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Ali M. Al-Hemoud, Rodney J. Simmons, May M. Al-Asfoor. *Behavior and lifestyle characteristics of male Kuwaiti drivers.* Pages 307-313.

Introduction: The high traffic accident risk among young drivers is a well-known and well-documented fact in most countries. Lifestyle has proven to affect driving behavior as well as accident risk. This study covers the lifestyle component of the problems related to young male Kuwaiti drivers' accident risk. *Methods:* The purpose of the study is to measure the relationship between lifestyle and accident risk. Lifestyle is measured through a questionnaire, where 302 male Kuwaiti drivers (mean age = 28 years; range 25-35 years) answer 39 questions related to behavioral and social factors, road conditions, police enforcement, and life satisfaction. They also report their involvement in accidents and traffic violations. *Results:* The questionnaire's validity and reliability (Cronbach's alpha = 0.7) were achieved. Principal component analysis reduced the 39 items on the questionnaire to 5 factors. Inadequate police enforcement is strongly correlated ($r = 0.862$) to accident risk and traffic violations and is thus considered the best predictor of traffic accidents in Kuwait. *Impact on Industry:* As driving-related incidents (on-the-job and off-the-job) are a significant source of fatalities and lost-work-days, the study points to the importance of considering cultural factors in the design of comprehensive safety programs for industry. **Research Highlight:** ► 55% of young male Kuwaiti drivers never wear seat belts. ► 50% do not wear prescribed glasses or contact lenses while driving. ► 85% of drivers keep less than two car-length following distance on freeways. ► One-third have no fear of passing through red lights or traveling beyond posted speed limits. ► 63% of drivers use mobile phones while driving.

- **Keywords:** Traffic Accident Risk; Behavior; Lifestyle; Young Male Kuwaiti

Arlene Walker. *The development and validation of a psychological contract of safety scale.* Pages 315-321.

Introduction: This paper builds on previous research by the author and describes the development and validation of a new measure of the psychological contract of safety. The psychological contract of safety is defined as the beliefs of individuals about reciprocal safety obligations inferred from implicit and explicit promises. **Method:** A psychological contract is established when an individual believes that perceived employer and employee safety obligations are contingent on each other. A pilot test of the measure is first undertaken with participants from three different occupations: nurses, construction workers, and meat processing workers ($N = 99$). Item analysis is used to refine the measure and provide initial validation of the scale. A larger validation study is then

conducted with a participant sample of health care workers (N = 424) to further refine the measure and to determine the psychometric properties of the scale. **Results:** Item and correlational analyses produced the final employer and employee obligations scales, consisting of 21 and 17 items, respectively. Factor analyses identified two underlying dimensions in each scale comparable to that previously established in the organizational literature. These transactional and relational-type obligations provided construct validity of the scale. Internal consistency ratings using Cronbach's alpha found the components of the psychological contract of safety measure to be reliable. **Impact on Industry:** The refined and validated psychological contract of safety measure will allow investigation of the positive and negative outcomes associated with fulfilment and breach of the psychological contract of safety in future research.

- **Keywords:** Occupational safety; Psychological contracts; Social exchange theory; Scale development

Michael A. Gebers. *A traffic safety evaluation of California's traffic violator school citation dismissal policy.* Pages 323-330.

Introduction: This study evaluated California's traffic violator school (TVS) citation dismissal policy. **Method:** This study identified and compared two large samples of drivers either completing a TVS (N = 210,015) or convicted of a traffic citation (N = 168,563). **Results:** Prior to adjudication, the TVS group had characteristics (e.g., lower prior conviction rate and smaller proportion of males) that were predictive of a lower subsequent crash risk. However, the TVS group exhibited significantly more crashes than did the convicted group in the subsequent one-year period. The difference (4.83%) increased to 10% after adjusting for the more favorable characteristics of the TVS group. The TVS group also had a higher adjusted subsequent crash rate at each prior driver record entry level, reflecting a loss in the general and specific deterrence of the non-conviction masked status of TVS dismissed citations. It was reported that the TVS dismissal policy results in approximately 12,300 additional crashes annually with economic costs of approximately \$398,000,000. **Conclusions:** The avoidance of licensing actions resulting from the dismissal policy assists in explaining why the driving public is exposed to an increased crash risk. A number of recommendations are offered to reduce the negative traffic safety impact of the TVS citation dismissal policy.

