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Theories of Driver Behaviour and Driving Emotions

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Bibliography

Sarah Redshaw has directed a number of focus group studies with young drivers centred in social and cultural approaches to understanding young driver behaviour within the context of the broader influences relating to cars and driving. Publications include "Changing Driving Behaviour – a cultural approach" (*Australian Journal of Social Issues*, Vol. 36, No. 4, November, 2001).

Abstract

The paper will give an overview and assessment of the most prevalent theories of driver behaviour and focus particularly on research on the emerging role of the emotions in driver behaviour. The theory of planned behaviour has played a significant part in psychological theories of driver behaviour (Parker et al. 1995). Other theoretical approaches have attempted to address the behaviour of young drivers through constructs such as "recklessness" and "sensation seeking" in developmental (Arnett 2002) and social approaches (Jessor 1992). One of the themes that emerges most strongly from research on reckless driving in adolescence is the significance of the emotions and how they are managed in the context of driving. How the emergence of the role of the emotions impacts on the broader theories is discussed.

Theories of Driver Behaviour and Driving Emotions
Introduction

A number of researchers have looked at the role of the emotions in the risk behaviour of young drivers (Arnett 2002; Rundmo and Iversen 2004; De Joy 1992; Harré 2000). Intense emotion appears to be an experience of adolescence. The emotional engagement involved in driving needs to be considered more broadly however. Emotions, it is often assumed, are overseen by rationality in adulthood, but appeals to rationality are not necessarily successful in appeals for safe behaviour. Among the social and cultural influences that need to be considered in appealing to people to change their behaviour, emotional engagement is one of the most important.

People's attachments and forms of expression in their everyday lives include and are expressed through cars in societies where the car is the dominant mode of transport. We do not merely shape the car, the car shapes us (Sheller and Urry 2000, 2003). Emotional engagement relates to the attachments and forms of interaction that people experience through and with cars, in living in a car dominated world. " … the social meanings of commodities … are far more important to the ways in which our society works than the *utilitarian* meanings of these goods" (Maxwell 203). Maxwell emphasises the meanings of car use as embedded in the social relations of everyday life which are expressed in "emotional attachments" to cars and the ways in which cars function in our lives.

For anthropologist Mary Douglas (1992) the risks individuals focus upon have less to do with individual psychology and more to do with the social forms in which individuals construct their understanding of the world and themselves. The social interaction involved in car use is significant in shaping the forms of emotional engagement that individuals enter into.

There is an assumption in road safety that rationality determines what people do and rationality in this sense is action determined by objective facts and not emotional responses. Aberg (1998) states: "It is difficult to understand why traffic safety rules should be necessary to change behaviour. If they were behaving in a rational way, drivers who learn that their behaviour is associated with increased risks should avoid performing that behaviour and then traffic safety rules would not be necessary. However, there is plenty of evidence … indicating that information about risky behaviours has very little effect on actual behaviour." (209)

The theory of planned behaviour, as expanded by Parker, Manstead, Stradling and Reason (1992) in the context of road safety, often underlies approaches to road safety and understanding infringement tendencies, as a model of the structures that determine or influence driver behaviour. The model focuses primarily on rational understanding with some consideration of individual perceptions influencing decision making. The theory of planned behaviour will be discussed first, followed by a discussion of Rundmo and Iversen's (2004) distinction between cognitive and affect based risk perception. Accounts of emotionality in adolescence are then considered. It is concluded that emotional engagement appears in the research as aggression and as a characteristic of adolescence, but should be expanded to an understanding of driver behaviour more broadly. How emotional engagement is shaped in relation to driving is significant in understanding driver behaviour.

Theories of Driver Behaviour

The theory of planned behaviour allows behavioural intention, made up of attitude to the behaviour and subjective norm, to be predicted. A third determinant of behavioural intention, perceived behavioural control, was later added in order to allow for behaviours which are not completely volitional in character (Parker, et al. 1992). This refers to the "degree to which an individual feels that performance or non-performance of the behaviour in question is under … volitional control". (94) It was found, in the case of four driving violations, drinking and driving, speeding, close following and dangerous overtaking, that as perceived behavioural control increased, behavioural intentions decreased (99).

