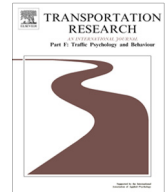




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journal homepage: [www.elsevier.com/locate/trf](http://www.elsevier.com/locate/trf)

## Having both hands on the steering wheel: Driving behaviour of white-collar workers with degenerative eye conditions

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### ARTICLE INFO

#### Article history:

Received 29 April 2015

Received in revised form 25 July 2016

Accepted 4 October 2016

#### Keywords:

Degenerative eye conditions

Driving

Commute

Work

Social exclusion

### ABSTRACT

Because people in the United States are highly reliant on cars for transportation, individuals with restricted driving abilities face severe accessibility constraints in the labour market. Guided by the social exclusion framework, we used a qualitative approach to gain insights into the role of car driving and alternative commute modes in the lives of white-collar workers with degenerative eye conditions. The study participants gradually restricted their driving behaviour as the disease progressed. They also exhibited several types of commute solutions, which lent themselves to a variation in the experienced degree of exclusion (both between participants and within participants over time), with changes in vision state and available resources. Another aim of our study was to identify the motivations for driving behaviour. The results showed that while a desire to reduce the risk of an accident motivated the participants to stop driving, certain normative (for men) and practical considerations motivated participants to continue driving. While all of the participants eventually stopped driving due to vision decline, the decision to quit often occurred only after the participants experienced one or more car accidents. Workplace accessibility is a factor that hinders labour market participation of individuals with degenerative eye conditions and encourages individuals to engage in risky behaviour.

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## 1. Introduction

The most popular mode of commuting in the United States is driving (McKenzie & Rapino, 2011). This is hardly surprising given the long-standing urban development and planning practices in the U.S., in which driving has long been given priority over walking and access to public transport (e.g., Handy, Cao, & Mokhtarian, 2005). Furthermore, in the U.S. and across western societies, acquiring a driver's license and driving a car are prominent cultural identifiers of maturity, autonomy, and independence; of masculinity (for men); and of citizenship and sociability (Carrabine & Longhurst, 2002; Sheller, 2004; Urry, 2007). In addition to these cultural markers, being able to drive also plays a role in obtaining and sustaining employment. As physical mobility is an important determinant of social mobility (Kaufmann, Bergman, & Joye, 2004), it is evident that individuals who do not drive have lower chances of finding employment (Grens, 2010). Indeed, not driving

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can detrimentally influence a person's chances of employment, regardless of whether a vehicle is needed to perform job-related tasks (Baum, 2009). Not driving thus hampers the ability of individuals from disadvantaged groups, including individuals with disabilities, to integrate into and fully participate in the labour market. Being shut out of the labour market can, in turn, lead to social exclusion (e.g., Farber & Páez, 2010; Preston & Rajé, 2007). In this paper, we define social exclusion as being completely or partially unable to participate in the labour market, and in social activities that are available to the majority of the population, due to restrictions in resources and in access to services and rights. Social exclusion is further considered as an accumulative interaction between social problems that occur simultaneously or in sequence (Lucas, 2012). For instance, having a disability may lead to reduced access to transportation, which in turn leads to difficulties in participating in the labour market.

