

The social patterning of injury repetitions among young car drivers in Sweden

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Abstract

A national register-based cohort study was conducted to explore whether the social patterning of car drivers suffering injury repetitions differs from that of once-injured drivers in a cohort of young persons in Sweden (aged 18–26).

Injury repeaters were defined as individuals sustaining injuries as a car driver on more than one occasion over an 8-year period. Only subjects obtaining a driver's licence before the age of 27 were included in the study. The social variables considered were, in turn, gender, socioeconomic position of origin, and own educational attainment. Attention was also paid to age at licensing. Two types of comparisons were made, using odds ratios with 95% confidence intervals. First, the odds of injury repeaters were computed using the once-injured car drivers as a reference group. Second, odds were compiled for once, twice, and three or more times injured people, using the non-injured at all as a comparison group.

The results show that, by and large, the injury-risk distribution of car drivers with injury repetition does not differ from that of one-injury drivers with regard to gender, education, or socioeconomic group. However, drivers from self-employed households show greater odds of injury repetition (OR 1.65, CI 1.02–2.67) than of one injury compared with drivers from the families of non-manual employees.

Since the number of injury repeaters is low and their socioeconomic distribution is very similar to that of the once injured, there is no need to regard them as a group at excess risk or different from the one-time injured. Reducing risk levels and risk differentials for the one time injured should therefore receive priority with regard to traffic-injury prevention.

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1. Introduction

It is well-known that young car drivers are proportionally more frequently involved in road-traffic crashes than members of other age groups. There is also quite specific scientific evidence that the distribution of road traffic injuries (RTIs) between young drivers from different socioeconomic groups is not random (Hasselberg and Laflamme, 2003; Laflamme and Engström, 2002; Hasselberg et al., 2001).

On ground of these expected differences, the question has been raised whether the patterning of injuries as car drivers among youth from different socioeconomic groups is similar among several-times injured drivers as once-injured

drivers. This question is the object of the current study. Attention is placed on variables earlier documented as having a strong impact on risk levels among young car drivers, namely, socioeconomic status of the household and education (Hasselberg and Laflamme, 2003). Disposable income of the household appears to be a factor of less importance, as children grow older (Hasselberg and Laflamme, 2003; Hasselberg et al., 2001). The issue of injury repetition (often called injury proneness) occupied injury research greatly in the early days of its establishment as an independent scientific arena. Vulnerability related to genetic or acquired susceptibility – due, inter alia, to personality, life style, or health and safety behaviours – was investigated, but without conclusive results (for historical accounts, see Laflamme, 1988; Anderson, 1991). Recent studies in the arena have focused on vulnerability to specific injury diagnoses, such as self-

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inflicted injuries (see, for example, Hawton et al., 1999; Hawton et al., 2000) and also to specific diagnoses in specific groups, e.g. burns among young children (Forjuoh, 1996) or airplane crashes among pilots (Baker et al., 1995).

At individual level, mainly two mechanisms have been discussed with regard to the relationship between social position and injury: differential susceptibility and differential exposure (Laflamme and Diderichsen, 2000). Differential susceptibility refers to how social background – in terms of knowledge, financial resources, and power and influence – predispose individuals to certain risks (for example, see Hasselberg and Laflamme, 2003). Differential exposure across socioeconomic groups concerns, e.g. how much people drive, at what age they start, in which environment, and what kinds of vehicle they use. It has even been suggested that disadvantages may cluster cross-sectionally and accumulate, longitudinally (Blane, 1995).

Our study addresses the issue of injury repetition from the point of view of this “problem accumulation”. The study is diagnosis specific and searches for road-traffic injury repeaters among individuals in the age range 18–26 – the period of life where the risk is highest and, as mentioned above, biased towards some social groups. So far, social variables, when analysed in relation to unintentional injuries, have focused solely on the parental attributes of young children – specifically with regard to burns. In that case, the findings point to a similar profile of demographic and socioeconomic characteristics for burn repeaters and for one-time burn sustainers (Forjuoh, 1996).

The aim of this population-based study is to investigate whether the socioeconomic distribution of injury repeaters differs from that of the once-injured in a cohort of young people. Injury repeaters are defined as individuals sustaining injuries as a car driver on more than one occasion over an 8-year period. The study is register-based and the social variables considered are, in turn, gender, socioeconomic position (SEP) of origin, and personal educational attainment. Attention is also paid to age at licensing. Two types of comparisons are made: first, between the social distribution of car-driving injury repeaters and that of once-injured car drivers; second, between persons with a road traffic injury as a car driver (with one to three or more injuries) and persons without any car-driving-related injury.

2. Materials and methods

2.1. Study design

This population-based cohort study encompasses all individuals born in 1970–1972, found in the Swedish Population and Housing Census of 1985. Age at licensing was linked to the data set and only subjects obtaining a drivers licence before the age of 27 were included in the study – which gives a study population of 279,626 subjects. The licensing age for car driving in Sweden is 18. The subjects were followed

in Sweden’s Hospital Discharge Register in search of RTIs for the period 1988–1996 (when subjects were aged 18–26 years). The licensing age for car driving in Sweden is 18. The subjects were followed in Sweden’s Hospital Discharge Register in search of RTIs for the period 1988–1996 (when subjects were aged 18–26 years). Information on SEP of destination, was linked to the data set. Information on educational attainment was missing for 2158 subjects (0.6%); 14 of these were injured once.

2.2. Socioeconomic position

Two measures of SEP were used: SEP of origin based on the socioeconomic group of the household, and SEP of destination based on educational attainment of the subject at age 28–30.

In earlier research on the attribution of socioeconomic position to youth it has been argued that the focus of analysis ought to be shifted from SEP of origin (that of parents) to SEP of destination (what the young person will achieve). This is on ground that factors related to young people’s own SEP may already have important implications for their health status (Glendinning et al., 1992; Rahkonen and Lahelma, 1992).

Information on parental socioeconomic characteristics was gathered from the Population and Housing Census of 1985. Each parent’s social class was defined according to a classification used by Statistics Sweden (which is based on occupation). This classification is based on social-scientific theories of how production is organized in a society (Andersson et al., 1981). Employees are distinguished from the self-employed and small-scale entrepreneurs (including farmers); and, within the group of employees, salaried employees are distinguished from workers on the basis of their trade-union affiliation (Statistics Sweden, 1983).

With regard to children, the family’s weighted socioeconomic group is usually employed, which is based on the “dominance” principle developed by Erikson (1984). The principle is based on assumptions concerning which categories of occupations have the greatest influence on the ideology, attitudes and consumption patterns of the family, and also which category is most important for the child’s life prospects. Accordingly, each subject was allocated to one of the following four socioeconomic groups: non-manual employees; manual workers; the self-employed including farmers (self-employed without employees or small-scale entrepreneurs; small-scale and medium-scale farmers); and others (such as students, persons on sickness and disability pensions, and the long-term unemployed). In the analyses, children in families with non-manual employees were used as reference group.

For its part, educational attainment was obtained from the Swedish Register of Education in 2000, i.e. when the subjects had reached the age of 28–30 years. Three categories of educational-attainment level were used: basic/compulsory education (9 years or less), upper-secondary education (10–12 years), and higher education (university).

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