In the News:

NHTSA Study Finds No Significant Risk from Drug-Impaired Driving

Media outlets such as The Washington Post recently reported on a study commissioned and released by the National Highway Traffic Safety Administration (NHTSA). The study found no significant risk from driving under the influence of marijuana, sedatives or any illegal drugs. On the other hand, they did find there was risk for driving under the influence of alcohol.

The popular press drew the implication, particularly about marijuana, that we might be safe to drive under the influence of drugs. This raises the question: is that a correct interpretation of the study’s findings? PRI’s Research Team took this topic seriously since it came from a respected source with findings very different from those cited in Prime For Life®. Our review of other studies confirms for us that the overall research strongly suggests that driving under the influence of drugs increases risk. This view is actually consistent with the researchers who conducted the NHTSA study who state in their article: "The findings of this study notwithstanding, the established body of scientific evidence on the subject of drug impairment indicates that in some situations, drugs other than alcohol can seriously impair driving ability." Likewise, in virtually every study we have seen prior to this one, the presence of a drug with alcohol has increased the risk of impaired driving problems.

Why might this study’s findings diverge from other research? First, it helps to review what the study found. In terms of drugs, unadjusted odds ratios did show increased risk for crashes while driving under the influence of marijuana, sedatives, and illegal drugs as a group. However, after accounting for other possible explanations such as the age of the drivers (since younger drivers are more likely to crash), the links between the drugs and crashes were no longer statistically significant. The researchers also found that those with both alcohol and drugs in their system, while at risk, were at decreased risk compared to alcohol alone (5.34 vs 6.75 respectively).

We can see four reasons why these findings may differ from many other studies. [See the Prime For Life® Documentation on Drug Impaired Driving.] These reasons relate to how drug use was measured, cutoff criteria for what constitutes being under the influence, the types of crashes studied, and the types of drugs considered.

In terms of how drug use was measured, the data reported in the article’s tables on all substances other than alcohol were based on tests of oral fluids (saliva). This is problematic because the presence of drugs in oral fluids does not necessarily indicate current impairment. In other words, drugs can be detected in saliva well after impairment has passed or a person can have impairing levels in the blood still not show drugs in saliva. Marijuana is an example. One study exploring the relationship between oral THC and blood levels of THC makes this conclusion: "Direct
prediction of plasma THC concentrations from OF [oral fluid] concentrations is not appropriate regardless of drug delivery system.” While the NHTSA’s study researchers were careful to acknowledge this issue in their article, the Washington Post article misconstrues their statement to infer we cannot measure impairment from any body fluids. We can, in fact, more accurately infer likely impairment from blood samples. Doing so is a better measure of impairment and, when done, reveals a clearer risk between drug use and crashes. In a review of the literature on the relationship between cannabis use and crashes one group of researchers note, “Surveys that established recent use of cannabis by directly measuring THC in blood showed the THC positives, particularly at higher doses, are about three to seven times more likely to be responsible for their crash as compared to drivers that had not used drugs or alcohol.” For this reason, Prime For Life™ uses marijuana-impaired driving research based upon actual blood levels of THC, the primary psychoactive substance in marijuana. This measure indicates very recent use of marijuana and therefore probable impairment at the time of a fatal crash.

A second difference between the NHTSA study and others concerns the cutoff used to decide if a drug test is negative or positive. Research studies typically use a cutoff level below which a sample is considered to be a negative drug test. For example, Mura, et al.6 used a 1 ng/ml THC cutoff level, and samples at or below that level were considered a negative test. The NHTSA study states no cutoff level. If they considered even trace levels of a drug in oral fluids a “positive” test they would have again been measuring drug presence but not necessarily drug impairment.

A third way the NHTSA study differs from many others is in the types of crashes considered. Other research has found significant risk related to drugs in crashes, and those risks often seem more pronounced when looking at fatal crashes. This is supported by another study which states, “Use of drugs while driving tends to have a larger effect on the risk of fatal and serious injury accidents than on the risk of less serious accidents (usually property damage-only accidents).” NHTSA used any crash incident that involved the police, including non-injury crashes. Of the 2,682 crashes they investigated only 15 (0.6%) were fatal and only 886 (33%) involved injury at any severity level. The inclusion of a large majority of minor crashes—2/3 of the total—may have “washed out” the significance of drug effects on more serious crashes found in other studies. Especially among marijuana-impaired drivers it is well established that, unlike alcohol-impaired drivers, they tend to slow down and attempt to drive more carefully. This may decrease their risk for minor crashes, but when a more serious driving challenge occurs, especially at higher speeds, the significance of their impairment may re-emerge. This seems likely since we do know that marijuana impairs information processing and the speed of decision-making. Even data on alcohol-related crashes indicates the more serious the crash, the more likely alcohol was involved. Blood alcohol levels of 0.08% were found in a driver in 11.5% of crashes with only property damage, 21.8% of crashes resulting in serious injuries, and 34.7% of crashes where a fatality occurred.
The fourth potential issue is the NHTSA study’s failure to define the imprecise term “sedatives.” Are these sedatives for sleep, sedatives for anxiety, or both? With the exception of one drug, zopiclone, the presence of a sleep aid drug has not been linked to increased rates of driving impairment. On the other hand, sedatives for anxiety are linked to a 2 times greater risk than alcohol-or-drug free drivers. If this study lumped together a drug group not typically associated with impaired driving with more impairing sedatives, it may again have “washed out” the significance of the drug’s impact.

In conclusion, this study and the Washington Post article about it illustrate why we caution Instructors that media reports can misinterpret what research has found and it is always best to read the original research. It also clarifies why no one study should be considered conclusive. In the end, the study’s authors believe that the larger body of evidence indicates drug use when driving increases risk for impairment problems. We agree with the author’s assessment of the broader research and believe it best to rely on the findings established by many studies.


