

in Poland, resulting in a systematic increase in the level of road traffic security.

897 FMI'S WARNING SERVICE – WARNINGS ABOUT SLIPPERY WALKWAYS

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Background Finnish Meteorological Institute (FMI) has developed a numerical weather model that simulates the level of slipperiness on the walkways. The model classifies the walkway slipperiness into three classes; normal, slippery and very slippery. Normal means that there is not ice or snow on the surface. Slippery condition means that snow and ice may exist, but the surface has relatively good grip and normal walking is possible. Very slippery walkway condition is expected if walkway is covered by ice and there is water or light snow above the ice layer. Sometimes packed snow can be very slippery, too. FMI is giving warnings if very slippery walkway condition is expected.

Description of the problem Icy and snowy walkways are very typical in Finland during winter. Slipperiness due to ice and snow on walkways increases the risk of pedestrians' slipping injuries. Almost every second person slips annually in Finland and around 50 000 persons are injured needing medical attention. Big part of the injuries happen outside on winter time when ground is covered by ice or snow. Emergency departments are crowded during the most slippery days. Economic losses due to slip injuries are around 420 million euros yearly, that sum includes costs in health care, lost workdays and general welfare.

Results (effects/changes) There should be lots of possibilities to reduce the number of slipping injuries and costs related to injuries. FMI's warnings about slippery pedestrian pavement condition is one way to improve the safety among the pedestrians. Pedestrians may reserve more time for travelling, choose the way of travelling or use anti-slip devices if very slippery pavement condition is forecasted.

Conclusions Slip injuries are a big problem causing economic losses and long sick leaves. FMI's warnings about slippery walkway condition is one way to inform the predicted slipperiness and increase awareness of slipperiness among the citizens.

898 ACCURACY OF NOVICES' PERCEPTIONS OF CAR SEAT INSTALLATION MASTERY: A PROBLEM OF OVERCONFIDENCE

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Background Motor vehicle crashes are the 2nd most common fatal unintentional injury in young children in the USA. Proper use of car seats reduces risk of death and serious injury by 78%, but 94% of parents instal car seats improperly. Parents must recognise when they instal car seats improperly in order to take corrective actions, but such recognition may be lacking. The objectives of this study were: 1) assess the accuracy of perceived mastery among novice car seat users, and 2) identify predictors of overconfidence among users who instal car seats improperly.

Methods Novice users ages 18–29 ($M = 25$; $SD = 2.4$) were randomly assigned to receive installation instructions from the

manufacturers' guide or an expert technician via phone or merged reality app. Participants installed a car seat and strapped a life-like infant doll, then reported perceived mastery and quality of instructions. Trained assessors rated mastery using a structured coding sheet.

Results 4 of 39 total participants (10%) installed the seat and strapped the doll with no errors. 27 (70%) made 2 or more errors with either the seat or straps and were judged to have failed, of whom 17 (63%) were overconfident (OC). 19 (49%) failed the seat, with 13 (68%) OC. 21 (49%) failed the straps, with 14 (67%) OC. Total errors were significantly lower in OC vs. non-OC participants among those who failed the seat and those who failed the straps ($t = 3.71$, $p = 0.002$ and $t = 2.41$, $p = 0.03$, respectively). Among those who failed the straps, perceived quality of instructions was significantly higher in OC vs. non-OC participants ($t = 2.09$, $p = 0.05$).

Conclusions Expert instruction reduces car seat installation errors, but novices continue to unknowingly make life-threatening errors. Overconfidence may be more likely with fewer total errors and higher perceived quality of instructions. Among other strategies, merged reality apps may reduce overconfidence and errors.

899 EXPLORING THE DIFFERENCE OF TRAFFIC PARAMETERS BY SEVERITY LEVEL AND ACCIDENT TYPE IN URBAN AREAS

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Background The effect of traffic parameters on road safety has gained considerable attention from researchers. High resolution traffic data extracted from motorways are used widely nowadays to study traffic safety. However, there are no studies exploiting high resolution traffic data in urban areas.

Methods This study uses accident and traffic data from two major arterials of Athens for the period 2006–2011. Traffic data were extracted from the closest upstream as well as the closest downstream detector to the accident location. Five-minute raw traffic data were aggregated hourly to obtain the mean values so that a more mesoscopic approach is achieved. Analysis of variance (ANOVA) was applied in order to highlight potential statistical differences in speed and statistical differences in occupancy by severity level and by accident type, one hour prior to accident occurrence.

Results Overall, several significant statistical differences are observed, either when accident severity or the type of accident is explored. This implies that traffic parameters can significantly influence the severity or the type of the accident.

Conclusions The findings of the study justify the need to further explore the effect of traffic parameters on traffic safety.

900 WILLINGNESS TO PAY FOR INNOVATIVE VEHICLE INSURANCE SCHEMES

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