

"Why do we need traffic psychology?"

A collection of European opinions – put forward by traffic psychologists

Introduction

Traffic psychology is a relatively young scientific discipline – psychologists in Europe have been working in this area for about 60 years.

The benefits for society are set out in this paper, which is a collection of statements from transport psychologists in eight European countries, working in different fields of transport/mobility.

These statements about the need for traffic psychology have been compiled because of a noticeable trend in the thinking of those who shape public opinion: such voices are turning against traffic psychology, ignoring the contribution that this discipline makes to society and thus jeopardizing road safety and diminishing quality of life.

The opinions that follow are often similar, sometimes divergent. Together they illustrate the broad range of arguments that support a more thorough utilization of traffic psychological knowledge within the everyday work of official bodies, researchers, etc. They are ordered by the names of the contributors.

1)

1. Human behavior results from knowledge, skills and motivation.

Most traffic accidents are caused not by lack of knowledge or skill but by lack of motivation to behave safely. Unsafe driver motives such as stress, anger, dominance, etc. are often unconscious. Traffic psychology helps to raise drivers' self-awareness. Everything which a person is aware of can be controlled by that person. Everything which a person is not aware of controls the person.

2. Punishment is not sufficient to prevent traffic violations.

Traffic-psychological programs for traffic offenders have proven to reduce reoffending rates by about 50% compared to control groups. Accordingly, traffic-psychological programs are the best way to reintegrate traffic violators into a safety-oriented traffic-system. Traffic-psychology aims at making "unfit" drivers "fit" again.

3. Driver education can be completed by traffic psychology.

In driver training we learn what to decide in traffic. From traffic psychology we can learn to understand how we decide.

4. The causes of accidents are highlighted in the GDE matrix (Goals for Driver Education).

The two highest levels of the GDE matrix deal with attitudes and motives. The right-hand column of the GDE matrix deals with the ability to self-evaluate. The results of scientific research and the methods of traffic psychology are best-suited to dealing with the attitudes, motives and self-evaluation skills of drivers.

Gregor Bartl (alles-fuehrerschein.at) – Austria

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2)

It is a well-known fact that more than 90% of road accidents are caused by human error. The main causes of traffic accidents are errors due to maladaptive behavior in interaction with roadways or other vehicles. Although there are many traffic experts who can contribute to traffic safety (e.g. traffic instructors, policemen, etc.), there is **only one profession** which studies the behavior of road users and the psychological processes underlying that behavior, and that is traffic psychology. Only a traffic psychologist – through scientific research, assessment, counseling and rehabilitation – can fully understand and predict road user behavior at specified levels and provide measures to modify it, with the general objective of minimizing the harmful effects of traffic participation .

Zsuzsanna Bencs (National Transport Authority) – Hungary

3)

Psychologists work with people's mental wellbeing, with the overall aim of achieving a more stable and satisfied society. Traffic psychologists are specially trained to focus on analyzing human behavior, (patterns of) thinking and emotions in traffic situations. It is essential that traffic psychologists continue their work of self-analysis of the people misbehaving on the roads and of discussing and analyzing the results of such behavior. People's behavior in traffic situations cannot be changed unless the person understands the underlying reasons, interconnections and their own personality.

Ivika Born – Estonia

4)

To look at the traffic system as a system where – hopefully – more or less sane and healthy people spend time and interact, we need a scientific discipline which understands 1) the "playground" where all these interactions take place, namely the traffic system 2) the workload for behavior in this playground – irrespective of whether it involves a pedestrian, a cyclist or a lorry driver and 3) the needs and motives of all the people involved when they are not at home. Traffic psychologists are trained to look at all of these, trying to "understand" and not merely "count" different behaviors and underlying needs, interests and motives. Drawing on special theories and their professional understanding, they explore the likelihood of different behavior, compliance, reactance etc. as the result of different measures and conditions associated with society, infrastructure and vehicles. What other discipline can work in such a holistic way?

Christine Chaloupka (FACTUM) - Austria

5)

1. **EMOTIONS:** Driving behavior and the interaction between traffic participants is partly a result of emotions that arise before or during driving. Only psychologists have the knowledge to analyze the genesis of emotions and the measures needed to help the driver to develop a self-control system.

2. **BELIEFS:** According to RET it is an unconscious belief system that triggers a certain behavior. This is likely to hold true, too, for driving behavior in specific situations. Who is able to understand these beliefs and move them onto a conscious level other than a

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psychologist? Psychological intervention measures can help prevent these beliefs from dominating our behavior.

