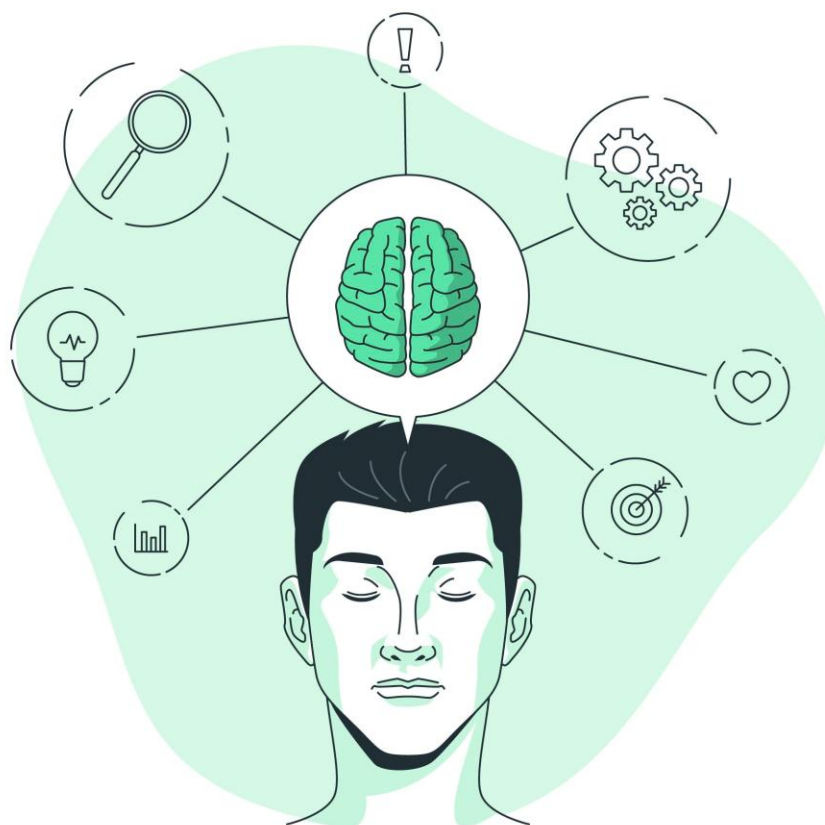


Psychology of Rid-er/-ing: Psychology in Transport



İbrahim Öztürk, PhD

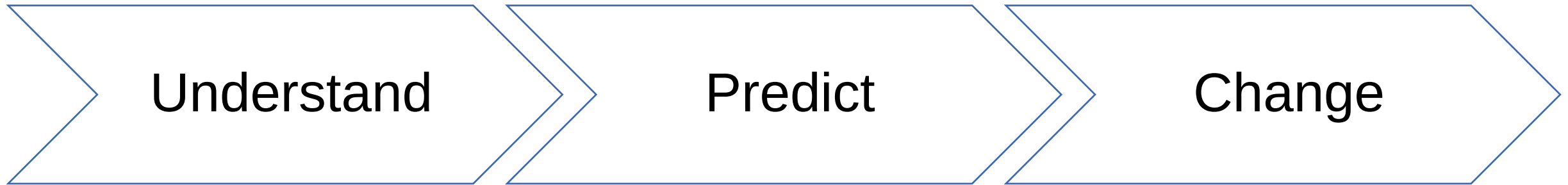


- **Senior Research Fellow**, Institute for Transport Studies, University of Leeds, United Kingdom (2021-...).
- Research Assistant, Department of Psychology, Middle East Technical University, Türkiye (2018-2021).
- Ph.D., Traffic and Transportation Psychology, Middle East Technical University, Ankara, Türkiye (2021).
- M.Sc., Traffic and Transportation Psychology, Middle East Technical University, Ankara, Türkiye (2017).
- B.S., Psychology, Middle East Technical University, Ankara, Türkiye (2015).

Primary research interests: Driver behaviour, distracted driving, technology acceptance, traffic safety culture

Traffic and Transportation Psychology

- Division 13 of the International Association of Applied Psychology
- The what, the how, and the why of road safety



(adapted from Rothengatter, 2001)

