Identifying compensatory driving behavior among older adults using the situational avoidance questionnaire☆

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ABSTRACT

Introduction: Driving self-regulation is considered a means through which older drivers can compensate for perceived declines in driving skill or more general feelings of discomfort on the road. One form of driving self-regulation is situational avoidance, the purposeful avoidance of situations perceived as challenging or potentially hazardous. This study aimed to validate the Situational Avoidance Questionnaire (SAQ, Davis, Conlon, Ownsworth, & Morrissey, 2016) and identify the point on the scale at which drivers practicing compensatory avoidance behavior could be distinguished from those whose driving is unrestricted, or who are avoiding situations for other, non-compensatory reasons (e.g., time or convenience). Method: Seventy-nine Australian drivers (Mage = 71.48, SD = 7.16, range: 55 to 86 years) completed the SAQ and were classified as a compensatory-restricted or a non-restricted driver based on a semi-structured interview designed to assess the motivations underlying avoidance behavior reported on the SAQ. Results: Using receiver-operator characteristic (ROC) analysis, the SAQ was found to have high diagnostic accuracy (sensitivity: 85%; specificity: 82%) in correctly classifying the driver groups. Group comparisons confirmed that compensatory-restricted drivers were self-regulating their driving behavior to reduce the perceived demands of the driving task. This group had, on average, slower hazard perception reaction times, and reported greater difficulty with driving, more discomfort when driving due to difficulty with hazard perception skills, and greater changes in cognition over the past five years. Conclusions: The SAQ is a psychometrically sound measure of situational avoidance for drivers in baby boomer and older adult generations. Practical applications: Use of validated measures of driving self-regulation that distinguish between compensatory and non-compensatory behavior, such as the SAQ, will advance our understanding of the driving self-regulation construct and its potential safety benefits for older road users.

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1. Introduction

Like other western countries, older adults comprise the largest and fastest growing segment of Australia’s driving population (Australian Bureau of Statistics, ABS, 2016). Age- and disease-related declines in physical, cognitive and sensory abilities underlie the critical driving errors unique to older drivers (Anstey & Wood, 2011; Anstey, Wood, Lord, & Walker, 2005; Cicchino & McCartt, 2015; McGwin & Brown, 1999), and their physical frailty contributes to a heightened risk of serious injury or death if involved in a motor-vehicle accident (Koppel, Bohensky, Langford, & Taranto, 2011; Li, Braver, & Chen, 2003). However, the relative crash risk of older drivers is not as high as one might expect based on the functional declines commonly experienced with age (Langford & Koppel, 2006a). One reason is that many older adults gradually and voluntarily modify their driving over time to compensate for declines in driving skills, often culminating in deciding to stop driving altogether (Hakamies-Blomqvist, Siren, & Davidsé, 2004; Langford & Koppel, 2006b; Smiley, 2004). This behavior has been referred to as driving self-regulation. The diversity in normal and pathological ageing (Christensen, 2001), coupled with the negative outcomes associated with driving cessation (e.g., Edwards, Perkins, Ross, & Reynolds, 2009; Fonda, Wallace, & Herzog, 2001; Marottoli, Mendes de Leon, et al., 1997; Marottoli et al., 2000), have led some to conclude that ultimate responsibility must remain with the driver (Berry, 2011), and that ways to support and promote the practice of driving self-regulation by older drivers should form an integral part of any regulatory system (Hakamies-Blomqvist & Wahlstrom, 1998; Langford, 2006).

Driving self-regulation has been defined as a process initiated by older adults to improve the fit between perceived declines in driving skills and the driving environment (Ball et al., 1998; Charlton et al., 2006; Donorffio, D’Ambrosio, Coughlin, & Mohyde, 2009). Examples include decisions concerning where to live or what vehicle to drive (Eby, Molnar, & Kartje, 2009; Molnar, Eby, Langford, et al., 2013), as well as behaviors such as reducing driving exposure and driving space (Charlton et al., 2006; Lyman, McGwin, & Sims, 2001; Rosenbloom,

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2. Method

2.1. Participants

A sample of 79 adults (36 males, 45.6%), ranging in age from 55 to 86 years ($M = 71.48, SD = 7.16$), was recruited from a larger sample sourced from local community groups in regional Queensland, Australia. All participants reported possession of a current open drivers’ licence. They were screened for low-level visual difficulties using the Snellen Visual Acuity Chart (Snellen, 1862; cited in Bennett, 1965) and Pelli-Robson Contrast Sensitivity Test (Pelli, Robson, & Wilkins, 1988). All scored at or above their relative age norms for contrast sensitivity (Elliott, Sandersen, & Conkey, 1990) and above 6/12 corrected vision in their better eye on the Snellen chart (Austroads, 2016). This study had University Human Research Ethics Committee approval, with all participants providing informed consent.

2.2. Measures

2.2.1. Driving behavior and beliefs questionnaire

This questionnaire consisted of demographic items (e.g., age, gender, and driving exposure) and a number of scales to assess situational avoidance and beliefs about driving. Participants also described involvement
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