

NATIONS UNIES

ОБЪЕДИНЕННЫЕ НАЦИИ

UNITED NATIONS

COMMISSION ECONOMIQUE
POUR L'EUROPE

ЕВРОПЕЙСКАЯ
ЭКОНОМИЧЕСКАЯ
КОМИССИЯ

ECONOMIC COMMISSION
FOR EUROPE

SEMINAIRE

СЕМИНАР

SEMINAR

INLAND TRANSPORT
COMMITTEE



Distr.
GÉNÉRALE

International seminar on
Aggressive behaviour on the road

TRANS/SEM.1/2004/4
5 January 2004

Geneva (Switzerland), 5 April 2004

Part one – Causes, effects and
Consequences of Aggressiveness on
the road

Original: ENGLISH

The Psychology of Aggressive Driving

Speaker: Dr. Dianne Parker, University of Manchester

Today I will describe some of the work we have done in the Manchester Driver Behaviour Research Group, much of which has focused on the psychological determinants of road traffic crashes. We all know that human error plays a crucial role, but often the term error is used in a very broad sense. We have identified three basic types of bad driving and developed a 24-item questionnaire, the Manchester Driver Behaviour Questionnaire, to measure them.

Slide 1 - DBQ ERRORS

Errors are potentially dangerous mistakes and slips, such as misjudging the speed of oncoming traffic when attempting to overtake, and failing to notice a Give Way sign at a junction.

Slide 2 - DBQ LAPSES

Lapses are usually harmless but irritating, and include turning on the wipers when you mean to indicate, or realizing you have no clear recollection of the road you have just driven along.

Slide 3 - DBQ VIOLATIONS

Violations, which are my focus today, differ from mistakes, slips and lapses in that they are committed intentionally and in the knowledge that one is engaging in potentially dangerous and often illegal behaviour. Speeding, close following and overtaking on the inside are all violations.

The distinction between violations, errors, and lapses has been replicated in studies carried out by other researchers in Britain, and in the Netherlands, Finland, Sweden, Germany, Brazil, Australia and China. We have also shown that violations and errors are related differently to *crash-involvement*. For each of our sample of 1600 we had access to their driving histories during a specified 3-year period.

Slide 4 - SIGNIFICANT CRASH PREDICTORS

As you can see, a driver's annual mileage, age and sex were all predictive of crash involvement, in ways you might expect. In other words, those who drove a lot had more crashes, older drivers had fewer crashes, and males had more crashes than females. But, and this is the interesting finding, even after statistically controlling for the effects of mileage, age and sex, adding DBQ factor scores to the equation resulted in a significant improvement in explained variance. That means that, over and above the well-known associations of mileage, age and sex with crashes, there is a statistically significant association between scores on our DBQ questionnaire and crashes.

Moreover, we found that only one of the DBQ subscale, that is one of the three types of poor driving identified, is related to crash rates, and that is the *violations* factor.

The practical importance of this distinction between errors, on the one hand, and violations, on the other, is that they have very different psychological origins and they therefore have very different remedial implications. Errors are based on perceptual, attentional, or judgmental processes, so if crashes are caused primarily by errors, we should try to improve the situation by training people to use their cognitive resources more carefully or efficiently. So errors can be tackled by the type of driver training most often offered. Violations, on the other hand, would seem to be based on attitudinal and/or motivational factors. So if there were evidence that crashes are caused primarily by violations, it would make sense to try to improve the situation by changing people's beliefs and/or motives. Remember, we have shown that it is violations, not errors that are statistically predictive of crash involvement.

Now we know that young males are the highest violators. However, if you think about it, that piece of information is not all that helpful. We can't do anything to change their sex, and all we can do about their age is wait for time to take its course! Moreover, no one could seriously argue that there is something about being young or about being male that directly **causes** risk-taking behaviour behind the wheel. I would argue strongly that there are psychological factors, which are correlated with youth and maleness that predispose some drivers to commit violations. Remember, not all young males are high violators, and not all high violators are young males. But all high violators choose their behaviours. This is crucially important. The commission of a driving violation is a matter of choice. We do not simply find ourselves overtaking on the inside, or gesturing to another road user, or shooting through traffic lights, as they turn red. I would further argue that we do not exceed the speed limit by mistake. At some level we are well aware of the speed we are travelling. If that were not the case the presence of a police vehicle would not have such an immediate impact on traffic speeds. So if high violators are **choosing** to drive in a way that is unacceptable to society, then the way to reduce the level of violating on the roads is to change the attitudes of the violators. Put simply, we need to find ways to persuade them not to do it.

