CTU 1 refers to the implementation of rules or sampling and determines that the implementation of rules for drug or alcohol abstinence controls must be transparent and comprehensible.

Here, important implementation rules have been summarized as indicators and described in the following example[12]:

- At the start of a programme, the control period must be defined exactly and the client's availability ensured.
- As rule within a six-month period or a minimum of four months and during a twelve-month period or minimum of six months discreet urine tests must be provided. Alternatively drug-free or partially drug-free periods have to be verified through a hair analysis. When analyzing ethyl glucuronide (EtG) in hair content

12 Authorities that provide urine control programmes or include them in an assessment must allow for all the criteria and indicators that are published in "Urteilsbildung in der Fahreignungsbegutachtung – Beurteilungskriterien" (Evaluation of driving fitness – Assessment criteria) [Schubert, W.; Dittmann, V.; Brenner-Hartmann, J. (Hrsg.). (2013). 3. Auflage, Kirschbaum Verlag Bonn].

only a proximal segment of no more than a length of 3 cm should be used, with other drugs a segment of 6 cm should be used.

- The urine sample within the scope of an abstinence control programme shall be given no later than a day after the client was summoned (telephonically or via email depending on the arrangement made for the control programme), with the dates for the controls being unpredictable. Every urine sample given will be extensively documented.
- The rules in the event of absence or if the client is unable to attend have been clearly and precisely defined so that a summons can be enforced and the client's availability is not illegitimacy discontinued.
- Proven manipulation attempts such as the use of urine from outside sources, the addition of substances or providing a false identity will also lead to a direct termination of the entire programme. A great dilution also leads directly to termination of the programme, even if the sample contains an unremarkable finding of an intoxicant/EtG.
- After a programme has been discontinued, as well as in the event of a positive result, a new programme with a new starting date and a first sample can be started at any time.
- During an initial contact and when a sample is being taken the client must either volunteer any information on medication that is being taken or the authority carrying out the controls must request this information. Relevant medication is mainly medication containing morphine or codeine (pain killers and cough medicine), methadone and other substitutions as well as medication or preparations containing cannabis or amphetamine or that can be metabolized into amphetamine or similar substances, psychotropic drugs or hypnotic drugs or sedatives including benzodiazepines and barbiturates.
- The client will be made aware that the laboratory results can become biased if poppy seeds, cannabis or hemp products (including cosmetic care products) are consumed, or if the client resides in places where cannabis is smoked – the client will be requested to conduct himself accordingly. When alcohol abstinence is being tested, the client will be advised against using any foodstuffs, medication and oral hygiene products as

well as cosmetics containing alcohol and as well as to avoid so-called non-alcoholic beer.

Criterion CTU 2

Criterion CTU 2 specifies that the research material must be obtained by a neutral and qualified authority and in a manner that will provide a reliable account of the client's current status.

Here the following must be particularly kept in mind:

- A urine sample is given under the direct observation of a physician or the responsible toxicologist, thereby ensuring that the urine has been provided through natural passages. In accredited or officially recognized institutes or by public authorities following the initial contact with the physician or toxicologist (after the client has been interviewed and briefed), suitably instructed and authorized staff will be involved, whereby the qualification requirements must be regulated by a quality assurance system.
- Hair samples are obtained directly against the scalp in the occipital protuberance area where at least two strands of hair about the thickness of a pencil are cut off (for a retained sample). The remaining residual length is documented. Hair samples should only be removed by an independent authority with the client's identity being checked beforehand.

Criterion CTU 3

The actual analysis in a laboratory and the standards that have to be upheld are specifically regulated in **criterion CTU 3**:

"The test shall be performed according to the standards of the GTFCh by a laboratory that has been accredited for forensic purposes according to DIN ISO EN 17025. It comprises all relevant substances."