Research Methods

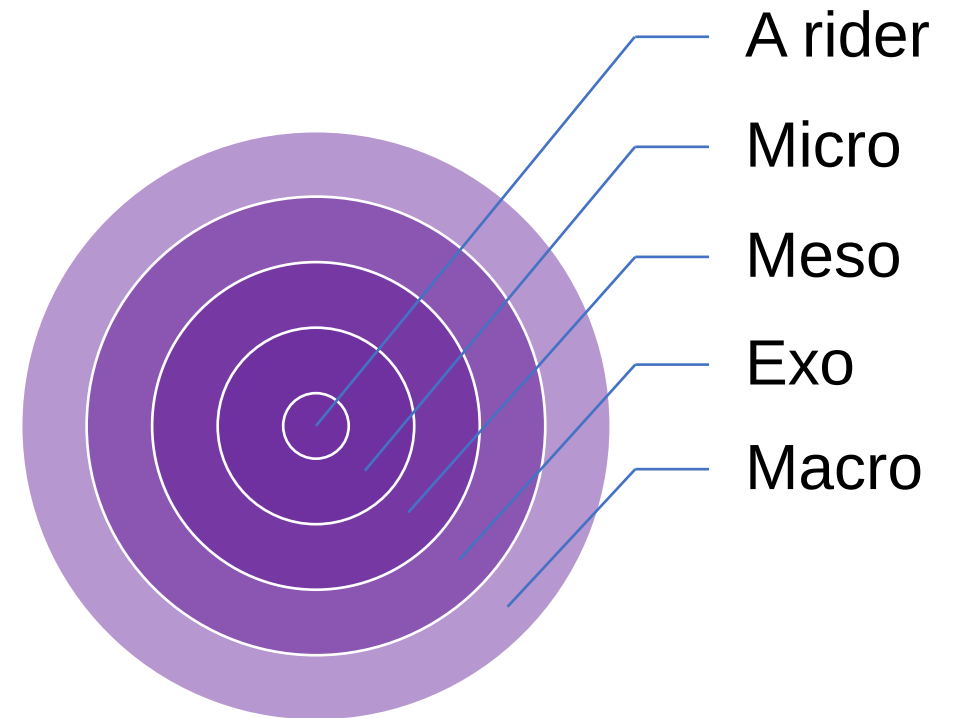
- Simulators (driver, pedestrian, cyclist etc.)
- Instrumented vehicle
- Eye tracker
- Psychotechnical assessment
- Psychophysiological measures
- Implicit measures
- Self-reports
- Observations et al.

Factors – Road Traffic Crashes

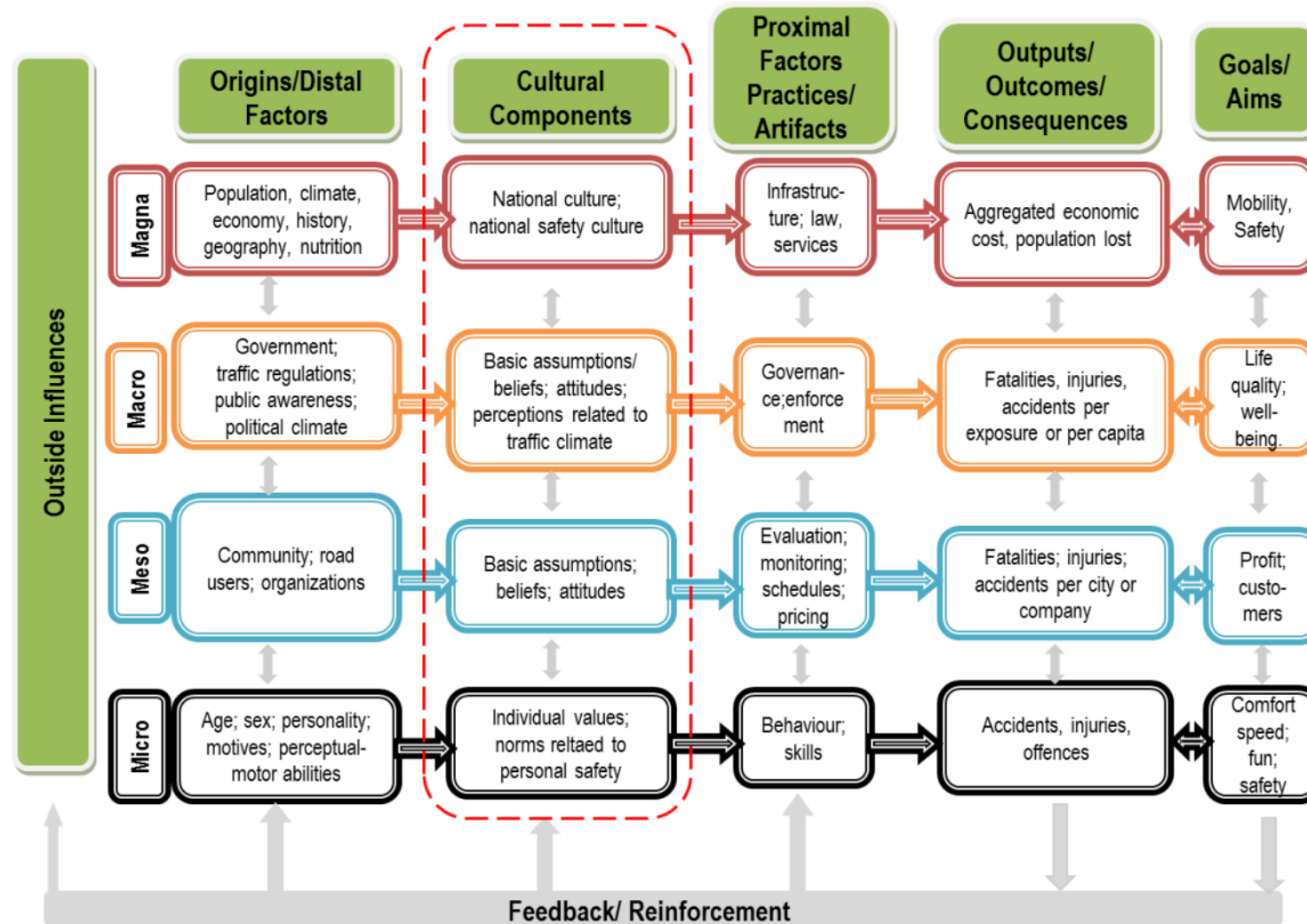
		Factors			
		Human	Vehicle and Equipment	Physical Environment	Socio- Economic Environment
Phases	Pre-Crash				
	Crash				
	Post-Crash				