- **Keywords:** Crash risk prevention; Crash forecasting; Traffic law violators; Driver improvement schools; Point systems

A.E. af Wählberg. *Re-education of young driving offenders : effects on self-reports of driver behavior.* Pages 331-338.

Introduction: Offending drivers are often re-educated, but these courses have seldom been shown to have any safety effects. **Method:** An on-line improvement course for offending drivers below the age of 25 was evaluated with several driver inventories. **Results:** The drivers reported higher levels of aggression, stress, sensation seeking, drunk driving, and driving violations, six months after the course than before. However, these levels were lower than those of controls, indicating that the initially low levels for the education group were due to socially desirable responding, as measured by a lie scale, an effect that waned after the course. **Discussion:** The results can be interpreted as a positive effect of the education, although this conclusion is tentative and not in agreement with all effects in the data. **Impact on industry:** The results are in disagreement with previous evaluation studies using the same or similar instruments, and show the need to include controls for social desirability in self-report studies.

- **Keywords:** Evaluation; Driver improvement; Questionnaire; Validity; Socially desirable responding

Amelia Havaland, Rachel Burns, Wayne Gray, Teague Ruder, John Mendeloff. *What kinds of injuries do OSHA inspections prevent?* Pages 339-345.

Objective: OSHA's enforcement program is one of the major public efforts to protect American workers. We examine both the scope of injury prevention that inspections can contribute and the types of standards that contribute the most. **Methods:** We linked Pennsylvania Department of Labor and Industry files for lost-time injuries and employment to calculate injury rates for 1998-2005 for all single-establishment manufacturing firms. We linked these to OSHA inspection records. **Results:** Inspections with penalties did affect injury types unrelated to standards as well as those related. We also found again that citations for violations of the standard requiring personal protective equipment had the largest impact on preventing injuries. **Impact on Industry:** Programs requiring protective equipment use deserve added attention from consultants and inspectors. In addition, some inspections spur managers to undertake safety measures that go beyond compliance with standards.

- **Keywords:** U.S. Occupational Safety and Health Administration (OSHA); Evaluations; OSHA Inspections; Safety and Health Standards; Workplace Injury types

Kirolos Haleem, Mohamed Abdel-Aty. *Examining traffic crash injury severity at unsignalized intersections.* Pages 347-357.

Introduction: This study presents multiple approaches to the analysis of crash injury severity at three- and four-legged unsignalized intersections in the state of Florida from 2003 until 2006. An extensive data collection process was conducted for this study. **Method:** The dataset used in the analysis included 2,043 unsignalized intersections in six counties in the state of Florida. For the scope of this study, there were three approaches explored. The first approach dealt with the five injury levels, and an ordered probit model was fitted. The second approach was an aggregated one, and dealt with only the severe versus non-severe crash levels, and a binary probit model was used. The third approach dealt with fitting a nested logit model. Results from the three fitted approaches were shown and discussed, and a comparison between the three approaches was shown. **Results:** Several important factors affecting crash severity at unsignalized intersections were identified. These include the traffic volume on the major approach, and the number of through lanes on the minor approach (surrogate measure for traffic volume), and among the geometric factors, the upstream and downstream distance to the nearest signalized intersection, left and right shoulder width, number of left turn movements on the minor approach, and number of right and left turn lanes on the major approach. As for driver factors, young and very young at-fault drivers were associated with the least fatal probability compared to other age groups. **Impact on industry:** The analysis identified some countermeasures to reduce injury severity at unsignalized intersections. The spatial covariates showed the importance of including safety awareness campaigns for speeding enforcement. Also, having a 90-degree intersection design is the most appropriate safety design for reducing severity. Moreover, the assurance of marking stop lines at unsignalized intersections is very essential.

- **Keywords:** Ordered probit; Binary probit; Nested logit; 3-Legged unsignalized intersection; 4-Legged unsignalized intersection; Injury severity; Crash severity

Ben Lewis-Evans. *Crash involvement during the different phases of the New Zealand Graduated Driver Licensing System (GDLS).* Pages 359-365.

