

Heavier, pricier vehicles are safer, research finds

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When it comes to vehicle safety, car buyers get what they pay for. That's the finding of University at Buffalo research presented today, May 14, at the annual meeting of the Society for Academic Emergency Medicine.

"The most important point of our study is that vehicle weight and price have a positive relationship with vehicle safety," said Dietrich Jehle, MD, professor of emergency medicine in the UB School of Medicine and Biomedical Sciences, who presented the research.

The UB researchers used a different methodology to evaluate safety than the standard industry ratings. That's why the study's findings rank some of America's most popular cars, such as the Honda Accord and Civic and the Toyota Corolla in the "least safe" category.

Jehle, who also is an attending physician in the Emergency Department at Erie County Medical Center, has long studied the variables that contribute to injuries sustained in car accidents. He noted that dying in a car accident is the leading cause of death for Americans aged 34 and younger.

"One of my pet peeves is that I don't think consumers have very good information about vehicle safety," Jehle said. "Neither media advertising nor the five-star safety ratings accurately reflect the level of danger or lack of danger in vehicles."

The five-star crash ratings reported by the National Highway Traffic Safety Administration are based on results from crash tests that may be technically accurate but may not completely reflect what happens in real-world crashes with multiple cars, Jehle explained. "When smaller cars hit a larger, moving vehicle, that change in velocity can force the smaller car to go into reverse, resulting in far more serious injuries to driver and passenger."

Instead, Jehle and his colleagues studied [personal injury](#) claims data as an indicator of vehicle safety in the 17 states that have no-fault insurance. These claims cover injuries to driver and passengers, regardless of who is at fault. The study looked at the frequency of personal injury claims for specific vehicles, which, Jehle said, correlates very closely with the dollar amount of personal injury claims.

The researchers conducted a retrospective study of 360 vehicle models from 2010-12. The study was based on the Highway Loss Data Institute

(HLDI) database of insurance losses according to make and model. The HLDI is a nonprofit service organization funded by the Insurance Institute for Highway Safety.

HLDI reports personal injury scores, based on the frequency of personal injury claims, using 100 as the average for all vehicles; 112 is 12 percent worse than the average and 75 is 25 percent better than the average.

Jehle noted that one limitation of the HLDI data the study used does not account for miles driven per vehicle, which was why the researchers excluded sports cars, which typically are driven less frequently than most other passenger vehicles.

The analysis showed that very large pickup trucks and sport utility vehicles (SUVs) had the lowest frequency of personal injury claims. The vehicles with the best scores, of at least 50 percent better than average, are:

- Dodge Ram 2500 mega, 4WD
- GMC Sierra 1500, 4WD
- Ford F-150, 4WD
- GMC Sierra 2500 crew, 4WD
- Land Rover Range Rover, 4WD
- Chevrolet Silverado 2500 crew 4WD
- Land Rover LR4, 4WD
- Ford F-250 supercab, 4WD
- Volvo XC60
- Porsche Cayenne, 4WD
- Audi A6 4 door, 4WD
- Mini COOPER Countryman
- Toyota Tacoma xtra, 4WD
- Chevrolet Silverado 1500, 4WD
- Cadillac Escalade ESV, 4WD
- Ford F-150 supercab, 4WD

- Ford F-350 crew, 4WD

Vehicles that had the highest frequency of personal injury claims, scoring at least 40 percent worse than average, and therefore deemed the least safe, are:

- Suzuki SX4
- Mitsubishi Galant
- Dodge Avenger
- Kia Forte
- Nissan Versa
- Hyundai Accent
- Mitsubishi Lancer
- Nissan Sentra
- Dodge Caliber
- Suzuki Grand Vitara, 4WD
- Scion tC
- Toyota Corolla
- Nissan Versa hatchback
- Dodge Charger
- Nissan Altima, 2- and 4-door
- Chrysler 200
- Nissan Rogue
- Honda Accord, 2-door
- Honda Civic, 2-door
- Kia Forte, 2-door
- Chevrolet Impala
- Ford Fiesta

"We found that vehicle type, curb weight and price are all significant predictors of personal injury cost," said Jehle. "For every additional \$10,000 you spend, injuries go down by almost 12 percent. We also found that for every 1,000-pound increase in weight, vehicles were 19

percent safer.

"One of our most surprising findings is that some of the most popular cars on the road fell into the least safe category. For example, the 2-door Honda Accord and the 4-door Honda Civic were both rated at about 40 percent and 30 percent less safe than the average, respectively, while the 4-door Toyota Corolla was more than 50 percent less safe than average."

So what should the cost-conscious shopper do? Jehle said that according to the study, some mid-priced and lower-priced vehicles, such as the Jeep Wrangler and the Mini COOPER Countryman, fared well, at least 40 percent better than average, in personal injury claims. The Volkswagen Golf and the Subaru Outback were more than 25 percent better than average. He added that in general, four-wheel-drive vehicles tend to do better than other models because they are, by definition, heavier vehicles and better able to stay on the road in adverse weather conditions.

Provided by University at Buffalo

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