Systems Theory Approach

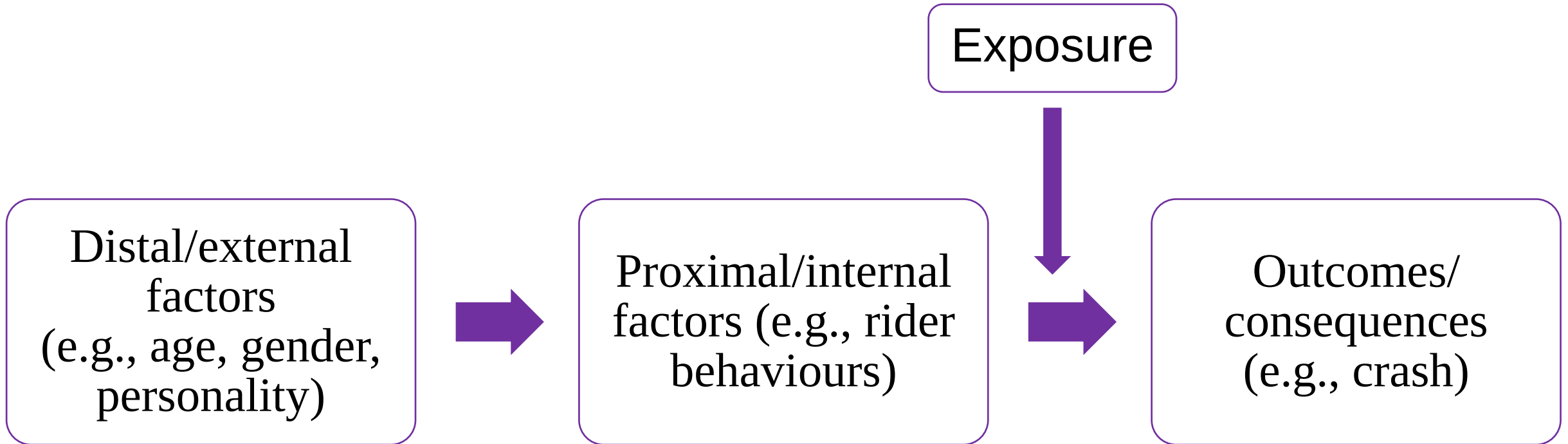
- Vision Zero in Sweden;
- National Road Safety Strategy: 2011–2020 in Australia;
- Sustainable Safety in the Netherlands;
- and Tomorrow's Roads: Safer for Everyone in the United Kingdom