Here the following points must be observed:

- Not only has the laboratory been generally accredited according to DIN ISO EN 17025, but it has also been checked during the accreditation to ensure that specific conditions for forensic laboratories apply according to a guideline based on the principles of the German Society of Toxicological and Forensic Chemistry (GTFCh), with the German accreditation authority DAkkS having overall responsibility.[13]

13 Guidelines available at www.dakks.de/doc_pl-gesundheit and also www.gtfch.org/cms/index.php/richtlinien

Table 1: Target analytes and limits of quantitation for identifying procedures (urine and hair)

Substance categories and target analytes respectively	Urine [ng/ml]	Hair [ng/mg]
Polytoxicological evidence of drug abstinence[14]		
Cannabinoide THC-COOH THC	10 (after hydrolyse)	 0.02
Opiates Morphine (codeine, dihydrocodeine and in hair 6-MAM)	25 (after hydrolyse)	0.1
Cocaine Benzoylecgonine Cocaine	 30	 0.1
Amphetamine Amphetamine and designer amphetamine	50	0.1
Methadone EDDP Methadone	 50 (50)	 0.1
Benzodiazepine Diazepam Nordiazepam Oxazepam Alprazolam Hydroxy-Alprazolam Bromazepam Hydroxy-Bromazepam Flunitrazepam 7-Aminoflunitrazepam Lorazepam	 (50) 50 50 50 (50) 50 50 50	 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05
Proof of alcohol abstinence		
Ethyl glucuronide	100	0.007 (equal to 7 pg/mg)

Table 2: Target analytes and quantitation limits for extended opiate panels (urine and hair)

Substance categories and target analytes respectively	Urine [ng/ml]	Hair [ng/mg]
With a history of opiate consumption[14]		
Buprenorphine	1	0.05
Norbuprenorphine	1	0.05
Tilidine	(50)	0.05
Nortilidine	50	0.05
Oxycodone	50	0.05
Tramadol	50	0.05
O-Desmethyltramadol	50	0.05
Fentanyl	10	0.05
Norfentanyl	10	

– An accreditation procedure will determine whether the laboratory has experience in the forensic-toxicological field and if it is being managed in a responsible manner by a physician or a natural scientist with advanced professional training. The laboratory will also take part in inter-laboratory tests to confirm the reliability of its forensic results (checked during the accreditation procedure).
– Procedures providing information (immunoassays or simple chromatographic procedures) are differentiated from identifying chromatographic analysis (confirming procedures such as GC/MS or LC/MS). The cutoffs in procedures providing information are set so that the presence of quantities of the listed target substance (see tables 1 and 2) that are greater or less than the quantitation limit of the confirmation procedure will indicate a positive result. Test strips are not accepted.

14 With a client's history of opiate consumption, at least buprenorphine (Subutex®), tilidine, tramadol and fentanyl are also included. With the suspected use or abuse of psychoactive drugs or a shift in the client's addiction, other medication such as anti-depressants, barbiturates and contemporary hypnotic drugs such as zolpidem or zopiclone and others (particularly other psychotropic drugs such as antipsychotics, etc.) are also of significance.

– Analyses that are only being used to confirm a client's asserted abstinence will always be set up in a poly-toxicological manner according to the parameters in table 1.

Criterion CTU 4

The **CTU 4 criterion** describes the requirements placed on the laboratory's diagnostic findings to ensure that the assessment institute will be able to define the necessary application conditions and interpret the findings.

In this case the following diagnostic requirements must definitely be fulfilled:

– The diagnostic findings must without a doubt be assigned to the correct sample and thus to the individual client, whereby it must contain the summoning and the sampling date, information on the analysis procedure that was used and if applicable, the detection and quantification limit respectively. It must also include all substances that were tested for and if applicable, the results of the immunological test procedure and the results of the chromatographic analyses.

– With hair analyses, a forensic-toxicological expert must assess the surveyed time interval in the respective individual case.

– A certificate confirming the results of a toxicological analysis must indicate whether the results relate to an individual diagnostic finding or the finding of an arranged programme featuring several tests over a defined period of time. In this case the certificate must clearly indicate the time period during which the drug control measure was performed and whether the findings were recorded without any gaps. A final test report is then prepared.

Annex 2 Psychological Test Procedure

Chapter 8.2 of the assessment criteria (major textbook) deals with the criteria used to assess driving fitness with the help of performance tests. The chapter also specifies the requirements placed on performance tests through current scientific knowledge according to the proven hypotheses and the criteria of the **PTV** (psychological test procedures) **hypotheses**:

Hypothesis PTV

The psychological tests used to assess driving fitness have been developed according to general scientific principles. They have also been specifically selected for the purpose at hand and are therefore suitable for answering the underlying question. The results of the selected tests have been professionally produced, analyzed and interpreted.