The authors concluded that; "Some respondents may have unconsciously underestimated their control over these behaviours to protect their self-esteem or social esteem." (99) Nevertheless, the fact that drivers appear to explain their bad behaviour by perceiving that they have little control over it shows that by stressing the control that drivers do have, and the need to take responsibility for their behaviours, has implications for driver training and road safety messages, according to the authors.

The study by Parker et al. showed consistently significant correlations between subjective norm and intention, rather than between attitude and intention. They explain that the importance of subjective norm is possibly due to driving behaviour being a "social performance carried out in the public domain", and involving consequences for other people (100). Thus, a behavioural intention with important implications for others is likely to be formed with the perceived views of significant others playing an important part.

Importantly, younger drivers in their study perceived less pressure from others to avoid committing driving violations than older drivers, and were also more highly motivated to conform to the perceived desires of their peers. Younger people were inclined to evaluate the committing of violations less negatively, and younger men differed significantly in the degree to which they considered committing driving violations to be under their volitional control (100).

In their 1995 study, Parker, Manstead and Stradling investigated the role of personal norm in extending the theory of planned behaviour. Personal beliefs about what is right and wrong were not taken into account in the theory of planned behaviour, they argued. The construct personal norm is intended to reflect people's internalised moral norms. Social norms on the other hand, reflect people's perceptions about what others want them to do. Personal norm is made up of moral norm and anticipated regret. Anticipated regret they considered important because "driving violations are (for most people) socially undesirable" (129).

They conclude the 1995 study with the statement: "… measures of personal norm provide a useful extension of the theory of planned behaviour model, particularly when the behaviour involved is such that moral obligation can reasonably be expected to have a role" (136).

In a later study Parker, Stradling and Manstead (1996) showed an increase in the predictive performance of the planned behaviour model further, with the addition of a measure of moral norm and a measure of anticipated regret, based on the assumption that committing driving violations is likely to invoke feelings of anticipatory negative affect.

In the testing and application of the theory of planned behaviour the focus has overwhelmingly been on the committing of violations and aggressive driving behaviours. Affect is regarded in an instrumental sense as contributing to moral assessment. The importance of personal norm and the perceived implications of behaving in a socially undesirable way are significant in understanding driver behaviour. However, the assumption that most people consider driving violations undesirable is problematic. While drivers know the rules and the potential for enforcement, the rules do not necessarily determine what is socially desirable. Increases in speed and better roads to facilitate faster travel, have been considered socially desirable in many Western societies. Many drivers regard travelling at 10km/h above speed limits as acceptable. These kinds of social influences are part of the emotional engagement with which drivers interact within the driving community.

The theory of planned behaviour does not take into account the emotional engagement involved in cars and driving, and being part of the driving community, even though it acknowledges the role of social norm and moral norm. The emotional make up of engagement with the traffic environment has not been explored a great deal in the road safety literature. The particular complex forms of social norm, informed by a range of attachments and forms of expression need some exploration in relation to cars and driving.

Some research has attempted to show the importance of considering emotion in driving. Rundmo and Iversen (2004) distinguish cognition and affect based risk perception as separable but related aspects of attitude. They argue that affect has a primary function in judgments since a shorter response time is required than for more ‘complex’ cognitive judgments. Cognitive judgments in the context of driving include assessment of the probability of an accident and therefore relate to risk perception. They found that probability judgments and concern about traffic risks, did not seem to be important for risk behaviour in traffic, whereas affect did seem to be important.

The focus on perceived risk in their study, separated into cognitive and affective components, showed that worry and emotional reactions significantly predicted behaviour: the more worried and ‘emotional’ respondents were, the less risky their behaviour in traffic. They suggest that measures aimed at influencing behaviour and enhancing traffic safety should be “directed more at influencing worry and emotional reactions to traffic hazards” (18). This was considered to be even more important where respondents scored highly on sensation seeking and were reported to be normless or indifferent to traffic safety.

Two points are important here. Firstly, the idea that emotional awareness is linked to less risky behaviour would seem to go against the grain. The type of emotion involved is perhaps the significant factor. Feeling “worried” could be seen as comprising an awareness of the dangers constant in driving, and a sense of vulnerability. Nervousness and “worry” or fear are not generally considered advantageous in driving and are more likely to be related to lack of confidence. Young male drivers consider young female drivers as not as good because they are “less confident”. Rundmo and Iversen note that males possibly relate less easily to emotions. Females reported higher accident probability, more worry and reported emotional reactions more than young males. They report a need to develop measures to reach the young male group and emotion-based risk perception.