Introduction: The New Zealand Graduated Driver Licensing System (GDLS) is designed to allow novice drivers to gain driving experience under conditions of reduced risk. **Method:** To examine the effectiveness of the GDLS, an analysis of how the crash involvement of novice drivers changes as drivers move through the GDLS was undertaken. Crash profiles were created by data matching the New Zealand license and crash databases, covering a time period from 1999-2006. **Results:** The crash profiles show that the initial learner period of the GDLS is relatively safe and the time at which novice drivers have the highest rate of crash involvement is during the first few months of solo driving. Analysis using logistic regression also showed an effect of age and gender, with higher crash involvement associated with younger drivers and males. In addition, individuals who gained a full license within 12-18 months of holding a restricted license, due to completion of a time-discount associated educational program, had a higher level of involvement in crashes than individuals who gained a full license after 18 months. **Conclusions:** The crash profiles provide an insight into the crash risk associated with different phases of the New Zealand GDLS. **Impact on Industry:** Increasing the age at which drivers first begin to solo drive and the removal of the time-discount associated with completion of an educational program should be considered.

- **Keywords:** Novice Drivers; Crash involvement; GDLS; New Zealand; Driver Education

Lisa J. Molnar, David W. Eby, Paula S. Kartje, Renée M. St. Louis. *Increasing self-awareness among older drivers : the role of self-screening. Pages 367-373.*

Introduction: Self-screening by older drivers has shown considerable promise for increasing self-awareness about functional abilities associated with safe driving. The purpose of this study was to improve upon existing self-screening instruments by focusing entirely on "health concerns" that affect driving – that is, the symptoms that people experience due to medical conditions and the medications used to treat them – rather than the medical conditions or medications themselves. **Method:** A computer-based, easy-to-use self-screening instrument for older drivers was developed to provide individualized feedback intended to increase self-awareness about declines in driving-related abilities, as well as suggestions for behavioral changes or safety tips to maintain safe driving, further evaluation from a physician/health professional, and vehicle modifications to help compensate for driving-related declines. **Results:** This paper describes the development of the self-screening instrument and summarizes findings relative to increasing self-awareness among older drivers. This research represents an important first step in improving self-awareness among older drivers through self-screening.

- **Keywords:** Safety; Community mobility; Driving; Aging

Ann M. Dellinger, Marcie-jo Kresnow. *Bicycle helmet use among children in the United States : the effects of legislation, personal and household factors. Pages 375-380.*

Introduction: Children ages 5-14 years have the highest rate of bicycle-related injuries in the country. Bicycle helmets can prevent head and brain injuries, which represent the most serious type of bicycle-related injury. **Objectives:** This paper compares children's bicycle helmet use to that estimated from an earlier study, and explores regional differences in helmet use by existing helmet legislation. **Methods:** This study was a cross-sectional, list-assisted random-digit-dial telephone survey. Interviews were completed by 9,684 respondents during 2001-2003. The subset with at least one child in the household age 5-14 years (2,409 respondents) answered questions about bicycle helmet use for a randomly selected child in their household. **Results:** Almost half (48%) of the children always wore their helmet, 23% sometimes wore their helmet, and 29%

never wore their helmet. Helmet wearing was significantly associated with race, ethnicity, and child age but was not associated with the sex of the child. Other significant predictors of use included household income, household education, census region, and bicycle helmet law status. Statewide laws were more effective than laws covering smaller areas. The proportion of children who always wore a helmet increased from 25% in 1994 to 48% in 2001-2002. Significant increases in helmet use from 20% to 26% were seen among both sexes, younger (5-9 years) and older (10-14 years) children, and in all four regions of the country. **Conclusions:** While there has been substantial progress in the number of children who always wear their helmets, more than half do not. Further progress will require using a combination of methods that have been shown to successfully promote consistent helmet use. **Impact on industry:** minimal.

- **Keywords:** Bicycle helmets; Legislation; Children

A.E. af Wåhlberg. *A reporting guide for studies on individual differences in traffic safety.* Pages 381-383.

Problem: Studies on individual differences in traffic safety report differently on their methodologies, and use different statistics, and these are therefore difficult to compare and meta-analyze. **Method:** Based upon a previous, extensive review and meta-analysis of the traffic safety literature, several recommendations are made about what features of the methodology of studies on individual differences (including evaluations) in safety need to be reported to facilitate interpretation and meta-analysis. Similarly, some basic types of statistical values are recommended. **Impact on Industry:** The accumulation of knowledge about individual differences in traffic safety would be facilitated if scientific authors and journals adhered to these guidelines.

- **Keywords:** Methodology; Review; Reporting bias; Traffic safety; Meta-analysis