Criterion PTV 1

The first of the assigned PTV criteria, **PTV criterion 1**, looks at the specific situation requiring the use of the test and stipulates that the problem at hand and the initial question must clearly emerge from the selected test.

The indicator level regulates how the selected tests and their comprehensiveness are to be oriented at the driving licence classes that are involved and the severity of the behavioural problem at hand.

Criterion PTV 2

Criterion PTV 2 says that only psychological test procedures that are theoretically related to the basic psycho-physical components pertaining to the use of a motor vehicle may be applied.

The test procedures must have also been specifically designed and adapted for their intended use to provide evidence about performance components that also apply to the use of a motor vehicle.

Criterion PTV 3

Criterion PTV 3 specifies that it must be clearly proven to the assessor using the test results that the test procedures fulfil these requirements and that they have been developed according to scientific criteria. This requirement is important because in his function and responsibility as an expert the assessor must be able to form an opinion on the statements allowed by specific tests and also determine the limits to the interpretability of the test results.

Criterion PTV 4

Criterion PTV 4 specifically focuses on the professional responsibility of the user by demanding that the required test procedure must be selected and applied by a person who is specially qualified in the use of these tests.

However, now that the tests are being increasingly used with the aid of computers combined with standardized instructions and applications, people with no background in the field and who have not been instructed in the test theory will easily get the impression that psychological test procedures are easy to apply and that the fulfilment of the test requirements is easy to assess. This of course poses a difficult problem in an area where responsibility towards the person who is being tested and road safety is of paramount importance. The questions used in the test range from simple methodological questions regarding the application of standard charts to considerations affecting professional ethics, e.g. providing qualified feedback on a serious loss in performance. This is why the selection, application and interpretation of psychological performance tests should only be carried out by qualified traffic psychologists.

Criteria PTV 5, 6

The standards for conducting tests and evaluating their results are described in the **criteria PTV 5** and **PTV 6**.

Criterion PTV 7

Criterion PTV 7 describes the demands placed on any additional observations of a client's practical driving behaviour that may become necessary. Here the traffic psychology observation of driving behaviour that is carried out as a compensatory test must be founded on a comprehensible concept based on scientific knowledge that is preferably implemented and evaluated in a standard manner against the background of the overall situation of the findings.

Criterion PTV 8

Criterion PTV 8 sets the requirements for reporting on the test performance and the test results to ensure that the professional standards that are being used remain comprehensible for the person to whom the report is being addressed.

Annex 3 Medical Examination of Driving Fitness

A traffic medical examination conducted in the context of a driving fitness assessment is designed to establish, test and assess an individual's physical and mental endowment and his ability to compensate any existing health disorders with regard to the general requirements for driving a motor vehicle on public roads.

In the assessment procedure the traffic medical expert will provide his expertise on the relationship between a disorder, acute symptoms and the course of a disorder, as well as between curative or status retaining measures and individual compensation options relating to driving fitness.

Chapter 8.3 of the assessment criteria (major textbook) describes the minimum standards relating to traffic medical examinations for assessing driving fitness. Here the tasks of the physician will depend on the respective problem being examined.

Medical opinions regarding health issues

In the presence of chronic health disorders relating to driving fitness, the physician must check if they will generally place doubt on a person's driving fitness or if they are serious enough to restrict a driver's fitness in at least a few driving licence categories. It must also be examined if a secure and stable compensation effect can be achieved through a certain treatment (e. g. medicinal therapy) or by other means.

On the other hand, short-acting and unforeseen disturbances in connection with an underlying disease such as epilepsy could be present which would prevent a driver from recognising and immediately reacting to dangerous situations in road traffic.

In addition to identifying a disease and its possible course, the degree to which the client will correctly follow medical advice must also be considered. This can be affected by a lack of comprehension of the treatment benefits or by the complexity of the medication regime which will lead to an unreliable use of medication.

A medical assessment will include an assessment of the likely course of a disease with regard to a possible recurrence or a potential worsening of the disease in the light of scientific and empirical as well as individual factors.

Within the context of a medical opinion, certain mainly neurodegenerative diseases could also require an examination of the client's cognitive performance. This situation may also arise when the effect of medicines taken by the client is considered (e.g. opioid analgetics).

