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Correlation and distance concepts together suggest impaired driving due to alcohol than marijuana is menace to road safety

Sometimes, repeated experience with accidents makes people to believe and conclude that impaired driving due to alcohol or marijuana is menace to road safety. However, policy makers on road safety require data evidence authenticated interpretations. What statistical methodologies now exist to do so to help policy makers? For this purpose, this exploratory and tutorial article is written with data analyses and interpretations of actual number of fatal accidents caused by impaired driving during 2013-2015 in USA (as reported in Arnold and Teft 2016). This research work first convinces, using regression analysis, that the driver's age is not a significant predictor of fatal accidents. Then, in a novel manner, it mixes correlation and Mahalanobis distance concepts to create an approach to check whether impaired driving due to alcohol or marijuana is a serious menace to the road safety. In conclusion, this research work finds that just by eliminating impaired drivers due to alcohol (but not marijuana) could ensure road safety 16.02 times closer to an ideal situation of no fatal road accident.

Biography

Ramalingam Shanmugam is the Editor-in-Chief for the journals: Epidemiology & Community Medicine, Advances in Life Sciences and Health, and Global Journal of Research and Review. He is the Associate Editor of the International Journal of Research in Medical Sciences. He is the Book-Review Editor of the Journal of Statistical Computation and Simulation. He directed Statistics Consulting Center in the Mississippi State University. In 2015, he has published a textbook with the title "Statistics for Engineers and Scientists". He served the Argonne National Lab., University of Colorado, University of South Alabama and the Indian Statistical Institute. He has published 125 research articles and is a Fellow of the International Statistical Institute. Currently, he is a Professor in the School of Health Administration, Texas State University. He is a recipient of several research awards from the Texas State University.

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