

***SOCIETAL VIOLENCE, DRIVER AGE, AND ATTAINED EDUCATION:  
INDEPENDENT CONTRIBUTIONS TO ROAD ACCIDENTS?***

Michael Sivak

The University of Michigan Transportation Research Institute

Ann Arbor, Michigan USA

E-mail: [sivak@umich.edu](mailto:sivak@umich.edu)

**ABSTRACT**

Twenty years ago, an analysis (Sivak, 1983) showed that homicide rates and proportion of young drivers were significant and independent predictors of states' fatal accident rates. In the present study, we revisited these relationships by examining the data for year 2000, and included attained education as an additional independent variable. The goal was to provide evidence concerning the degree of independent contribution of violence, driver age, and education to current accident patterns.

A regression analysis was performed using the 2000 fatal accident data for the 50 individual states (excluding D.C.). The dependent variable was the fatal accident rate per licensed driver. There were three independent variables: the homicide rate per person, the proportion of licensed drivers under 20 years of age, and the proportion of persons that attained at least a college degree among the population aged 25 years and older.

Consistent with Sivak (1983), both the homicide rate and the proportion of young drivers were significant predictors of states' fatal accident rate, but so also was the proportion of college graduates. Specifically, a higher traffic fatality rate was associated with a higher homicide rate, a higher proportion of young drivers, and a lower proportion of college graduates. The respective simple correlation were 0.35, 0.50, and -0.66. A multiple regression showed that each of these three independent variables has a significant and independent relationship with the dependent variable. The three predictors accounted for a total of 63% of the variance in the traffic fatality rate.

The present analysis indicates strong independent relationships between states' homicide rate, proportion of young drivers, and attained education on one hand and states' fatal accident rate on the other hand. However, because this was an observational study, causal relationships cannot be directly inferred. For example, from this multiple regression it is not possible to exclude the possibility that the apparent effects of the three independent variables stand for the effects of other, not explicitly identified variables. Nevertheless, the present results are consistent with the possibility of independent contributions to traffic accident causation of the level of societal violence, inexperience/risk taking of young drivers, and level of education. The presentation discusses the potential implication of these findings, along with methodological issues related to these kinds of analyses.

**Reference**

Sivak, M. (1983). Society's aggression level as a predictor of traffic fatality rate. *Journal of Safety Research*, 14, 93-99.