Medical Psychological Assessment (MPA) of behavioural problems

The behavioural problems recorded in the case history with the resulting official reservations mean that a positive advisory opinion must be given before it can be assumed that a person is fit to drive again. This is only possible if the doubts expressed by the licencing authorities can be resolved by the overall view of all medical and psychological findings and there is sufficient evidence to prove a stable change in the client's attitude and behaviour. This would, however, also imply that even with a sufficient change in attitude a person's driving fitness could not be certified if the findings of the medical examination during the MPA have shown that the client no longer fulfils the requirements placed on the safe use of a (motor) vehicle. This would particularly be the case if the assessment provided indications of shortcomings or illnesses which could not be compensated.

In the interdisciplinary process, medical findings help to advance and prove hypotheses. However, these medical examinations must be subjected to the principle of proportionality, i.e. they must be clearly derived from the occasion demanding the assessment and justified by it. This is why overviews showing the minimum extent of the medical examinations that had been included with the MFU 1 criterion. Although additional examinations can be meaningful and appropriate in individual cases, they would have to be justified accordingly.

The following table 1 explains the requirements placed on a medical assessment of driving fitness. They are shown as basic criteria under the **Medical Driving Fitness Assessment (called MFU) hypothesis**.

Table 1: Minimum examination scope for enquiries related to alcohol abuse or alcohol dependency

Examination Phases	Purpose	Method
Anamnestic interview (if necessary supplemented with the use of a questionnaire) on health condition including medication (oriented at the reason for the examination and the case history) Recording of general medical data (age, height, weight)	Exclusion of alcohol-related secondary diseases affecting driving fitness Findings of alcohol-related disorders	Interview/Questionnaire
Survey of alcohol case history	Exclusion of alcohol dependency, diagnostic interpretation of findings	Interview
Dermatologic examination	Examination of long-term effects of alcohol such as teleangiectasis and spider naevi	Examination of adequately undressed client
Pupillary response examination	Examination of pupillary response and, where applicable, a nystagmus	Examination using an adequate source of light
Auscultation of the heart Measuring the pulse rate	Exclusion of alcohol-related cardiovascular risks (dysrhythmia, valvular heart disease, etc.)	Examination with a stethoscope in a supine position
Measuring blood pressure	Exclusion of disorders affecting driving fitness	Manually or using an automatic measuring device
Examination of the liver	Findings of enlargements and increased firmness	Palpatory findings in a supine position, liver scratch test on lower costal arch
Autonomic nervous system	Exclusion of withdrawal symptoms (tremor, sweating) or complications	Inspection
Coordination ability	Exclusion of disturbances of equilibrium or of the central and peripheral conduction of stimuli	One leg stand Finger-to-nose test Finger-to-finger test Balancing on an imaginary tightrope
Laboratory examination	Findings of long-term effects of alcohol causing cellular damage	Enzymatic determination of GOT, GPT and GGT through a blood test (puncture of an antebrachial vein)

Hypothesis MFU

A medical examination is carried out on the basis of proven medical procedures in response to a specific problem. One's own findings and the findings of external sources are presented in a comprehensible manner and included in the answer to the initial question.

Criterion MFU 1

Criterion MFU 1 specifies that examinations must be carried out in response to a specific problem (with regard to official reservations) and an initial question and lege artis. The scope of an examination must fulfil minimum standards whereby it can be extended depending on the individual case history. The minimum standards applying to the scope of an examination of various topics are shown in table 1. It uses the example of "alcohol" for a specific problem that is being examined.

Criterion MFU 2

Criterion MFU 2 demands that the findings are documented in a comprehensible manner and that historical information supplied by a third party may only be used where applicable. There is also an explicit demand for a concrete mention of the dimension of the findings and the measured values as well as the methods that were used. The criterion also describes the formal requirements and the criteria placed on the content to ensure the comprehensibility of evidence provided by third parties if the assessor should plan to use this material in his assessment.

Criterion MFU 3

Criterion MFU 3 requires that the findings have to be evaluated with relevance to the initial question and how they will be incorporated into the final interdisciplinary assessment.

