

Seatbelt laws encourage obese drivers to buckle up

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Obesity is associated with many health risks, including heart disease and diabetes, but University of Illinois researchers have found a possible way to mitigate one often-overlooked risk: not buckling up in the car.

A new study led by Sheldon H. Jacobson, a professor of computer science and of mathematics, found that increasing the [obesity rates](#) are associated with a decrease in seatbelt usage. However, these effects can be mitigated when seatbelt laws are in effect.

"Primary seatbelt laws lead to increased use of seatbelts," Jacobson said. "On the other hand, as obesity levels increase, seatbelt use drops, in both primary- and secondary-law states. The key observation we made is that primary seatbelt laws attenuate this drop as obesity rates increase."

Studies have shown that obese drivers are much less likely to use seatbelts, possibly due to discomfort.

"Given that many automobiles have grown smaller, and people have grown larger, larger people may find it physically uncomfortable to put on and wear a seatbelt," Jacobson said. "There also may be the false perception that a larger person who fits snugly into a car may not need a seatbelt."

Jacobson, along with Douglas M. King, a lecturer in the department of industrial and enterprise systems engineering, and former graduate student Banafsheh Behzad, now an assistant professor at California State

University – Long Beach, analyzed government data regarding seatbelt use and obesity rates spanning the years 2006 to 2011.

The researchers wanted to know the degree to which seatbelt use decreased as obesity rates rose within a state. They created a mathematical model to study the association. Working in the Simulation and Optimization Laboratory at the U. of I., they first recognized the impact of primary seatbelt laws, under which officers can issue tickets for not wearing seatbelts without any other traffic offenses occurring. Thirty-three states have such laws in place for drivers and front-seat passengers as of 2013.

The team analyzed data from states with primary seatbelt laws and states without such laws. They found that states without primary seatbelt laws experienced a much sharper decrease in seatbelt use as obesity rose – in fact, more than nine times greater compared to [states](#) with primary laws. The researchers published their work in the journal *Public Health*.

"Seatbelts can reduce the risk of injury or death in car accidents, so it is critical that we understand the factors that influence seatbelt use," King said. "While it is not surprising that primary seatbelt laws can increase seatbelt use, quantifying their interaction with obesity rates provides new insights that policymakers can consider."

"Given that obesity leads to lower seatbelt usage," Jacobson said, "which in turn leads to higher automobile fatalities, primary seatbelt laws dampen this effect, resulting in lives saved. As obesity rates grow, this impact on highway safety will be even more pronounced."

More information: The paper, "Seatbelt usage: Is there an association with obesity?" is available online: www.sciencedirect.com/science/.../S0033350614001310

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