In considering the differences between males and females on perception of emotion an interesting concern arises which ties in with assessment of driving by males being based on their perceived level of skill and knowledge. The need for at least some males to see themselves as able to "handle a car" and not feel afraid could be related to a need to overcome any feelings of vulnerability by privileging skill (DeJoy 1992).

Secondly, Rundmo and Iversen conclude that some drivers are “normless”, particularly those who scored high on sensation seeking. Rather than being normless, however, their norms are not those primarily important to traffic safety. They are possibly governed by another set of norms that are not necessarily alien to the road environment. Norms related to excitement are often expressed in advertising, taking the form of speed and aggressive driving. Norms derived in interaction with others are also significant, and when the social behaviour of young drivers is considered, norms that are not compatible with safety appear to be more influential. These norms are likely to be related to forms of emotional engagement and their associations that are not governed by safety concerns. The excitement of independence and freedom, and of being with friends is often associated with a carefree attitude and riskier behaviours, or at least a lack of awareness of safety issues as noted by Harré (2000).

Adolescents and Emotionality

“Recklessness” and “sensation seeking” have been studied as traits relating to particular behaviours in cars (Jonah 1997). Some individuals are seen as pursuing risk, as actively seeking it out. Jessor expressed this as problem behaviour (1987) which he later couched in the context of the larger social context (1992). Risk behaviour he defines as, “any behaviour that can compromise an adolescent successfully achieving psychosocial development” (378). Risk behaviours can serve social and personal functions, purposes, instruments and goals such as: peer acceptance and respect; autonomy; defying convention; coping with anxieties and fears; affirming maturity; and adult status (377). He notes that adult behaviour sometimes exhibits similarities to adolescent risk taking.

Feelings of invulnerability in adolescents are often mentioned and attributed to adolescent egocentrism (Elkind 1974; Cohn, Mcfarlane, Yanez and Imai 1995). There is an apparent lack of understanding of the implications or acceptance of the appropriate norms for safe driver behaviour amongst adolescents. Young drivers’ lower perception of risk reflects rather a “failure to perceive dangerous situations than a desire to pursue risks” (Cohn and McFarlane and Yanez 1995). It is suggested in these accounts that adolescents are not emotionally mature enough or their actions are governed by their emotions where the behaviour of adults is governed by rationality, and knowledge of appropriate beliefs and attitudes. Cohn et al. (1995) in their investigation of teenager’s perceptions of safety and risk relative to adults concluded: “Young drivers … perceive less risk in tailgating, speeding, and night driving than do older drivers, which suggests that accident rates among youth may reflect a failure to perceive dangerous situations rather than a desire to pursue risks.” (221) McKnight and McKnight (2003) report that of the 2000 non-fatal accidents involving young drivers aged 16-19 years, errors in attention, visual search, speed relative to conditions, hazard recognition and emergency manoeuvres were found to be influential factors in the crash rather than high speed and patently risky behavior which accounted for only a small minority.

Harré (2000) explores this point and, in addition, discusses the impact of intense emotion on the concentration of young drivers resulting in reduced risk perception. Temporary reduction in risk monitoring can be effected by distraction from passengers, loud music and intense emotions. She cites evidence from Schuman (1967) and Jung and Huguenin (1992) indicating that young drivers are likely to drive to 'blow off steam' or 'cool off' after an argument. "The evidence cited … suggests that drivers who experience intense emotions may have a relatively high crash rate and that adolescents may be more prone to some types of emotional driving than adults." (Harré 2000: 213) Harré notes that it is not clear whether intense emotion acts as a distraction reducing risk monitoring or "an incentive to engage in active risk seeking" (213). She concludes that in all likelihood it can operate in both ways, reducing risk perception in a young person who is overwhelmed by an emotion such as anger and consequently makes poor judgments, and in a second scenario, "fuelling a desire to *take* risks such as speeding, cutting corners, and so on", and requires further investigation (Harré 213).