Traffic Culture

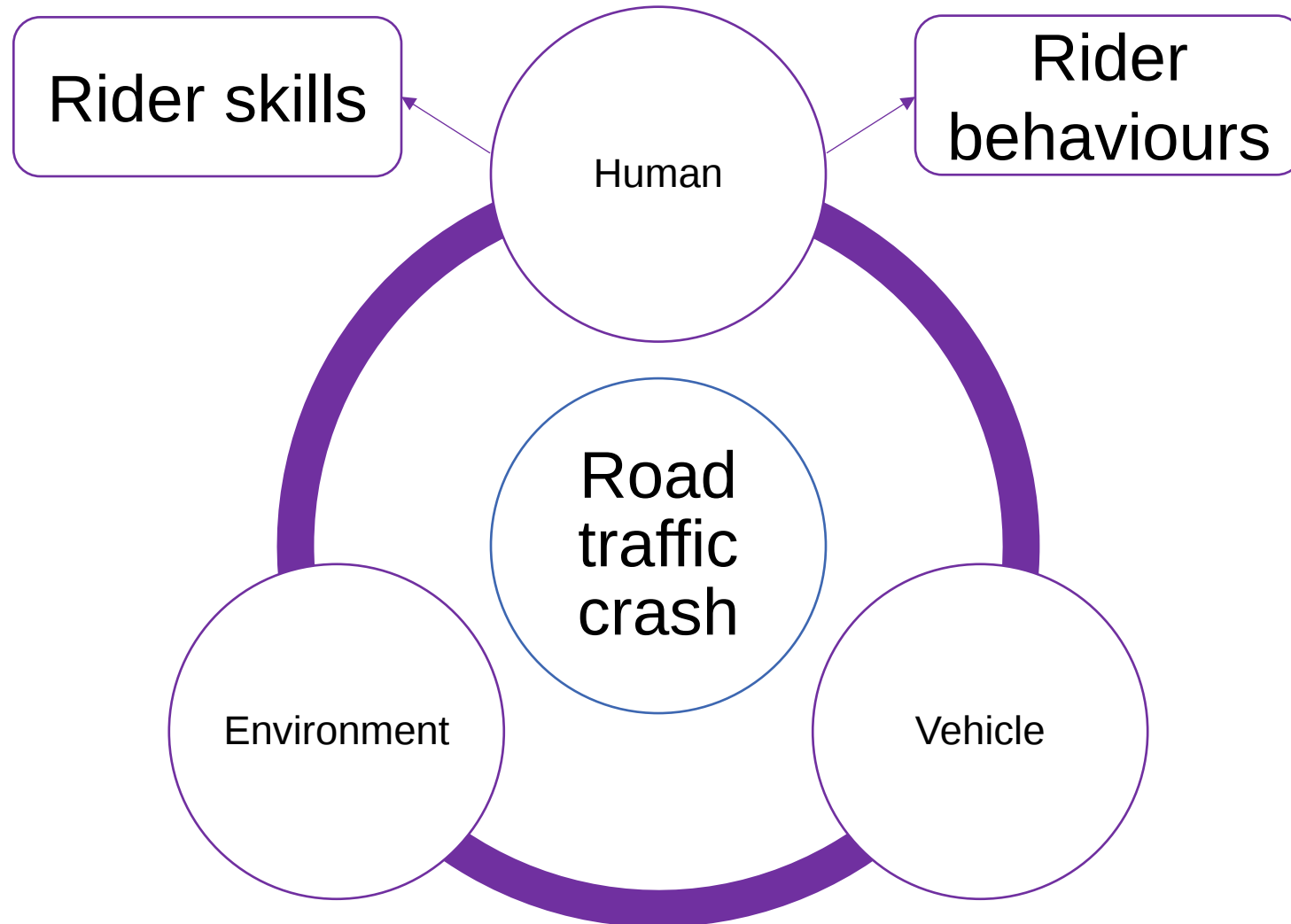


Road Traffic Crashes



Basic Horizontal Model (Lajunen, 1997)

