Women drivers involved more than men in certain kinds of crashes

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(PhysOrg.com) -- While men and women often disagree about which gender has better driving skills, a new study by the University of Michigan may shed some light on the debate.

Using data from a nationally representative sample of police-reported crashes from 1988 to 2007, Michael Sivak and Brandon Schoettle of the U-M Transportation Research Institute studied the gender effects in six different crash scenarios (based on crash angles, direction of approach and speed). These two-vehicle crash scenarios included various maneuvers in which one vehicle turned in front of the other, one vehicle side-swiped the other or both vehicles collided head-on.

"The likelihood that a given driver will be involved in a two-vehicle crash depends on a variety of driver, vehicular and environmental factors ," said Sivak, research professor at UMTRI. "There are three dominant driver-related factors, including the probability of being at the wrong place at the wrong time, one's own driving skills and the driving skills of the other driver involved."

Sivak and Schoettle compared the actual frequencies of different combinations of involved male and female drivers in the six crash scenarios with the expected frequencies if there were no gender differences. The expected frequencies were based on annual distance driven for personal travel by male and female drivers.

Because men drive about 60 percent of those annual miles and women

drive 40 percent, men are expected to be involved in a higher percentage of crashes for each scenario, road conditions and driving skills being equal.

But the researchers found that crashes involving two female drivers were overrepresented in five of the six crash scenarios, including two by at least 50 percent more and two others by more than 25 percent greater than what was expected.

On the other hand, crashes involving two male drivers were underrepresented in four of the six scenarios, including two by more than 20 percent and another by just less than 20 percent. In crash scenarios involving both male and female drivers, actual frequencies tended to be close to the expected frequencies.

"The results indicate that in certain crash scenarios, male-to-male crashes tend to be underrepresented and female-to-female crashes tend to be overrepresented," Sivak said. "This pattern of results could be due to either differential gender exposure to the different scenarios, differential gender capabilities to handle specific scenarios or differential expectations of actions by other drivers based on their gender.

"In all, success in handling on-road conflicts depends not only on psychomotor ability but also on the outcome of complex social interactions between traffic participants. In turn, these interactions are influenced by expectations based on prior experience—and a set of common stereotypical expectations that drivers have concerning the behavior of male and female drivers."

Provided by University of Michigan