3. **HABITS:** Psychologists know how habitual behavior develops and also how hard it is to get rid of or change habits. A psychologist is able to divide a behavior sequence up into single elements and analyze the reward system in order to know what keeps the habit alive. In our society this applies in particular to individual drink-driving behavior.

4. **ATTITUDES:** Young people grow up in very different environments and in the course of time are exposed to the norms of very different subgroups. Attitudes and attitude change is a traditional field of psychology and can play an important role in risk prevention with the aim of improving road safety.

Don DeVol (TÜV Thüringen) – Germany

6)

Why do we need traffic psychology? The answer is clear:

Driving is a social system in which it is still people who interact with each other and not machines. Because we psychologists are experts in what people experience and how they behave, it needs traffic psychologists like us to analyze this behavior in this special social system and if necessary modify it, in order to improve safety for EVERYONE on the roads.

Margit Herle (Schuhfried) - Austria

7)

What is the importance of traffic psychology?

- Educational interventions (e.g. for traffic offenders – driver improvement courses) can only have a sustainable effect if they are based on behavior theory and psychological models.
- The benefits of infrastructural actions to modify road users' behavior must implement the notion of "subjective feelings of safety" and also take into account several psychological processes.
- Driving safely is only to a limited extent dependent on vehicle control; to a somewhat greater extent it depends on insight into traffic situations, but above all it involves an amalgam of different cognitive and emotional processes and functions (see the GDE matrix).

Ludo Kluppels (IBSR) - Belgium

8)

I assume that the majority of people who have committed driving offenses that go beyond minor misdemeanors display relevant types of behavior that, with the underlying attitudes, have developed over many years. They have little awareness of the problem and poor self-critical faculties. Moreover, in the public eye the offense they have committed is often regarded as trivial or legitimate. This turns perpetrators into victims and the person's willingness to accept responsibility for his misdoing, which was already very limited, shrinks to the point at which it virtually disappears.

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A special level of knowledge and skill in traffic psychology is needed if there is to be any hope of success in this situation. We are not dealing here with minor driving errors but with entrenched socially delinquent behavior.

To tinker about with a bit of education or training is to underestimate the situation and misjudge the risk of repeat offending and the danger to other road users; it is in fact to collude with the perpetrators.

Jürgen Merz (TÜV-Süd) - Germany

9)

"The car is part of our everyday life. If we pursue a profession on which our livelihood depends, we must also bear in mind that the car is a tool that we need to know how to use. Reliance on skilled technicians who study human behavior in the context of driving scenarios is essential in any society. Traffic psychology must be valued and prized everywhere where there are people, vehicles and infrastructure."

Fátima Pereira da Silva (ESEC) – Portugal

10)

Why is traffic psychology needed? – not three reasons but three (more or less) long sentences by Ralf

- The goal is to achieve desired behavior by people moving in the public space.
- Measures to achieve this are: communicating appropriately with the different groups of people who use the public space as individuals (training, education, rehabilitation, law enforcement etc.); communicating appropriately with the public (media); laying down appropriate laws and regulations; designing the public space appropriately; designing vehicles/transport modes appropriately.
- Providing appropriate preconditions as described above that will generate desired behavior by the users of the public space will only be possible on the basis of good understanding of their needs, motives and intentions – and this demand can only be fulfilled properly with the help of psychology.

Ralf Risser (FACTUM) – Austria

11)

- No one except educated traffic psychologists can describe the risks and (train of) thoughts that lead drivers (including future ones) to behave in risky ways. I see their value in places such as driving schools, where they can help drivers-to-be to understand driving in a holistic light.

- At the same time, they may get involved more in work with children (traffic schools for children, cycling schools) to make safe behavior on the road a completely natural thing for them.

- Last but not least, they should – based on global trends and current conditions, both state of art and situational, i.e. technical state of roads etc. – update the methodology of traffic psychology assessment.

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Lenka Sramkova (UPOL) – Czech Republic

12)

How traffic psychology and traffic psychologists contribute to society

Like all fields of science and practice, traffic psychology and traffic psychologists provide benefits for society and improve quality of life. In the area of traffic, key issues influencing quality of life are:

- traffic safety
- public health
- environment, infrastructure and land use
- mobility

Traffic psychologists are professionals trained to understand, describe, predict and shape the behavior of others in situations involving driving. For these purposes they use many different approaches, mostly based on general psychology, social psychology and personality psychology. Traffic psychologists combine their knowledge of the driving environment with a deep understanding of traffic systems and human behavior. This unique relation between general knowledge of human behavior and of traffic systems means that traffic psychologists are an irreplaceable profession.