Road Traffic Crashes



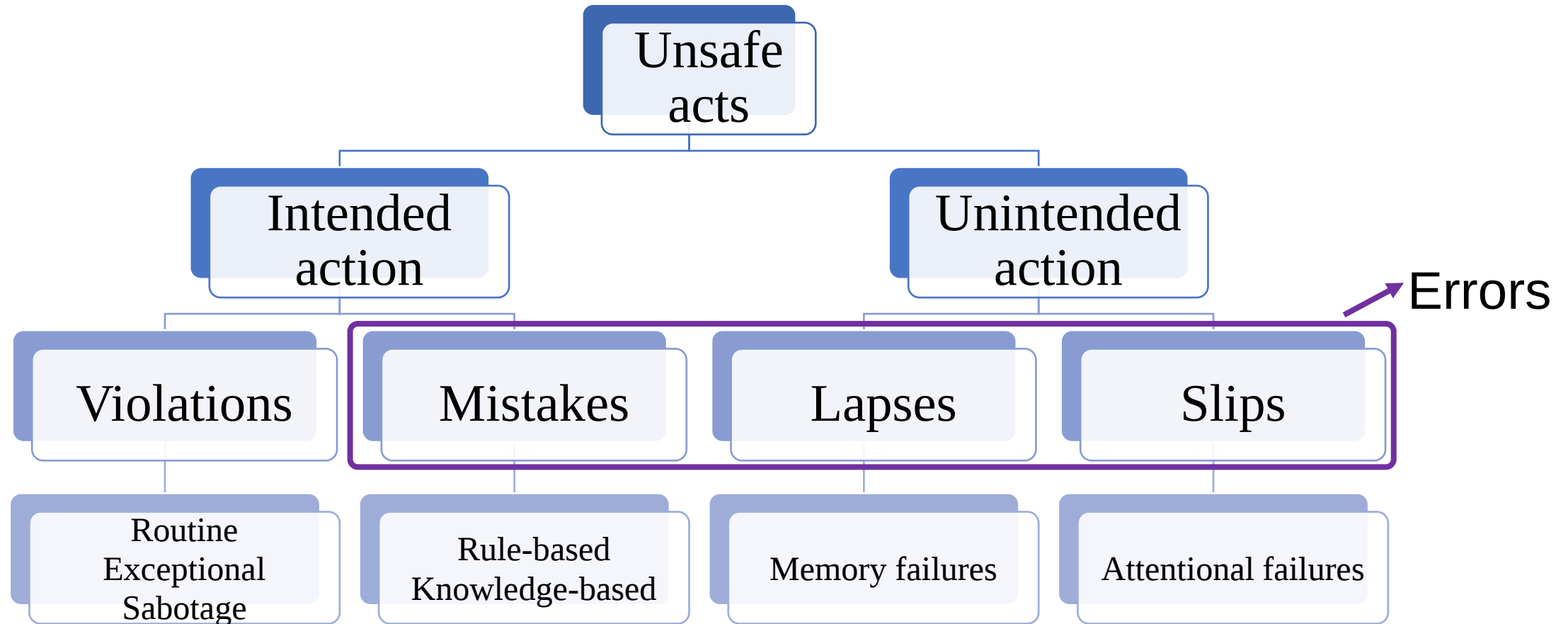
Rider Skills

Perceptual-
motor skills



Safety skills

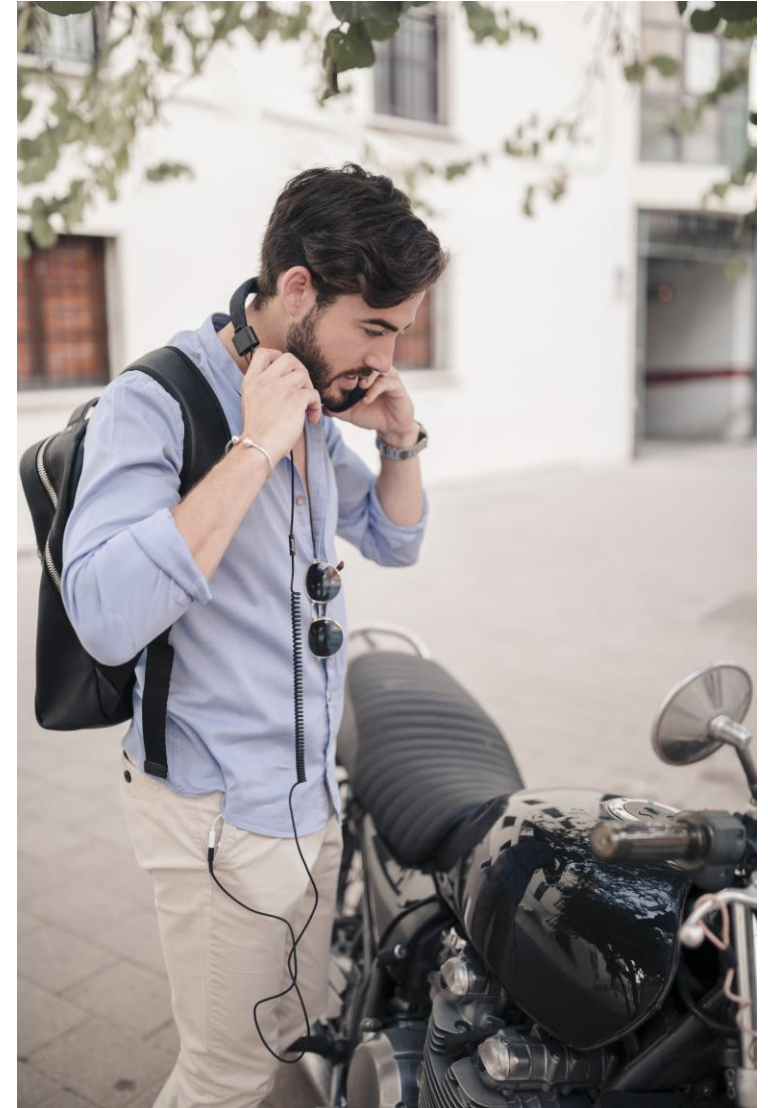
Unsafe Behaviours



Taxonomy of Unsafe Acts (Reason, 1990)