Now none of what I have said so far is meant to imply that errors are not important in crash causation, or to say that skills training is not useful. On the contrary it is imperative that all novice drivers have the basic level of driving skill that training provides. But it is a truism that to err is human. We all make mistakes behind the wheel. More often than not we get away with them. However if you make an error while committing a violation, or if any other road user in the vicinity does, the consequences are more likely to be disastrous. Put simply, violation + error = catastrophe.

Slide 5 - V + E = C

The commission of violations takes you into an area where an error of your own, or of anyone else is far more likely to be punished, with dreadful results. Are violations just examples of aggressive driving. Well some are but not all. We have distinguished two types of driving violation: those that contravene the rules or laws and those that are directed against another driver. These are the interpersonally aggressive violations

Slide 6 - DBQ AGGRESSIVE VIOLATIONS

They both reflect our own aggression and make other drivers angry. We asked over 2500 drivers, from Britain, Finland and the Netherlands, how angry, if at all, various driving situations make them. It turns out that there are a number of behaviours that provoke anger in the majority of drivers. Incidentally, it is pleasing to note that the results we found have been echoed by the larger scale study by Gallup that you are going to hear about next.

Slide 7 - ANGER-PROVOKING BEHAVIOURS

For example, one in three drivers get angry or extremely angry when someone is driving very close to their rear bumper, or when someone takes the parking spot they have been waiting for. Likewise, one in four drivers gets angry or extremely angry when someone cuts in front of them on a motorway. What's worse, we also found that many of our respondents were only too willing to react. For example, when someone cuts in and takes the parking spot they have been waiting for, 65% of drivers were prepared to express their anger in some way, with a beeping horn, flashing lights, a gesture or swearing. More worryingly still, 20% of respondents indicated that in this situation they would be prepared to get out of their vehicle and argue, or even that they would be prepared to engage physically with the other driver. Similarly, 72% of respondents stated that they would react in some way to being cut up on the motorway, although for most (48%) this would involve **only** flashing lights or sounding the horn.

In terms of their own behaviour, we found that 13% of our sample of drivers admitted regularly sounding their horn to indicate annoyance with other road users, 15% regularly become angered and indicate hostility, while 4% regularly give chase to another driver with the intention of giving him/her a piece of their mind. So while not representing the tidal wave of road rage that some sections of the media would have us believe is occurring, it certainly seems that aggressive driving is not that rare.

SLIDE 8 - FIVE TYPES OF SITUATION

We were able to identify five broad types of situation that provoke anger and/or aggression in drivers. On this slide they are placed in order of the amount of anger they give rise to. The first type, and the one that generates anger most frequently was one of discourtesy or thoughtlessness, such as when someone behind dazzles you with their headlights. The second annoying type of driving was when another driver is impatient, and puts you under pressure by driving too close, or cutting in front of you. Third on the list is when your personal competence as a driver is challenged, and you are on the receiving end of gestures, verbal abuse or a blast of the horn. This threatens your self-identity as a better than average driver (and nearly everyone thinks they are a better than average driver). You feel insulted and challenged. The fourth most anger-provoking type of situation was when others are putting you in danger by their reckless driving style, maybe weaving in and out of lanes of slow traffic. The typical thought response to this might be 'How come he's allowed to get away with it?' Finally there is the situation in which your progress is impeded by another driver's hesitance or sluggishness. You feel thwarted, impeded, and may be tempted to believe that the other driver is doing it purposely, just to inconvenience you

Were any of our respondents immune? Well, those we categorised as safety minded, using a Finnish scale measuring skill- and safety-mindedness, were less likely to get angry or to behave aggressively than were others. By safety-minded I mean the tendency to avoid competition in traffic, the willingness to tolerate the blunders of others, and to relinquish driving 'rights' when necessary. So it seems that safety mindedness can not only reduce your chances of being involved in an accident, but also of getting involved in the sorts of exchanges that leads to aggressive behaviour, a problem that it seems is all too common on the roads of Europe.