Arnett (2002) has looked at the sources of crash risk in young drivers in developmental terms. He distinguishes adolescence (10-18 years) from emerging adulthood (18-25) and focuses on the differences between 16-17 and 18 year olds in their driving related behaviour. 16-17 year olds have a higher crash rate and are more likely to be living at home and attending school. Their peers are the focus of their leisure activities and their judgments about how they look, their popularity and what they do. Cars become a means of socialisation freed of parents, and adolescents experience their happiest moods around their friends. The elation they experience in their independence, being with their friends, without adults, is expressed in extreme positive emotions that can have the effect of distracting and encouraging the driver to take risks. Arnett notes that adolescents report more extreme emotion than pre-adolescents or adults. Adolescents are more likely to drive to 'blow off steam' and express extreme negative emotion.

"It could be … that one of the reasons for higher crash rates among 16-17 year olds is that they spend more time in cars with friends and use their cars more for purposes that promote their social interactions but are inimical to safe driving." (Arnett 2002: 20) The importance of social interaction and the role of emotions are clearly significant, and likely to be more significant in influencing young driver behaviour than rational understanding of the risks associated with driving. This is not merely a factor of youth though it is related to the development of emotional control and expression. Social interaction and emotional responses are likely to influence the responses of drivers in general to some extent.

In much of the research on young drivers, the social norms operating with young people appear to involve forms of engagement that are not primarily about safety. There is certainly evidence that some are keen to absorb risk as a challenge to themselves in various arenas such as, skydiving, rock climbing and other extreme sports (Lyng 1990). In road safety however, the expression of risk taking in cars, particularly for younger drivers needs to be seen in the context of the way cars are represented, as well as adolescent development. With advertisements like Ford's latest, which emphasise power and performance and show the car as allowing the driver to feel like a race driver, cars are interpreted in particular kinds of ways, enabling them to be considered as appropriate means for the expression of risk behaviour. Adolescent behaviour needs to be examined in light of the kinds of

emotional attachment and expression that are encouraged in and through cars as well as a consideration of the emphasis on social relations.

Driving as Emotional Engagement

The emotionality of adolescents needs to be seen in the broader perspective of social and cultural forms of emotional engagement in the driving community. The emphasis on some aspects of driving such as the thrill of speed, the focus on driving skill and making social exchange on the roads more impersonal, is not confined to young males. The social interaction involved in driving is expressed through forms of emotional engagement that young people enter into.
DeJoy (1992) states that there is a need for more personal appeals in road safety, for interventions that "personalize the risk", since most drivers perceive risks as not applying to them personally. Young males in particular are more optimistic, especially regarding driving skill. In the research he cites, males and females had similar perceptions concerning the frequency and likelihood of risky behaviours but males perceived behaviours as generally less serious and less likely to result in accidents. De Joy relates this to the expression of masculinity in our culture, as does Harré (2000). The emotional engagement involved in this perspective requires further exploration, and is likely to highlight an emphasis on thrill and excitement rather than an awareness of vulnerability. Harré states: the "social system of norms and media images [equates] fast driving and "skillful" maneuvers with masculinity, adulthood and peer group approval". These associations, she suggests, need to be dismantled in the long term. (2000, 218)

The well documented fact that drivers see themselves as less risky than other drivers, possibly indicates a particular emotional engagement which avoids an awareness of feelings of vulnerability as Rundmo and Iversen (2004) suggest, particularly in males. An emphasis on not being emotional belies the emotional investment involved in attachments to cars and driving skill.

An emphasis on impersonality and objectivity in research is reflected in or reflects the impersonality emphasised in strategies of traffic control on the roads. Jonasson (1999) contrasts the traffic light and roundabout in terms of their facilitation of interaction between drivers. "A traffic culture can …be described as a system or network of actions creating meaning and values produced at a place where humans meet as traffic participants." (49) At roundabouts there are frequent but not severe accidents. Jonasson argues this is because the roundabout "forces traffic participants to interpret and consider their own as well as other's actions through the communication of social expressions." (53) Jonasson describes the interactions that occur at an observed roundabout and the lack of interaction at traffic lights where the lights structure the traffic flow.

Traffic lights in contrast to the roundabout, according to Jonasson, are "constructed, manufactured and managed in a context where human beings, if considered at all, are viewed as isolated individuals without social relations to others." (53). The traffic light, according to Jonasson, produces "artificial hierarchies that aim at being simple, objective, unequivocal and unambiguous" without requiring social knowledge. They can be viewed as an attempt by traffic planners and authorities "to control and manipulate social relations in everyday space", to over-ride social knowledge which is seen as fallible. An unintended consequence of imposing a different form of regulation is the emergence of "new hierarchies characterized by competition rather than cooperation." (53) Traffic lights are intended to regulate behaviour through

rational, objective systems but nevertheless maintain a form of emotional engagement concerned with competitive relations. Jonasson's study demonstrates the importance of social interaction and the forms it may take in driving.

