The current levels of air pollution in European countries reduce life expectancy by an average of 8 months. People who actively travel by walking have a higher level of exposure to air pollution than those who use motor vehicles or electric buses. Some routes have higher air pollution levels than others, but little is known about pollution-aware route choice and intentions to actively avoid walking near polluted roads. An improved understanding of how air pollution influences intentions to walk or avoid polluted routes can inform interventions to decrease exposure. The present investigation has three aims: (1) compare experiences walking near roads with high levels of air pollution across countries; (2) identify groups of countries based on perceptions of air quality; and (3) examine how pedestrians develop their intentions of avoiding pollution using the extended TPB (behavioural intentions) approach.
regressions were used to predict pedestrians’ intentions to avoid polluted roads per country group using the extended TPB.

Results: 6180 respondents (Age M(SD) = 29.41(14.2); Males = 39.2%) ranging from 12.6% from Russia to 2.2% from Finland completed the questionnaire. The proportion of participants who reported never walking near air polluted roads was 12.4% (from 3% in Brazil to 54% in Japan). Seven groups of countries were identified using perceptions of air quality: G1(Japan, Mexico, Colombia, Turkey, Malaysia & Brazil), G2(Spain, Romania & Czechia), G3(Chile, Russia & Peru), G4(China), G5(Australia), G6(Finland), and G7(Portugal). Participants in China (G4) and Australia (G5) reported the worst and best air quality respectively. Across all countries, intentions to avoided polluted roads were associated with perceptions of risk. TPB-psychosocial factors such as social norms and perceived behavioural control also influenced intention in most groups. Favourable TPB-beliefs and low perceived risk increase intentions to avoid polluted roads.

Conclusions: The willingness of pedestrians to walk on or near roads with high levels of air pollution differs significantly among countries in this study. Countries can be grouped based on their perceived air quality. Perceived risk was the only common predictor of intention to avoid polluted routes across the different groups of countries.

#2894
A JOINT ANALYSIS OF ROADWAY ACCIDENT FREQUENCY AND INJURY SEVERITY TO INVESTIGATE THE EFFECTS OF COVID-19 IN BANGLADESH: APPLICATION OF ARTIFICIAL NEURAL NETWORK AND STRUCTURAL EQUATION MODELS

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Background: The COVID-19 pandemic is part of the worldwide coronavirus disease pandemic 2019 (COVID-19) caused by severe acute respiratory syndrome, coronavirus 2 (SARS-CoV-2). In Bangladesh, the first outbreak was detected in December 2019 in Wuhan, China, and has spread worldwide, resulting in an emerging pandemic. The focus of this study is to estimate the number of fatal, grievous and simple roadway accidents in Bangladesh from Multiple Linear Regression (MLR) and Artificial Neural Network (ANN) models based on Feed Forward Backpropagation algorithm and to compare the prediction results of the models. The results of the developed MLR & ANN models were evaluated by mean square error (MSE), the root mean square error (RMSE), and the coefficient of determination (R2).

Methods: Historical data of the monthly number of accidents from the beginning of 2016 to the end of 2020 were used as target variables for the Multiple Linear Regression (MLR) and Artificial Neural Network (ANN) models-based architecture. Monthly counts of police reported road accidents classified by type, accident counts sorted by daylight conditions (day/night), number of vehicles involved in accident categorized by light, medium and heavy were the input parameters of the forecast models. The ANN model has faster predictive power and are viable as compared to the MLR model. In addition, a sensitivity analysis for neural network was carried out to investigate which input parameter has the greatest impact on the explained variables. Lastly, Structural Equation Modelling (SEM) is also used in this study to identify which factors are more contributing to those accidents depending on the severity and compared for the before-after study for COVID-19 situation.

Results: There is a dramatic (20.87% Fatal & 31.63% Grievous and Simple) decrease in accidents, for which the sudden drop cannot be accounted by forecast ANN regression or other statistical Time Series models. The ANN model has faster predictive power and are viable as compared to the MLR model. In addition, a sensitivity analysis for neural network was carried out to investigate which input parameter has the greatest impact on the explained variables. Lastly, Structural Equation Modelling (SEM) is used in this study to identify which factors are more contributing to those accidents depending on the severity and compared for the before-after study for COVID-19 situation.

Conclusions: Lockdown due to COVID-19 have caused an unprecedented change in the overall travel patterns and prevailing traffic volume all over the country for a long period of time. Despite the drop in traffic and the number of accidents, still the perilous situation prevails. Lastly, countermeasures to mitigate these accidents are suggested based on cost effectiveness and other measures.

#2895
AUSTERITY, TRANSPORTATION AND THE WEB OF DISPOSSESSION: HEALTH AND HEALTH SYSTEM IMPACTS OF CLOSURE OF THE SASKATECHewan TRANSPORTATION COMPANY

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Background: There has been a global rise in neoliberal austerity characterized by budget cuts to public services including public transportation. In the Canadian province of Saskatchewan, a 71-year-old bus company was shut down in 2017 as part of an austerity budget that sought to reduce the government’s budget deficit. Like previous research investigating the links between austerity and health, the closure of STC is used as an analytical entry point to understand health impacts of austerity.

Methods: A qualitative case study methodology was employed to understand health impacts of austerity through a study of the closure of the Saskatchewan Transportation Company. Drawing on interviews with 100 Saskatchewan residents who were former users of the bus, 6 focus group discussions with activists, health and social services professionals and documentary evidence from the Saskatchewan archives, emerging impacts of the closure were explored through a thematic analysis followed by a synthesized member checking exercise.

Results: The closure of the Saskatchewan Transportation Company has had negative consequences for population health. Neoliberal austerity affects health not only through individualized pathways but through a web of dispossession where the absence of the bus affects individual former users (through healthcare access barriers, psychosocial impacts and financial costs), family members (caught up in the web as they step in to ensure access to various services), communities (that have become disconnected), and entire systems (such as health services through health worker stress and inefficiencies due to disruptions attributable to STC closure).

Conclusions: Neoliberal austerity - particularly in relation to public transportation - has negative consequences for health. Analyses of the health

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