

To: Transport & Health Policy Makers, & Practitioners
From: Professor Adrian Davis
Date: 28th July 2022
Subject: Essential Evidence 4 Scotland No.56: Fear of cycling: the need for changes beyond infrastructure

Top Line: Fear of injury is a major deterrent to cycling. Gaining cycling skills and experience from a young age is important in confidence building but the issue is highly gendered with restrictive spatial and temporal practices acting as barriers to females gaining access to skills and opportunities.

For most industrialised countries road safety is measured by counting casualties or rates per head of population. SWOV, the national institute for road safety research in the Netherlands, notes that:

‘the number of road crashes or the number of road crash casualties are the most commonly used measures of lack of road safety.’¹

Risk and danger originate in the road transport system through the kinetic energy generated almost entirely by motor vehicles. Mass and speed are properties of all the energy that can be transferred during a crash; and the two properties are connected to kinetic (mechanical) energy.² The externalisation of risk to this energy is where risk generated by a motorised vehicle is disproportionately projected onto other road users.

Objective and perceived risk, danger, and safety concerns are consistently identified as major barriers to people taking up cycling for transport. These barriers are especially present within places with low cycling rates.³ In research interviewing cycle users in Toronto, Canada, regarding fear, researchers reported that every participant mentioned fear of getting injured by a vehicle. There were clear spatial dimensions to the fear of being injured while cycling: participants also often associated this type of fear with the built environment. Every participant mentioned this cycling-environment linkage citing things like lack of cycling infrastructure, poor connectivity of existing infrastructure, or heavy traffic. The researchers included other spatial types of fear. For instance, many participants experienced and engaged with the city street relationally when it came to cycling, by understanding their fear of injury in Toronto in relation to past experiences in other places in other cities which made cycling in Toronto feel more or less safe relatively. Also, different people engaged with the same streets differently: for some the street was constructed as a place they could get in trouble with law enforcement, for others it was a place they could be assaulted in.

The research also showed a discrepancy between being able to ride a bike and feeling confident enough to ride in traffic without fear. This finding is consistent with the concept of self-efficacy, which concerns one's belief in their abilities to successfully complete a task. One's sense of self-efficacy is shaped by past accomplishments, social modelling, persuasion, and physiological arousal. Participants who had accumulated more experience cycling, more often males, made statements aligned with a greater belief that they would be able to successfully cycle in Toronto, and expressed less fear. This raises the question as to what is needed in order to attract the less experienced and less confident to become habitual cycle users. As the researchers noted, perceived risk is possibly socially constructed so that interventions need to go beyond the provision of infrastructure, by also focusing on the ways in which the people, behaviours, and actions of females are affected by patriarchy and power, limiting exposure to opportunities for active transport in the first place.

¹ SWOV, 2013 Risk in Traffic. [fs_risk_archived.pdf](#)

² Global Road Safety Partnership, 2008 Speed management: a road safety manual for decision-makers & practitioners.

³ Ravensbergen, L., Builiung, R., Lailberte, N. 2020 Fear of cycling: Social, spatial and temporal dimensions, *Journal of Transport Geography*, 87.