



Differentiating risky and aggressive driving: Further support of the internal validity of the Dula Dangerous Driving Index

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ABSTRACT

The Dula Dangerous Driving Index (DDDI) is a cross-cultural validated instrument that measures simultaneously various manifestations of behaviours, cognitions, and affects associated with dangerous driving. The aims of the study were to translate the DDDI into French and then to verify the validity and reliability of the French version of the scale by means of observed behaviours on a driving simulator, and of self-reported measures of driving behaviours, personality and sociodemographic characteristics. A first sample of 395 drivers completed self-reported questionnaires and a second sample of 75 male drivers also completed tasks on a driving simulator. A confirmatory factorial analysis supported the internal validity of the scale. Findings also show that the French version of the DDDI yields good internal consistency, concomitant and convergent validity for each subscale (risky driving, negative cognitive/emotional driving and aggressive driving) and total score. The scale was useful to differentiate sociodemographic and psychological profiles associated with each subscale.

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1. Introduction

Despite the lack of conclusive evidence to confirm a true rise in aggressive driving (Galovski et al., 2006; Willemsen et al., 2008), the manifestations of the phenomenon are common. A review paper indicates that approximately 20–25% of drivers report aggressive behaviours on the road (Galovski et al., 2006). In addition to constituting a major concern for the general population in Canada and United States (Beirness et al., 2002; NHTSA, 1999), aggressive driving is associated with a higher involvement in road accidents (Blows et al., 2005; Mann et al., 2007; Wells-Parker et al., 2002). Hence, aggressive driving is of great concern from a public health point of view.

Aggressive driving has been conceptualized and studied in the scientific literature as including a wide array of distinct behavioural, emotional and cognitive manifestations of varying intensity. These manifestations include extreme aggressive reactions of “road rage”, including criminal acts against persons and property, as well as more moderate aggressive road behaviours, e.g., gestures of disapproval and use of one’s vehicle to hinder traffic flow (Delhomme and Villieux, 2005; Pouliot et al., 2007). The construct of aggressive driving often includes risky driving without hostile intent toward

others, e.g., speeding and neglecting to comply with mandatory stops. This lack of cohesion and specificity in the definition has hampered the study of aggressive driving in terms of understanding and developing effective strategies for countering it (Dula and Geller, 2003; Galovski et al., 2006). Some researchers focus on motivations and intentions underlying aggressive driving, while others focus solely on observable behaviours (Hennessy and Wiesenthal, 2002). To remedy these shortcomings, Dula and Ballard (2003) developed the Dula Dangerous Driving Index (DDDI), a research instrument to measure three distinct constructs often categorized under the label of aggressive driving and associated with dangerous driving. The authors included measures of aggressive driving, risky driving, and negative cognitive/emotional driving. The following study presents a French version of the DDDI and aims to verify the theoretical structure of the scale and its psychometric properties in this translated version.

1.1. Dangerous driving

Dangerous driving encompasses several types of road behaviours and states of mind that may result in collisions. Aggressive driving can be defined as any behaviour exhibited by a road driver with intent to physically and/or psychologically harm another driver and/or pedestrian (Dula and Geller, 2003). Aggressive driving includes several forms of behavioural manifestations, namely those expressed verbally, physically, or through use of one’s vehicle (Deffenbacher et al., 2002). Risky driving, on the

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