Annex 4 Psychological Interview

Chapter 8.4 of the assessment criteria (major textbook) describes the fundamental principles of the psychological interview. This is not a "normal conversation", but rather a structured interview designed to lead to a decision and introduce a change. It allows the client to come to terms with his driving behaviour and adapt his personal resources following a critical event (e. g. his last offence or the withdrawal of his driving licence). In the end it is meant to find an answer to the initial question asked by the driving licence authority. The psychological interview deals with the crucial factors that led to the recorded behavioural problem and whether the circumstances of the case conform to the indicated behaviour patterns at the time when the behavioural problem arose, and to what extent the course taken by the disorder corresponds with theoretically based practical knowledge in terms of an explanatory model.

For this reason the psychological interview initially helps to clarify the severity of the underlying problem that led to the misdemeanour.

Another objective of the interview is to highlight the particulars of the change process possibly representing a favourable development in the client's life. Here it is important to observe changes in the client's attitude and behaviour and the reason for these changes as well as whether or not they will last.

A favourable prognosis against a troubled background means that the client must be willing to completely break with his past unacceptable behaviour. In changing his behaviour he also has to alter reinforcement structures, subjective norm levels and find that he will have to look for more appropriate ways to satisfy his needs and deal with stress. Instead of disregarding accepted standards he will now have to show his respect for these standards. In other words, it will have to be assessed if the person concerned meets the demands placed on a successful change in behaviour and a successful reintegration. This is what distinguishes a criteria-oriented change diagnosis from other diagnostic processes.

The interview changes between the objective facts based on observation (What actually happened?) and the client's subjective perception of what happened (i. e. how the client sees what happened). This is quite different to the information gained by a physician questioning a patient about his health history to obtain the information required to formulate a diagnosis and provide medical care. A psychological interview demands a higher degree of flexibility on the part of the interviewer and a change in perspectives and methods in the discussion technique. The interviewer will explicitly question the client's view of causalities. If a person attributes causes of action-related outcomes to situational and uncontrollable circumstances and see them as being coincidental and beyond their control he will also be reluctant to change his perception or behaviour.

In addition, besides actively conducting the interview and evaluating the information provided against the background of theory-driven practical knowledge, the psychological interviewer will also want to scrutinize the validity of the client's statements. In the end this will decide on the usefulness of the information provided when the assessor has to formulate his diagnostic decision.

A hypothesis is formulated for this part of the assessment and the requirements being placed in the development, implementation and documentation of the psychological interview are described in a complex structure of criteria. **The hypothesis of the psychological interview** thus reads:

Hypothesis Psychological Interview

The methods used in the psychological interview have been developed according to scientifically recognized principles. The interview has been conducted in response to a specific need and rendered in a comprehensible manner that is suitable for answering the initial question.

Criterion 1

Criterion 1 specifies that the psychological interview must be planned, implemented and interpreted according to set theoretical standards. The indicator level regulates that in its QM system the supporting association must establish requirements regarding the methods it uses to conduct the psychological interview and the standards it uses to train and supervise the assessors during a one-year trainee period, the manner in which it records the

interview results, and how it handles written notes and ensures a relaxed atmosphere during the interview.

Criterion 2

Criterion 2 states that the length of the interview and the manner in which it is held and the issues that are discussed must be appropriate for the purpose, i. e. for the problem at hand and the initial question.

This is meant to ensure that the interview remains focused on its specific purpose without turning into a full scale "investigation" of the client's personality. This is why only legally admissible issues relating to the initial question may be raised. Accordingly, the course of events including the reasons why certain courses of action were taken, changes that occurred and experiences that were gained as well as aims and avoidance strategies that were followed with regard to new misdemeanours should be adequately addressed.

Criterion 3

The assessment must give an account of the results of the interview in a clear and comprehensible manner so that it can be used by the authorities as a basis for making their decision. **Criterion 3** describes the equivalent requirements. For example, the interview data must be recorded accurately, clearly and comprehensibly and in sufficient detail. The actual course of the interview must be evident in the way that the conversation is presented. With unrealistic client information, the documentation in the assessment should contain text passages that show that this was brought to the client's attention and that he was questioned accordingly.

Criterion 4

Criterion 4 regulates how the results of the interview should be evaluated and how they should be included in the appraisal of the findings. On the one hand the indicators refer to the confirmation of the account in the assessment, i. e. significant findings that are being evaluated must be traceable to actual statements made by the client in the interview and must be reproduced in the documentation part of the interview – while on the other hand the indicators should also bear reference to the logical consistency of the deductions made by the assessor. The conclusions should thus be consistent with similar data in other parts of the assessment. The advisory opinion should also conform to the client's history and his information on the severity of his individual problem and his view of how he resolves his problems.

