

# More pedestrians killed during a new moon

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The next time you decide to go for a moonlight stroll, you may want to check first if the moon is full.

A new study in the journal *Leukos*, "Moon Phases and Nighttime Road Crashes Involving Pedestrians," by researchers at the University of Michigan Transportation Research Institute (UMTRI) found that more pedestrians are killed in traffic on nights with a new moon—when the moon is not illuminated—than during a full moon.

"The overall nighttime road fatality rate per distance traveled in the United States is about three times the daytime rate, due mostly to lower ambient illumination and higher frequencies of fatigued, intoxicated and younger drivers," said Michael Sivak, research professor and head of UMTRI's Human Factors Division. "In this study, we found that pedestrian crashes are sensitive to differences within low levels of ambient illumination, which can vary in nighttime conditions."

Sivak and UMTRI colleagues Brandon Schoettle and Omer Tsimhoni looked at 10 years of nighttime crashes and lunar phase data (1996-2005). They examined fatalities during a seven-hour period from 10 p.m. to 5 a.m.

They found that the mean number of pedestrian fatalities during this time was 22 percent higher on nights with a new moon compared to nights with a full moon.

The researchers report that during the study period, there were 612

pedestrian deaths during new moons, while 497 pedestrian fatalities occurred during full moons. Because the number of nights with full and new moons was not necessarily the same in each year, the data were summarized in terms of the fatalities for the seven-hour period per each night.

"The differences in the ambient illuminance for nights with a full moon versus a new moon are unlikely to be correlated with any other factors that are known to influence the likelihood of nighttime pedestrian crashes—alcohol intoxication of drivers or pedestrians, driver fatigue and driver age," Sivak said. "Consequently, the results imply that the amount of moonlight has substantial influence on pedestrian crashes."

Source: University of Michigan

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