

Don't be upset! Can cars regulate anger by communication?

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Abstract

In a study conducted online we explored several strategies targeted to regulate drivers' anger via different kinds of regulation strategies. First, participants were asked to imagine several traffic related events from a drivers' perspective, presented as written text scenarios, and intended to induce anger. Participants took the perspective of a driver who was unable to arrive as planned at his or her destination due to other drivers' obstructive driving behaviour. Each driving event was followed by different emotion regulation strategies presented via audio files. One strategy attempted to shift the participants' attention to a non-driving related topic (distraction). A second strategy attempted to modulate participants' affective state using a relaxation technique (suppression). The last strategy induced an alternate interpretation of the emotion-eliciting event (reappraisal). All strategies were aimed at down-regulating emotions that typically have a negative valence such as anxiety, fear, sadness, and anger. Participants rated their emotion via the Self Assessment Manikin. Results from these hypothetical scenarios indicate that it is conceivable to regulate emotions within a technical system such as a car. Furthermore, we find that individual preferences for the specific kind of regulation exert a significant impact on emotion regulation.

Emotion and emotion regulation in Driver-Vehicle-Interaction

Driving in rush-hour traffic is probably not everyone's cup of tea. But when progress is blocked due to a particularly slow driving car in front, anger is likely to occur. Emotions arise when physical or mental events compel attention, having particular meaning relevant to individual goals, needs or issues. Typically, emotions trigger physical, experiential and behavioural responses (Campos et al., 2004; Gross & Thompson, 2009; Lazarus, 2001). Accordingly, anger leads to changes in the driver's thinking, feeling and in driving behaviour, in some cases to maladjusted driving (Deffenbacher et al., 2003; Parker et al., 2002). It is assumed that accidents frequently occur as a result of aggressive and risky driving behaviour (Martinez, 1997; Snyder et al., 1997). In particular, anger, often provoked by others, may lead to risky driving (Roidl et al., 2010; Mesken et al., 2007; Stephens & Groeger, 2006; Lajunen & Parker, 2001; Parkinson, 2001; Scherer et al., 2001; Shinar, 1998; Arnett et al., 1997).

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