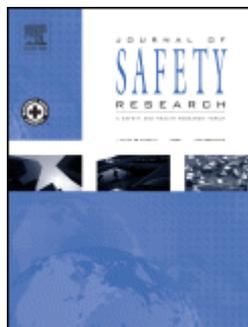


## **Journal of Safety Research – rok 2008, ročník 39**

### **Číslo 6**



**Laura K.M. Donorfio, Lisa A. D'Ambrosio, Joseph F. Coughlin, Maureen Mohyde. *Health, safety, self-regulation and the older driver : it's not just a matter of age.* S. 555-561.**

**Abstract: Problem:** The purpose of this research was to examine the impact of age and health on patterns of driving and self-regulation among older adults who still drive. **Method:** This analysis presents the results of a nationwide survey of drivers who are 50 + ( $N = 3,824$ , 53.11% response rate), focusing on questions about the impact of their self-reported health on attitudes toward and self-regulation of driving. **Results:** The data indicate that as age increases, so too does reported self-regulation of driving, increasing sharply among those ages 70 and older. The data also indicate that respondent's reported confidence in driving and their enjoyment of driving decline as they age. Health status bears a significant relationship with all three of these variables, positively related to confidence in driving skills and to enjoyment in driving, but negatively related to self-regulation reports. As self-reported health declines, respondent's report engages in greater voluntary restrictions of their driving. **Discussion:** All too often, the driving decision is linked primarily to chronological age. Analysis done here indicates that age alone is not the best indicator of self-regulation and how older adults change their driving behaviors. **Summary:** This research presents the results of a nationwide survey of 50+ drivers and their self-reported driving, self-regulation behaviors, and health status. Strong support was found for the argument that chronological age is not an adequate measure of self-regulating behaviors and driver safety among those 50+. In particular, it was found that a person's health status and the interaction between age and health are essential considerations in the decisions around self-regulation and driving. People tend to self-regulate more with age, but the effect becomes much more pronounced as health status declines. **Impact on industry:** In the coming years, if older adults can't get to where they want to go and continue to be viable consumers in our national fabric, all industries will eventually suffer. Transportation is a key component to the nation's social contract with older individuals and their families.

- **Keywords:** Older drivers; Self-regulation; Health and driving; Age and self-regulation; Driving safety

**Wayne Turnberg, William Daniell. *Evaluation of a healthcare safety climate measurement tool.* S. 563-568.**

**Abstract: Problem:** Psychometrically validated measurement tools are needed to evaluate an organization's safety climate. In 2000, Gershon and colleagues published a

new healthcare safety climate measurement tool to determine its relationship to safe work behavior (Gershon, R., Karkashian, C., Grosch, J., Murphy, L., Escamilla-Cejudo, A., Flanagan, P., et al. (2000). Hospital safety climate and its relationship with safe work practices and workplace exposure incidents. *American Journal of Infection Control*, 28, 211–21). The present study evaluated the psychometric properties of the Gershon tool when modified to address respiratory rather than bloodborne pathogen exposures. **Method:** Medical practitioners, nurses, and nurse aides (n = 460) were surveyed using the modified Gershon tool. Data were analyzed by factor analysis and psychometric properties of the tool evaluated. **Results:** Eight safety climate dimensions were extracted from 25 items (Cronbach's alpha range: 0.62 – 0.88). Factor extractions and psychometric properties were reasonably consistent with those of the Gershon tool. **Impact on Industry:** The Gershon safety climate tool appears to have sufficient reliability and validity for use by healthcare decision makers as an indicator of employee perceptions of safety in their institution.

- **Keywords:** Safety climate; Measurement tool; Psychometric properties; Healthcare workers; Respiratory infection control

**Peregrin Spielholz, Jennifer Cullen, Caroline Smith, Ninica Howard, Barbara Silverstein, David Bonauto. *Assessment of perceived injury risks and priorities among truck drivers and trucking companies in Washington State. S. 569-576.***

**Abstract: Problem:** The trucking industry experiences one of the highest work-related injury rates. Little work has been conducted previously in the United States to assess the hazards, needs, and injury prevention priorities in trucking. **Method:** Two separate industry-wide surveys of 359 trucking companies and 397 commercial truck drivers were conducted in Washington State. **Results:** Trucking companies and drivers both ranked musculoskeletal and slip, trip, fall injuries as the top two priorities. Controlling heavy lifting, using appropriate equipment, and addressing slippery surfaces were frequently listed as solutions. There appears to be a gap in safety climate perception between workers and employers. However, driver and company priorities agreed with industry workers' compensation claims. There is room for safety program management improvement in the industry. The study findings detail opportunities for prioritizing and reducing injuries. **Impact on Industry:** This information can be used to focus and design interventions for the prevention of work-related injuries while improving industry competitiveness.

