

## Letter to the editor

# The role of daily contexts in the activation of basic emotions: a study based on Ekman's theory as applied to daily drivers

O papel de contextos quotidianos na ativação das emoções básicas: um estudo baseado na teoria de Ekman aplicada a motoristas

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### Dear Editor

In daily life, traffic is often related to negative emotional states, namely hostility, which leads to a high probability of conflict between drivers. The frequent traffic violations by some drivers and the fear of those violations by others, as also well as the uncertainty of the consequences of such violations, may result in stress, anger or serious injuries<sup>1</sup>.

Emotions are an important element of our behavior and Ekman's theorization has been widely accepted<sup>2-4</sup>. His studies revealed that certain basic emotions<sup>5</sup> are phylogenetically adapted to allow individuals to face different daily problems, which require a rapid and effective response<sup>2,5,6</sup>. Several authors<sup>7-10</sup> reported that some situations activate basic emotions that emerge in a coherent pattern due the similarity of goals among them. The pattern of hostility has received special interest because of its association with traffic situations<sup>1</sup>, diseases<sup>9</sup>, and some social life aspects like moral judgments<sup>10</sup>. It was suggested that each emotion represents a type of hostile motivation, which serves to overcome or reject the provoking stimulus and influences an adaptive response.

We aimed to compare two contexts of conflict that generate intense emotions, to verify their validity in discriminating these emotions, and whether these contexts elicit hostility. The contexts were two 90 seconds films recorded by police vehicles, one involving real traffic accidents and the other traffic violations. To test the effec-

tiveness of those films in inducing emotions, we used an adaptation of the Izard emotional assessment scale<sup>8</sup> with a variation from 0 to 5 (low-high intensity). One hundred and fifty drivers were selected by the "snowball" method to voluntarily participate (79 men and 71 women). They have an average age of 43.26 years (SD = 8.857) and an average of 20.40 years of driving experience (SD = 8.364). After each driver watched both films, they were asked to indicate the intensity of their emotional states.

Results suggested (Table 1) that the both films were effective, as expected, in inducing significantly intense basic emotions. However, intensity was higher during the traffic violations film. For the statistical analysis each emotion was paired using both films and the results revealed significant differences for surprise, anger, disgust, fear, and contempt emotions. These results show the validity of Ekman's theory to discriminate the basic emotions in both contexts. Additionally, they highlighted anger, surprise and fear as more intense emotions, maybe due to the uncertainty of the consequences of traffic violations or the lack of punishments. The stress caused by the uncertainty may lead subjects to experience a drop in their attention span and therefore, increase the risk of an accident. Moreover, accidents do not generate such intense emotions once damage has already happened. Our results show that it is important to understand the influence of emotions during daily driving, since road rage and traffic violations are frequent and road accidents are a tragedy all over the world.

**Table 1.** Emotions intensity mean and the degree of significance for each pair of emotion in the contexts of accidents (TA) and traffic violations (TV)

	Emotions	M	SD	t	p
Par 1	Happiness (TA)	0.65	1.087	-0.439	0.661
	Happiness (TV)	0.7	1.145		
Par 2	Sadness (TA)	2.97	1.622	-1.496	0.137
	(TV)	3.18	1.559		
Par 3	Anger (TA)	2.77	1.596	-4.776	0.000***
	(TV)	3.4	1.437		
Par 4	Surprise (TA)	3.07	1.346	-3.272	0.001**
	(TV)	3.45	1.454		
Par 5	Disgust (TA)	2.22	1.774	-2.824	0.005**
	(TV)	2.68	1.842		
Par 6	Fear (TA)	2.88	1.658	-2.452	0.015*
	(TV)	3.23	1.615		
Par 7	Contempt (TA)	1.93	1.585	-3.874	0.000***
	Contempt (TV)	2.53	1.782		

\* p < 0.05; \*\* p < 0.01; \*\*\* p < 0.001.

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