While objective traffic regulation is necessary and has positive results, the emphasis on objective control in traffic regulation could be at the expense of social knowledge which needs to be understood and engaged with, and which actually influences driver behaviour in more significant ways. Shinar (1998) describes "inconsiderateness towards or annoyance at other drivers (tailgating, flashing lights, and honking at other drivers), and deliberate dangerous driving to save time at the expense of others…", as "…a syndrome of frustration-driven instrumental behaviours" (139). These behaviours are not uncommon and comprise a structure of emotional engagement oriented towards aggression on the roads.

There are many reasons why aggression could be a significant part of the emotional engagement of driving. Advertising makes a contribution emphasising the need for "mean" looking cars that provide safety in the "concrete jungle". New cars are promoted as fast and powerful, allowing anyone to have the experience of the real enthusiast who loves the drive. Speed is seen as cool and 'macho' whereas slow driving is 'feminine' or 'old-fogey', and skilful, fast driving are the means to get ahead and to relieve stress and frustration (Silcock et al. 2000).

Aggression could also be a response to feelings of vulnerability in cars. People are generally wary of the driving of others and regard their own driving as "safer" ( ). This phenomenon has not been investigated in terms of the vulnerability that people experience in cars and the ways in which they may respond to that vulnerability. The kinds of emotions associated with driving could be expressed in systematic responses that are socially acceptable as forms of expression amongst particular groups. People can be annoyed or affronted by someone going slower than they themselves wish to, regarding the slower driver as deliberately obstructing them and responding by close following and flashing lights to intimidate them. Others may tailgate without noticing what they are doing but nevertheless invoke feelings of intimidation in the driver in front. Young males say that if another car overtakes them they have to overtake them back. It is an affront to them to be overtaken, suggesting to them that they are being seen as someone who doesn't know how to drive (Redshaw 2001). These responses are acceptable on some level since they often have the desired effects – the expectation that drivers will or should move out of the way of other drivers who are flashing their lights at them and close following is an understood action regarded as acceptable amongst some drivers. Systematic emotional responses could be confronted and deliberated in positive ways so that drivers are able to focus on more empathic responses to other drivers rather than responding as if the actions of others were a deliberate affront to them.

Literature on aggressive driving discusses negative emotions experienced in the context of driving (Dula and Geller 2003). There has a been a great deal of focus on negative emotions such as anger while positive emotions such as contentment and enjoyment could also play a significant role. The ways in which they are related to and experienced within the context of driving are important. Many drivers experience enjoyment in driving at safe speeds while other people feel annoyed when their free flow of movement, their "enjoyment", is "obstructed" by other vehicles. Enjoyment could be experienced in a number of ways in relation to cars but is often associated with extreme speed. These emotions are related to beliefs or expectations about the

way things “should” be, and the frustration of expectations. The beliefs and frustrations are part of the emotional engagement with cars. Discussion of the role of these emotions and their associations in driving could be fruitful in understanding influences on driver behaviour.

The extremes of aggression and nervousness appear to be aberrations of the normal response to driving experiences and are addressed as extremes. Nervousness is not the ideal driving emotion. There is more emphasis on being assertive and even aggressive as expressions of “good driving”. Excitement and enjoyment are liberally fostered in car advertising in ways that could eventually promote aggression when enjoyment appears to be interfered with or obstructed. The associations of enjoyment and excitement are connected in the emotional investment in cars, to the associations of aggression.

Emotional engagement is more important to normal functioning in many activities than is often acknowledged. While emotion is regarded as exclusive of rationality and vice versa, the emotions are nevertheless an important aspect of how we understand and operate in many complex social situations. The major theories then, which are formulated to emphasise rationality and objectivity, need to be informed also by more “personalised” responses to the road environment, encompassing emotional engagement. Given that every driver is responding in a form of emotional engagement with the process of driving, these aspects of the traffic environment should be taken into account. Understanding the emotional attachments involved in cars and driving in our society, could also help to inform traffic regulation in ways that are more significantly related to people’s ways of operating on the road.

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