- **Keywords:** Trucking; Survey; Work-related Injuries; Needs Assessment; Intervention

**Brian C. Tefft. *Risks older drivers pose to themselves and to other road users. S. 577-582.***

**Abstract: Problem:** Studies have shown that older drivers have high death rates and lower rates of involvement in crashes that kill others; but most studies have not considered drivers' responsibility for their crashes, and many have considered only one particular measure of risk. **Method:** This study examines risks that drivers of various ages pose to themselves and to others on per-driver, per-trip, and per-mile bases, taking responsibility for crashes into account, using United States fatal crash data from 1999 through 2003 and travel estimates from 2001. **Results:** Relative to other age groups, drivers aged 85 and older face the highest risk of their own death, whereas teens pose the greatest risk to passengers, occupants of other vehicles, and non-motorists. **Discussion:** The oldest drivers pose more risk to other road users than middle-aged drivers do; the degree of their excess risk depends strongly upon how risk is measured. **Impact on industry:** These results demonstrate the importance of keeping clear the meaning and implications of various risk measures.

- **Keywords:** Older drivers; Crash rate; Crash risk; Relative risk; Motor vehicle

**Robyn R.M. Gershon, Julie M. Pearson, Vijay Nandi, David Vlahov, Angela Bucciarelli-Prann, Melissa Tracy, Kenneth Tardiff, Sandro Galea. *Epidemiology of subway-related fatalities in New York City, 1990-2003. S. 583-588.***

**Abstract: Problem:** Subway transit is a relatively safe mode of transportation, yet compared to all other forms of mass transit in the United States (U.S.), subways have the highest fatality rate. The aim of this paper is to characterize subway-related fatalities in order to identify opportunities for risk reduction. **Method:** Medical examiner records for all New York City (NYC) subway-related deaths (1990-2003) were reviewed. Data were abstracted on decedents' demographics and autopsy findings, including laboratory findings. **Results:** There were 668 subway-related fatalities, of these, 10 (1.5%) were homicides, 343 (51.3%) were determined to be suicides, and 315 (47.2%) were accidental. Although decedent characteristics varied between fatality categories, they were not particularly informative with regard to prevention. **Conclusion:** Prevention strategies that focus on structural controls are likely to be most efficacious in improving the overall safety of the NYC subway systems. **Impact on industry:** These findings suggest that structural rather than individual-level interventions would be most successful in preventing subway fatalities.

- **Keywords:** Subway; Fatalities; Epidemiology; Suicides; Accidents

**Oliver Wirth, Sigurdur Oli Sigurdsson. *When workplace safety depends on behavior change : topics for behavioral safety research. S. 589-598.***

**Abstract: Introduction:** Comprehensive interventions that address public-health concerns invariably include behavior-change strategies. In occupational safety and health, *behavioral safety* is an approach designed to improve safety performance directly through peer observations of safe behaviors, goal setting, performance feedback, and celebrations or incentives for reaching safety goals. Although the basic components of behavioral safety processes have been studied and widely documented, the current safety literature reveals several gaps in knowledge. These gaps are associated mostly with wide practice variations among the common process elements and uncertainty about the influence of organizational and other external factors. **Impact to Industry:** A major objective of this paper was to highlight not only key topic areas that warrant further research, but also to propose a list of research questions that are tied to uncertainties about various intervention practices. If only a portion of these topic areas and research questions are addressed through systematic reviews, field interventions, surveys, and laboratory-based studies, then the knowledge gained will significantly improve the delivery and effectiveness of behavioral safety interventions and thus their impact on worker health and safety.

- **Keywords:** Behavioral safety; Research agenda; Review; Best-practices; Intervention effectiveness

**Tsung-Chih Wu. *Safety leadership in the teaching laboratories of electrical and electronic engineering departments at Taiwanese Universities. S. 599-607.***

**Abstract: Introduction:** Safety has always been one of the principal goals in teaching laboratories. Laboratories cannot serve their educational purpose when accidents occur. The leadership of department heads has a major impact on laboratory safety, so this study discusses the factors affecting safety leadership in teaching laboratories. **Method:** This study uses a mail survey to explore the perceived safety leadership in electrical and

electronic engineering departments at Taiwanese universities. **Results:** An exploratory factor analysis shows that there are three main components of safety leadership, as measured on a safety leadership scale: safety controlling, safety coaching, and safety caring. The descriptive statistics also reveals that among faculty, the perception of department heads' safety leadership is in general positive. A two-way MANOVA shows that there are interaction effects on safety leadership between university size and instructor age; there are also interaction effects between presence of a safety committee and faculty gender and faculty age. **Impact on Industry:** It is therefore necessary to assess organizational factors when determining whether individual factors are the cause of differing perceptions among faculty members. The author also presents advice on improving safety leadership for department heads at small universities and at universities without safety committees.