Distracted Riding

- Visual, manual, cognitive distractions
- Smartphone use (hands- *free* or *held*?)
- Cognitive distraction or cognitive load
- Technology as a *distraction* or as a *solution*



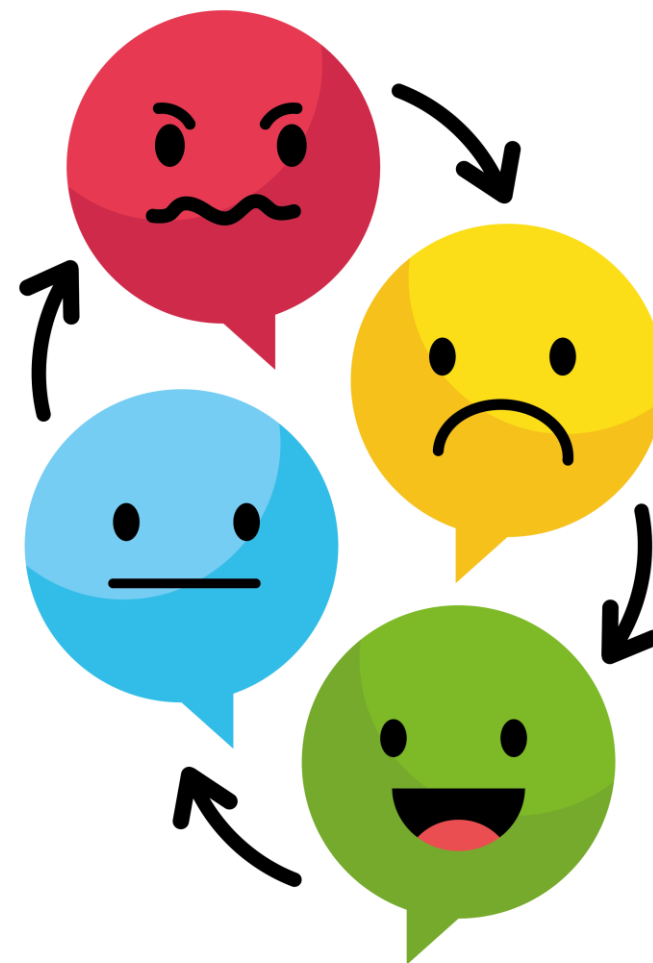
Distal Factors – Anger

- Anger as a trait or a state
- Anger and road rage

What triggers of anger among riders

- How to express anger?

What would you do?