Traffic behavior (including driving) is a self-paced and very complex task. To understand and shape it requires more than the descriptive approach adopted by other professions (instructors, social workers etc.). The need is to understand the origin of the behavior – motives, beliefs, attitudes, values and personality traits – and also how this behavior is influenced by the environment (traffic environment) and by social interaction (communication between road users).

To improve quality of life, we need to make transport safer and more reliable; we need to shape the environment and infrastructure in such a way that it is suitable for all road users, takes account of their needs and influences their behavior in the direction of safety whilst ensuring a high level of mobility for all.

Traffic psychology – how it can contribute to traffic safety

Accidents are caused by car drivers, truck drivers, train drivers, motorcyclists, cyclists, and pedestrians. In most cases faulty human behavior is the primary cause; only the secondary and tertiary causes are of physical origin. All theories and models of driving acknowledge driver behavior as the major contributory factor to accident causation. Objective epidemiological and experimental evidence clearly shows that the reality fits the theory.

The goal of inherently sustainably safe traffic is to prevent crashes and, where this is not possible, to reduce the chance of deaths and severe injury to zero. This approach recognizes people's physical vulnerability, but also what they are capable of (people commit errors, after all) and what they are willing to do (people do not always abide by the rules) (SWOV, 2006). Education and training should optimally prepare people for the task of being in traffic. Traffic psychology is primarily related to the study of the behavior of road users and the psychological processes underlying that behavior (Rothengatter, 1997, 223), as well as to the relationship between behavior and accidents.

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Human behavior – whether “normal” or “deviant” – is explained, individually assessed, and altered by psychological means. Psychologists have developed concepts and instruments to assess individual drivers and other participants in road traffic and train drivers in order to assist them to drive safely.

Analyses have shown that mere psychomotor skills and physiological functions are not sufficient for good and safe performance as a driver. Rothengatter (1997) pointed out that in fact not only performance factors are important but also, and to an even greater extent, motivational and attitudinal factors. This conclusion is in line with the notion in older research that driving is a self-paced task (Näätänen & Summala, 1974).

Whereas the scientific community is aware of the fact that human behavior represents the major source of traffic accidents, decision-makers often rely on inadequate concepts that take inadequate account of the human factor.

Psychologists represent the professional group that offers support on a great variety of topics discussed in this article. European traffic psychologists have conducted research that has yielded systematic knowledge of primary and secondary crash prevention. Unfortunately very little of this research has as yet been considered appropriately by the European Union. There is an obvious need for research into the combined effects of physical and mental/psychological preconditions for driving behavior. For instance, the research presented by the epilepsy group clearly showed that it is necessary not only to conduct epidemiological studies in order to obtain relevant data on the relative risk of diseases but also to map the relative risk of psychological factors. Therefore much more research on the outcome of combined measures and less evaluation of isolated single-factor programs is needed. After all, human behavior stands at the center of our attention. Traffic science is not capable of describing and explaining road-safety-related issues without psychology.

The vocational education and training of traffic psychologists as an independent profession trained to assess and influence human behavior in traffic must be standardized, scientifically based, and evaluated all across Europe. Only by delivering high-quality higher education and vocational education and training can the quality of the profession, which is key to tackling human behavior in traffic and thereby improving traffic safety in general, be ensured.

Matus Sucha (UPOL) – Czech Republic

13)

1. Traffic psychologists (in contrast to social workers, educators or driving instructors) have a sufficient knowledge base obtained through university studies or post-graduate education, and also skills in psychological processes that allow them to systematically change not only behavior but also the attitudes of clients. Simple pedagogical interpretation of information is not sufficient to induce change.

2. At the same time traffic psychologists can work with non-voluntary clients who display high levels of resistance (most of the clients are in resistance at the beginning of the course), guiding them and encouraging them to cooperate further. They have the knowledge and ability to use group dynamics and work with them on a therapeutic basis – the ability to work with clients' emotions.

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3. Moreover, traffic psychologists utilize their knowledge of the psychological functions necessary for driving. They have scientific understanding of the impact of alcohol and other drugs on these psychological functions as well as the entire human body.

Hana Ticha (Salvus)- Slovakia

14)

We need traffic psychology as long as people take to the roads, because no other discipline can understand and improve the human aspect of driving as traffic psychology does ...

Petr Zamecnik (CDV) – Czech Republic