- **Keywords:** Teaching laboratories; Safety leadership; Organizational factors; Individual factors; Interaction effects

**L. Olsen, J.L. Bottorff, P. Raina, C.J. Frankish. *An ethnography of low-income mothers' safeguarding efforts*. S. 609-616.**

**Abstract: Problem:** Children living in lower-income environments are at greater risk for unintentional injuries. However, little is known about the safety practices of mothers living in low-income situations. **Method:** This ethnographic study explored the child safeguarding experiences of low-income mothers using in-home interviews and observations. **Results:** Mothers' safeguarding efforts included cognitive and emotional work, child directed work, and work directed at the physical and social environments. Factors that influenced the women's safeguarding included the quality of the indoor space, availability of safe play space, traffic hazards, sibling interactions, child care supports, relationships with neighbors, and trust in community services. **Discussion:** These findings have implications for the conceptualization of safeguarding practices and provide insight about the experiences of mothers living on low-incomes. **Impact on Industry:** When developing safety interventions, program planners should consider the views and practices of mothers as well as contextual factors in the physical and social environments.

- **Keywords:** Injury prevention; Child safety; Mothering; Qualitative methods; Ethnography

**Christopher A. Janicak. *Occupational fatalities due to electrocutions in the construction industry*. S. 617-621.**

**Abstract: Introduction:** Occupational fatalities due to contact with electricity account for approximately 9% of all deaths in the construction industry and is the fourth leading cause of death in this industry. **Method:** Differences in the proportions of electrocutions in the construction industry are significantly different from other industries based upon the age of the worker and the source of the electricity. **Results:** This study found that, in the construction industry, the proportion of occupational fatalities due to contact with electric current is significantly higher for workers in the 16 to 19 years old age group. Contact with overhead power lines occurred more frequently with younger workers, while contact with electric wiring, transformers, and related equipment was found to occur more frequently with older workers. The proportion of fatalities due to this event was also found to account for a significantly greater proportion of fatalities in the construction industry overall. **Impact on industry:** The proportions of electrocution fatalities in the construction industry were found to be significantly higher for younger workers when compared to all other industries. Focusing prevention measures toward younger workers who work near overhead power lines could have a significant impact upon death rates. For older workers, the focus should be on those who work on or near transformers, electrical wiring, and components. Across the construction industry, implementation of

effective lockout-tagout programs, and verification of energy isolation, can prevent approximately 125 fatalities per year in the construction industry.

- **Keywords:** Occupational fatality; construction; electrocutions

**Ming-Der Li, Ji-Liang Doong, Kai-Kuo Chang, Tsung-Hsueh Lu, Ming-Chang Jeng. *Differences in urban and rural accident characteristics and medical service utilization for traffic fatalities in less-motorized societies.* S. 623-630.**

**Abstract: Introduction:** Fatalities from traffic accidents in less-motorized societies are an important global issue. We aimed to characterize the geographic differences of fatalities in such societies to facilitate the development of targeted interventions. **Method:** This study linked police reports, hospital data, and vital registration data from Taiwan with special reference to accident factors in pre-hospital deaths and medical care in hospital deaths. **Results:** A higher percentage of pre-hospital deaths were observed following rural as compared to urban traffic accidents. The deaths due to rural accidents can be attributed to lower use of restraints (i.e., helmets or seat belts), lower percentage of motorcyclists, and more highway accidents. A higher percentage of victims in rural accidents were transported to distant medical centers rather than to local hospitals. **Conclusion:** Specific interventions, such as intelligent emergency medical systems, campaigns for helmets and seat belt usage, enforcement of helmets and seat belt use, and speed control measures should be targeted to rural areas. **Impact on industry:** Cooperation between the vehicle industry and emergency medical providers in rural traffic accident rescue teams may decrease the numbers of deaths in these regions.

- **Keywords:** Geographic difference; Accident factors; Medical care; Data linkage; Asia area

**Celeste Jacinto, C. Guedes Soares. *The added value of the new ESAW/Eurostat variables in accident analysis in the mining and quarrying industry.* S. 631-644.**

**Abstract: Introduction:** This paper presents a study on the causes and circumstances of occupational accidents in the Portuguese Mining and Quarrying (M&Q) activity sector. **Method:** To this effect, it uses national accident data (2001–2003), giving particular attention to the newly implemented harmonized ESAW/Eurostat variables. The study begins with a broad description of the M&Q sector and identifies its “typical accident.” A series of accident pyramids are used to discriminate between causal patterns of fatal and non-fatal accidents. The causation mechanisms of the “typical accidents” (fatal and non-fatal) are established by examining the statistical dependency between pairs of modalities of two key variables: the Contact and the Deviation. **Results:** The results obtained by this method revealed certain details of the cause-effect mechanism that were unknown before, which also facilitate prioritizing preventive strategies. The study highlights the benefits of the new Eurostat variables for the production of accident statistics. **Impact on Industry:** The consistent adoption of harmonized classifications has a potentially positive impact on several communities: researchers will find it easier to compare their studies; the national authorities can plan more target-oriented preventive strategies; and the individual organizations may use this instrument to facilitate benchmarking of their performance indicators.

- **Keywords:** Occupational accident analysis; ESAW/Eurostat variables; Cause-effect relationships; Accident mechanism; Mining and Quarrying