References

COUNCIL DIRECTIVE 91/439/EEC of 29 July 1991 on driving licences. (1991). Retrieved from http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:31991L0439&from=EN

DIRECTIVE 2006/126/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 20 December 2006 on driving licences (Recast). (2006). Retrieved from http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:403:0018:0060:EN:PDF

Allhoff-Cramer, A. (2007). PASS: Ein interdisziplinäres Modell zur Förderung und Sicherung der Mobilitätskompetenz in Europa. Z.f. Verkehrssicherheit, 53 (1), 6–8.

Bächli-Biètry, J. (2003). Was kann die Verkehrspsychologie im Bereich Fahreignungsdiagnostik leisten? In Universität St. Gallen (Ed.), Jahrbuch zum Strassenverkehrsrecht. Band 22 (pp. 55–86). Retrieved from http://www.irm.uzh.ch/dienstleistung/vmfp/fahreignung/literatur/fachartikelbuchbeitraege/verkehrspsychologie.pdf

Bartl, G., Assailly, J.-P., Chatenet, F., Hatakka, M., Keskinen, E. & Willmes-Lenz, G. (2002). EU-Project "Andrea": Analysis of Driver Rehabilitation Programmes. Retrieved from http://www.kfv.at/fileadmin/webcontent/Publikationen_englisch/ANDREA-FinalReport.pdf

Brenner-Hartmann, J. (2000). Die Begutachtungs-Leitlinien zur Kraftfahrereignung aus (medizinisch-)psychologischer Sicht: Vortrag auf dem 13. Wissenschaftlichen Symposium der DHS „Drogen im Straßenverkehr – Ein Problem unter europäischer Perspektive" vom 17. bis 19.5.1999 in Tutzing. Freiburg im Breisgau: Lambertus.

Buikhuisen, W. (1968). Alcohol en verkeer: een studie over het rijden onder invloed. Boom paperback: Vol. 21. Meppel: Boom.

Bukasa, B. (2008). State of the Art on Driver Rehabilitation: Literature Analysis & Provider Survey. EU-Project DRUID, WP 5. Retrieved from http://www.druid-project.eu/nn_107548/Druid/EN/deliverales-list/downloads/Deliverable__5__1__1,templateId=raw,property=publicationFile.pdf/Deliverable_5_1_1.pdf

Bukasa, B. (2009). Validation of Existing Driver Rehabilitation Measures: EU-Project DRUID, WP 5. Retrieved from http://www.druid-project.eu/cln_031/nn_107548/Druid/EN/deliverales-list/downloads/Deliverable__5__2__4,templateId=raw,property=publicationFile.pdf/Deliverable_5_2_4.pdf

Bundesanstalt für Straßenwesen. (2014). Begutachtungsleitlinien zur Kraftfahreignung – gültig ab 1. Mai 2014. Berichte der Bundesanstalt für Straßenwesen: M, Mensch und Sicherheit: Vol. 115. Retrieved from http://www.bast.de/DE/FB-U/Fachthemen/BLL/Begutachtungsleitlinien-2014.pdf?__blob=publicationFile&v=4

Dilling, H., Mombour, W. & Schmidt, M. H. (Eds.). (2011). Internationale Klassifikation psychischer Störungen: ICD-10 Kapitel V (F); klinisch-diagnostische Leitlinien. (8. überarb. Aufl. unter Berücksichtigung der Änderungen entsprechend ICD-10-GM 2011). Bern: Huber.

Evans, L., & Schwing, R. C. (Eds.). (1986). Human Behaviour and Traffic Safety. Boston, MA: Springer US.

FeV. (2014). Verordnung über die Zulassung von Personen zum Straßenverkehr (Fahrerlaubnis-Verordnung – FeV) vom 13.12.2010: aktuelle Fassung. Retrieved from http://www.gesetze-im-internet.de/bundesrecht/fev_2010/gesamt.pdf

Hilger, N., Ziegler, H., Rudinger, G., DeVol, D. M., Jansen, J., Laub, G., Müller, K. & Schubert, W. (2012). EVA-MPU – Zur Legalbewährung alkoholauffälliger Kraftfahrer nach einer medizinisch-psychologischen Fahreignungsbegutachtung (MPU). Z. f. Verkehrssicherheit, 58 (Sonderdruck), 1–6.