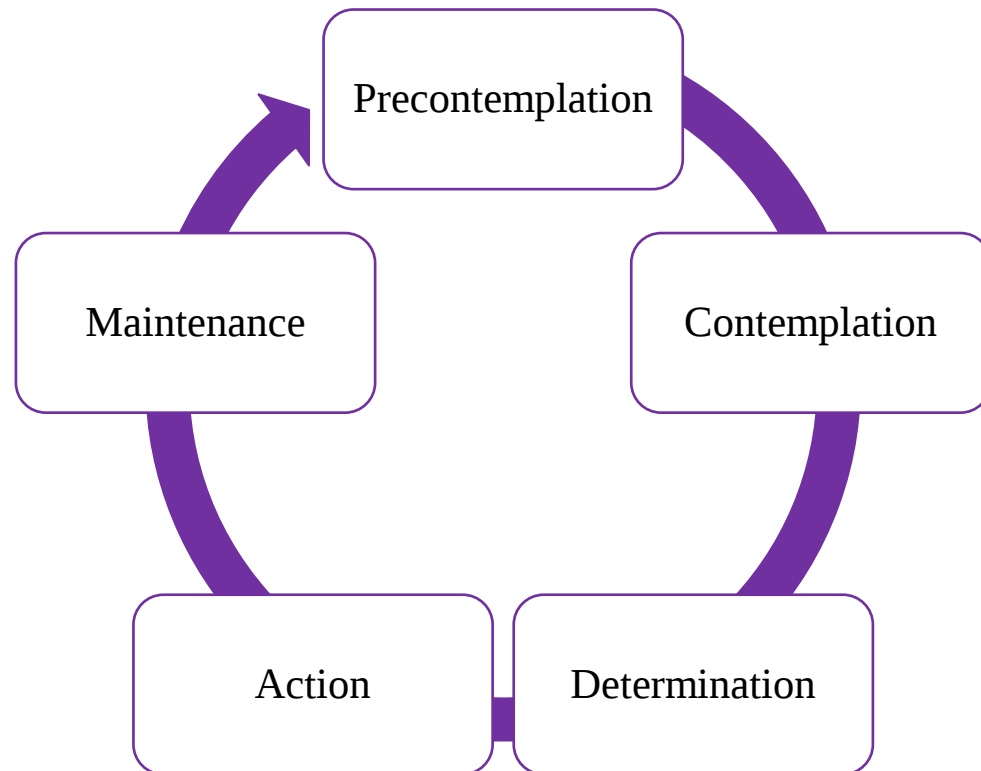
Distal Factors – Stress

- Stress:
Trait or State?
Due to ...?
- Decision-making and reaction time



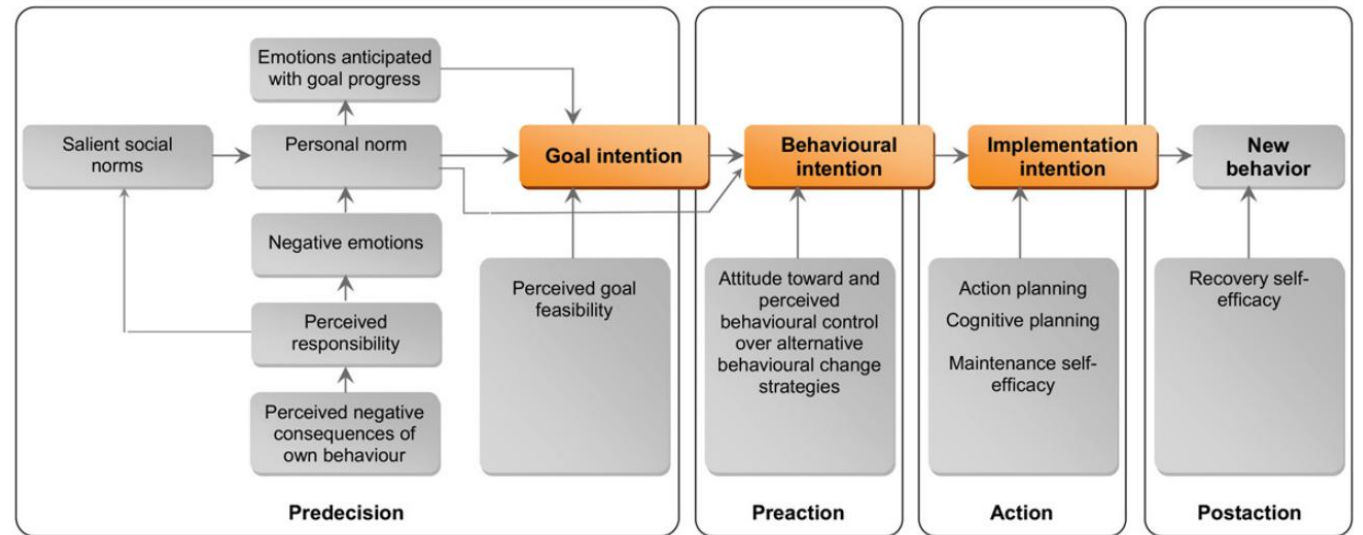
Behavioural Change

Transtheoretical Model (a.k.a. Stages of Change)



Prochaska & DiClemente, 1984

Stage Model of Self-Regulated Behavioural Change



Bamberg, 2013

Future of Transportation





Virtuocity



Human Factors and Safety Group @ITS

Virtuocity is developed and managed by the ***Human Factors and Safety Group***. We are a group of: *Psychologists, Ergonomists/Human Factors experts, Engineers, Computer scientists/ Computer vision experts, Industrial designers: our mission is to study:*

User Behaviour and Interactions with “new technologies” in transport



44 members - 21 Nationalities!

4 Professors
3 Associate Professor
1 Lecturer
4 Visiting Researcher/Professor
7 Postdoctoral Fellows
4 Dedicated Software Developers
1 Project Manager
20 PhD researchers

Current Research Areas

Interactions
of other road
users with
Avs

Visual
attention,
distraction and
driver state
monitoring
(AV & Manual)

Road Safety
culture and
Driver
Training

Applied
Behavioural
Modelling
(Interactions)

User Comfort
in AVs

Computer
vision and ML
for human
interactions
with Avs

Our Impact:

- Provide evidence to support regulatory changes to improve transport safety standards
- Understand how user behaviour is impacted under certain conditions to improve transport safety
- Bring **human-centric** development into transport systems to enable the swift development and integration of new transportation methods
- Provide an opportunity to explore scenarios in conditions not possible in the **real world**
- Support the development of current and new technologies/ new infrastructure



Virtuocity@Leeds

- Human in the loop simulation centre
- A 30-year track record
- Research focused team, funded by UKRI, EC and commercial project work

What we do:

