

PSU34770

Traffic Psychology

Lecturer(s)

Michael Gormley

Contact Hours

One semester: 11 lectures; 103 hours independent study

ECTS Value

5 ECTS (= 125 hours of student time)

Rationale and Aims

Rationale

This module aims to give an overview of the insight psychology can give us to the antecedents of how individuals behave while engaging with traffic. From the vulnerable road users (pedestrians, cyclists and those who ride power-two-wheelers) to the professional driver; all make decisions which are then acted upon within a road environment. Most of these decisions and subsequent actions are safe but many are not with serious consequences. As an applied discipline, Traffic Psychologists we can apply many of the lessons from the five areas of psychology to making travelling by road much safer thus reducing the number of fatalities or serious injuries which occur every year on our roads. This module will highlight how basic psychological principles can help explain difficulties that emerge in road use.

This module aims to:

- 1) Outline the complexity of the driving task from a cognitive and behavioural perspective and indicate that error is the inevitably consequence of a system that relies so much on human action which is minimally monitored.
- 2) Demonstrate how many of the different areas of psychology help explain driver performance and related aberrant behaviours. The main areas discussed will be Biological, Cognitive and Social while reference will also be made to Developmental and Personality and Individuals differences.
- 3) Introduce different theoretical accounts which have tried to present a wholistic account of driver behaviour thus identifying the antecedents of problematic driving.

4) Discuss the reasons why we are so reliant on the car as a mode of transport and identifying the barriers to more environmentally friendly options.

5) Identify different road user groups and explain how their interactions impact on road safety.

6) Discuss the ways in which psychology will help us achieve fully autonomous vehicles.

For whom is the module intended?

JS/SS/PCC1/PCC2/VS

How does it fit in to the academic programme?

Although all five main areas of psychology will be used to explain some aspect of road user behaviour, the emphasis on the two areas of Cognitive and Social Psychology means that this module should be labelled as either of these.

Is it mandatory or optional?

Optional

Are there prerequisites?

For visiting students: Introduction to Psychology

From a teaching point of view, what are the intentions of the lecturer?

From a road safety perspective a true accident is a very rare phenomenon. Collisions on the other hand remain quite common and should not be classified as an accident since their cause can usually be traced back to either poor decision making e.g. exceeding the safe speed limit for the situation, or a poorly executed manoeuvre e.g. making a right turn in busy traffic. The student will appreciate how a driver is a comparator, evaluating numerous stimuli and making decisions about how to respond. They will gain a holistic appreciation of the origins of collisions and an appreciation of how to overcome these. Although in the future autonomous vehicles will reduce the opportunity for human error, we have a long way to go before we get there and psychology can tell us a lot about how to improve safety in the short term and how to get to our long term destination. There will be a mix of theory which is specific to road safety e.g. Task Difficulty Homeostasis, and the application of theory from other broad areas e.g. from Social Psychology the justification of one's own behaviour through the appreciation of behavioural norms.

Course Content

The course will consist of 11 lectures which starts with an overview of that area and ends with how its scope of influence will inevitably decline with time.

1. *Overview of the area of Traffic Psychology*
2. *Driving as a complex task*
3. *Theoretical models of driving*
4. *The young driver problem: extent, origins and solutions*
5. *Older drivers – problems encountered by one of the safest cohorts*
6. *'Disharmony' between different road user groups and improving the experiences of vulnerable road users*
7. *Antecedents of aberrant driving*
8. *Transport modal choice – encouraging more environmentally friendly choices*
9. *Safe system approach and the concept of shared space*
10. *The road to full automatization*
11. *Review and Exam preparation Lecture*

Indicative Resources

There will be no core textbook for this module. Relevant literature will be taken from various journals including: *Transportation Research Part F: Traffic Psychology and Behaviour*, *Safety Science*, *Accidental Analysis and Prevention*, and *Traffic Injury Prevention*.

Useful review articles for orientation to the topic include:

Bucchi, A., Sangiorgi, C., & Vignali, V. (2012). Traffic Psychology and Driver Behavior. *Procedia - Social and Behavioral Sciences*, 53, 972-979. doi:10.1016/j.sbspro.2012.09.946

Groeger, J. A., & Rothergatter, J. A. (1998). Traffic Psychology and behaviour. *Transportation Research Part F: Traffic Psychology and Behaviour*, 1(1), 1-9.

Learning Outcomes

On successful completion of this course, students will be able to:

- Appreciate the complexity of the driving task and describe how different antecedents of aberrant driving behaviour can be explained by various disciplines within psychology
- Critically evaluate the theoretical models used to explain driver behaviour
- Appreciate the different driving cohorts and explain the psychological origins of their collision risk
- Critically evaluate the theoretical explanations of dynamic that exists between different road user groups

Methods of Teaching and Student Learning

Conventional lecture format

Methods of Assessment

TBC

Evaluation

The standard school based assessment will be augmented by an inhouse evaluation which will identify the most positive and negative aspects of the content covered with a view to future refinement.