Jacobshagen, W. (1997). Nachschulungskurse für alkoholauffällige Fahranfänger (NAFA): Kurspraxis, Wirksamkeit und Akzeptanz. Forschungsberichte des Verbandes der Technischen Überwachungs-Vereine e.V. Köln: Verlag TÜV Rheinland.

Jacobshagen, W. & Utzelmann, H. D. (1996). Medizinisch-psychologische Fahreignungsbegutachtungen bei alkoholauffälligen Fahrern und Fahrern mit hohem Punktestand: Empirische Ergebnisse zur Wirksamkeit und zu deren diagnostischen Elementen; Forschungsbericht. Forschungsberichte des Verbandes der Technischen Überwachungs-Vereine e.V.: Vol. 178. Köln: Verlag TÜV Rheinland.

Jensch, M. & Lemm-Hackenberg, R. (1981). Alkohol und Lebensstil: Tiefenpsychologische Nachschulung auffälliger Kraftfahrer. Markus Jensch; Rainer Lemm-Hackenberg. [Hrsg.: Forschungsgemeinschaft „Der Mensch im Verkehr“ e.V., Köln]. Faktor Mensch im Verkehr: H. 31. Braunschweig: Rot-Gelb-Grün.

Kalwitzki, K.-P., Höcher, G., Kollbach, B., Schroerschwarz, S., Stengl-Herrmann, D., Veltgens, U. & Brieler, P. (2011). Der Beitrag der Kurse

nach § 70 FeV zur Verkehrssicherheit. Z. f. Verkehrssicherheit, 57 (3), 142–148.

Krämer, S., Kuhnert, I. & Krauthan, G. (1978). Verfahren zur Verhaltensänderung alkoholauffälliger Kraftfahrer: Bericht zur Vorerprobung. IFT-Berichte: Vol. 7. München: Institut für Therapieforschung.

Michon, J. A. (1986). A Critical View of Driver Behavior Models: What Do We Know, What Should We Do? In L. Evans & R. C. Schwing (Eds.), Human Behaviour and Traffic Safety (pp. 485–524). Boston, MA: Springer US.

Nickel, W.-R. (1990). Beurteilungskriterien – Wege zur Transparenz und Vereinheitlichung. In W.-R. Nickel, H. D. Utzelmann, & K.-G. Weigelt (Eds.), 1. bundesweites Kolloquium der Verkehrspsychologen amtlich anerkannter Medizinisch-Psychologischer Untersuchungsstellen (pp. 39–45). Köln: Verl. TÜV Rheinland.

Raithel, J. & Widmer, A. (2012). Deviantes Verkehrsverhalten: Grundlagen, Diagnostik und verkehrspsychologische Therapie: Hogrefe.

Rasmussen, J. (1983). Skills, rules, and knowledge: Signals, signs, and symbols, and other distinctions in human performance models. IEEE Transactions SMC, 257–266.

Sass, H. (Ed.). (2003). Diagnostische Kriterien des diagnostischen und statistischen Manuals psychischer Störungen DSM-IV-TR. Dt. Bearb. von Henning Saß … Göttingen, Bern, Toronto, Seattle: Hogrefe Verlag für Psychologie.

Schneider, W. (1966). Zur Begründung einer speziellen Nachschulung von Tätern von Verkehrsdelikten. Z. f. Verkehrssicherheit, 12, 246–253.

Schubert, W. & Mattern, R. (2006). Criteria for the evaluation of future assessment models of physical and mental fitness of drivers. In W.-R. Nickel, P. Sardi (Eds.), Schriftenreihe Fahreignung. Fit to drive. 1st International Traffic Expert Congress Berlin from May 3rd–5th 2006; [Tagungsband] (pp. 106–110). Bonn: Kirschbaum.

Schubert, W. & Mattern, R. (Eds.). (2009). Schriftenreihe Fahreignung. Beurteilungskriterien: Urteilsbildung in der medizinisch-psychologischen Fahreignungsdiagnostik. (Erw. und überarb. 2. Aufl.). Bonn: Kirschbaum.