**Human Factors
and Safety**

**Applied
Behavioural
Modelling**

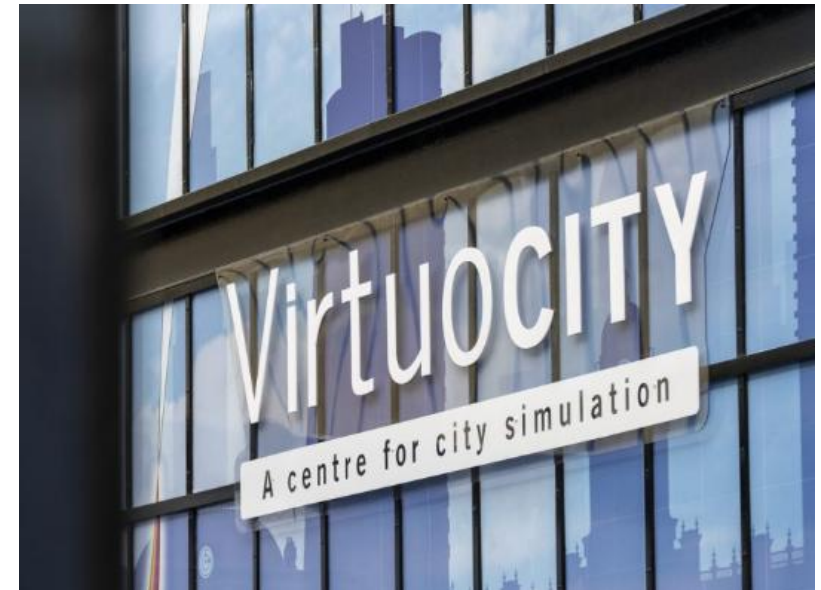
**In-House Software
Development**

**Regulation and
Standards**

(ISO, BSI, UNECE)

**Computer Vision
and Machine
Learning**

**Transport and
Road Planning**



Driving Simulator



Our Current Facilities

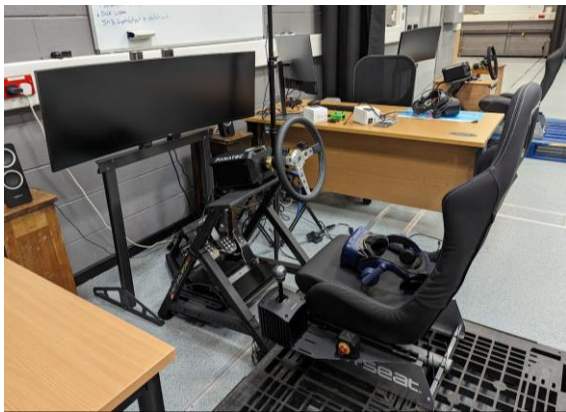
Working with communities and businesses
to design the city of the future



HIKER: CAVE-based ped sim



Static Simulators & VR/AR Suite



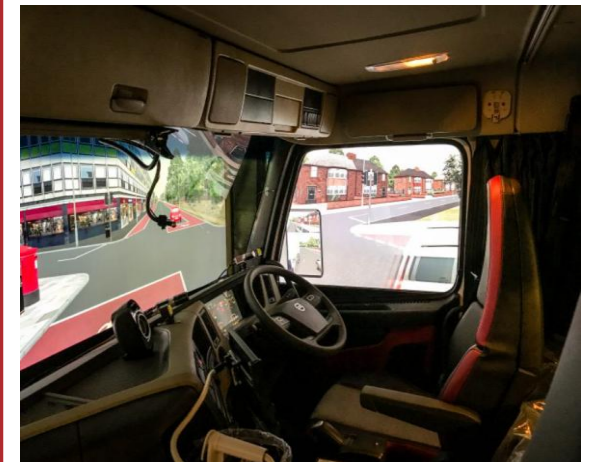
Machine Learning Cluster



Development of enabler systems for
Autonomous vehicles including:

- Road perception
- driver behaviour modelling
- human-machine interaction,
- road users activity prediction

Truck Sim





Participate

Enhance drivers' experiences with ADAS technologies.

Possess a vehicle that has been manufactured within the last three years and have owned it for a minimum of six months.

PARTICIPANTS REQUIRED FOR A NEW DRIVING SIMULATOR STUDY

Drivers between 21 - 65 years old

Would you like to help us understand human driver behaviour in different scenarios to support the development of automated vehicles? We are now recruiting for our next study (ETHICS: BESS+ FREC - 2025 2442-3278), with data collection between October-December 2025.

The study will take approximately **60 minutes**. As a thank you, you will receive **£20** upon completion of the study.

Scan the code below and complete a quick questionnaire to check if you are eligible to participate and register your interest.





İbrahim Öztürk
Institute for Transport Studies, University of Leeds
i.ozturk@leeds.ac.uk



 : ibrahimozturk.bsky.social

Linked in