A particularly salient group to consider when examining the role of car driving in social exclusion is white-collar workers with degenerative eye conditions. This group is important for three reasons. First, to our knowledge there are no previous studies that have investigated the topic of driving among white-collar workers with degenerative eye conditions. The existing studies that have investigated the role of commuting in the work context have not distinguished between the type of disability and the type of work (Farber & Páez, 2010). Thus, these studies have not specifically examined the experiences of individuals with degenerative eye conditions who compete at higher levels of the labour market (i.e., white-collar workers), and who are at risk of exclusion from participation in society, including in the workforce. The existing research has, however, shown that, while there are alternatives to driving as a means of commuting to work (e.g. walking, public transportation), individuals with severe visual impairments—much like the general population in the U.S. (Giuliano & Dargay, 2006)—have a preference for using a private vehicle, either as a driver or a passenger. This is evident from the relatively high numbers of individuals with severe visual impairments who avoid using public transportation by getting rides from others (Gallagher, Hart, O'Brien, Stevenson, & Jackson, 2011; Golledge, Marston, & Costanzo, 1997). The preference for driving is also apparent in the substantial number of drivers with severe visual impairments who are impaired in their ability to drive (Szlyk, Taglia, Paliga, Edward, & Wilensky, 2002), but who continue to drive despite the increased risk. This is alarming, because individuals with a severe vision impairment who drive run a much greater risk than the general public of getting into an automobile accident (Ivers, Mitchell, & Cumming, 1999; Szlyk et al., 2002; Wang, Kosinski, Schwartzberg, & Shanklin, 2003; Wood, 2002). This problem may be partly attributable to inadequate regulation of the vision tests for driver's licenses in the U.S. (Fishbaugh, 1995). It can also be difficult to restrict or prohibit driving by people who have visual impairments, especially as many of these individuals have incentives to conceal their condition. In the workplace, individuals with visual impairments often assume that both practical aspects of their limitations and the stigma attached to their identity will decrease their chances of obtaining and sustaining employment (Spiegel, De Bel, & Steverink, 2016). However, the question of which factors encourage or discourage driving among people with visual impairments remains open.

Second, studying this group provides us with a unique opportunity to gain insights into the various facets of social exclusion related to vision decline, because the lack of optimal tools and solutions likely influences the car driving and transportation choices of these individuals. A core premise of the social exclusion approach is that the lack of access to opportunities (i.e., the inability to commute) is what generates exclusion, rather than the absence of opportunities (Preston & Rajé, 2007). Access to places of employment and services is determined by the mobility landscape. For example, how far do people have to travel to reach their workplace or other desired location? Is public transportation available, and are sidewalks safe for walking? Mobility constraints limit the ability of individuals to actively participate and to access certain commodities (i.e., without work, the individual does not have access to goods). Whereas there are technological solutions that enable some other disability groups (such as those with limb disabilities) who would not otherwise be able to operate a car to engage in conventional driving, there are currently no such tools available to people with visual impairments. Alternatives to car driving can be costly (taxi, private driver), time consuming (public transportation), or burdensome for others (receiving rides) (Golledge et al., 1997). Additionally, relocation to cities where walking is a feasible commute solution is still considered a challenging solution for individuals with severe vision impairment (Worth, 2013).

Third, Schwanen et al. (2015) have suggested that there is an important gap in the literature on social exclusion, as the social exclusion framework used in most of these studies refers to social exclusion as a dichotomous state. The authors argued that while it is often assumed that a person is in a state of either inclusion or exclusion, in practice social exclusion takes place on a gradient. Individuals with degenerative eye conditions are of particular interest in this context, as they not only exist on the continuum between inclusion and exclusion, they also move between the two ends of the continuum over time as their vision declines and their available resources change (e.g., being able to afford taxi rides). Yet, so far it is not known what shape these processes take and how the individual experiences them.

Based on the above considerations, two questions will be addressed in this study: *How do white-collar workers with degenerative eye conditions experience and deal with changes in their perceived abilities and available resources in choosing between car use and alternatives over time? And how do these individuals motivate the choice to stop or to continue driving?*

In this study, we use a qualitative approach that enables us to gain insight into the experiences people with degenerative eye conditions have with commuting to work by car and by other modes of transportation, and to identify overarching themes across the narratives of these individuals. This approach also allows us to gain a better understanding of the gradient and the shift over time in the behaviours and the experiences of these individuals, and to relate these trajectories to issues of social exclusion. These findings may ultimately contribute to the development of more focused legal and societal interventions that discourage high-risk behaviour (i.e., driving) among visually impaired individuals, and that minimise the extent to which they are excluded from accessing the modes of transportation they need to commute to work.

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