Schubert, W., Dittmann, V., Brenner-Hartmann, J. (Eds.). (2013). Urteilsbildung in der Fahreignungsbegutachtung: Beurteilungskriterien. Schriftenreihe Fahreignung. (Neu gestaltete, erw. und überarb. 3. Aufl.). Bonn: Kirschbaum.

Schubert, W., Schneider, W., Eisenmenger, W. & Stephan, E. (Eds.). (2005). Begutachtungs-Leitlinien zur Kraftfahrereignung: Kommentar. (Überarb. und erw. 2. Aufl.). Bonn: Kirschbaum.

Sohn, J.-M. (2010). „Leitsätze Verkehrspsychologische Therapie" und Beurteilungskriterien. In R. S. Born, P. Brieler & J.-M. Sohn (Eds.), Beurteilungskriterien in der Fahreignungsdiagnostik. Fortschritte und Optimierungsbedarf (pp. 189–198). Lengerich, Berlin, Bremen usw.: Pabst Science Publishers.

Spoerer, E. (1972). Driver Improvement: Möglichkeiten der Rehabilitierung von verkehrsauffälligen Kraftfahrern. Univ., Diss., Köln, 1972. Faktor Mensch im Verkehr: Vol. 9. Frankfurt a. M.: Tetzlaff.

Stephan, E., Brenner-Hartmann, J. & Bartl, G. (2009). Verkehrspsychologische Nachschulung und Verkehrspsychologische Therapie. In H.-P. Krüger (Ed.), Enzyklopädie der Psychologie: Themenbereich D; Ser. 6; Bd. 2. Anwendungsfelder der Verkehrspsychologie (pp. 285–358). Göttingen: Hogrefe.

StVG. (2014). Straßenverkehrsgesetz vom 5.3.2003: aktuelle Fassung. Retrieved from http://www.gesetze-im-internet.de/bundesrecht/stvg/gesamt.pdf

Winkler, W. (1963). Die Therapie von verkehrsauffälligen Personen als soziales Problem. Archiv für Unfallforschung, (3), 237–241.

Winkler, W. (1967). Information und Motivation gegen Trunkenheit am Steuer. In H. Schneble (Ed.), Alkohol-Verkehrssicherheit. Ein Taschenbuch für den Verkehrsjuristen (pp. 7–15). Hamburg: Steintor-Verlag

Winkler, W. (1974). Gruppengespräche nach wiederholter Trunkenheit am Steuer. Blutalkohol, 11 (3), 178–188.

Winkler, W., Jacobshagen, W. & Nickel, W.-R. (1988). Wirksamkeit von Kursen für wiederholt alkoholauffällige Kraftfahrer. Unfall- und Sicherheitsforschung Straßenverkehr: Vol. 64. Bremerhaven: Wirtschaftsverlag NW.

Zuzan, W. D. (1979). Driver Improvement. Wien: Kuratorium für Verkehrssicherheit.

According to German legislation a driver himself has to ensure that he or she is of good physical and mental condition and has not violated traffic legislation severely or repeatedly. Personal requirements to drive are therefore more than simply being able to steer a car, personality aspects (e. g. alcohol consumption style, risk taking, hazard perception), health and performance related factors (e. g. reaction capacity or concentration) are integrated in the general concept of fitness to drive.

For almost 60 years the Medical Psychological Assessment (MPA) has been an important method to assess drivers' requirements for safe driving in Germany.

MPA has recently been shown to be highly effective in substantially reducing the number of subsequent driving under the influence offences, as shown in several evaluation studies, a most recent one published in 2012.

The presented manual is an introduction to the minimum standards of requirements connected with driving motor vehicles. It gives a description of the MPA-system and its procedure of decision by giving several examples to illustrate the stages of data collection and integration.

The special value of this guidebook is on one hand its interdisciplinarity in a combined medical and psychological approach. On the other hand this publication in English is the first time to enable a major circle of interested researchers throughout Europe and other countries to access the contributions of psychology, medicine, toxicology and engineering to the assessment of drivers in Germany.

A standardized examination process, principles and rules of data integration are important contributions towards a fair, transparent and valid driver assessment which supports the applicant in his or her attempts to get back a withdrawn driving licence.

KIRSCH BAUM