

Will Increasing the Percent of Properly Licensed Motorcyclists Reduce Fatal Crash Rates?

**Skilled Motorcyclist Association - Responsible, Trained and Educated Riders Inc.
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Introduction

It is well known that a correlation exists between fatal motorcyclist crashes and improperly licensed operators. *Thirty-six percent of motorcycle riders involved in fatal crashes in 2020 were riding without valid motorcycle licenses at the time of the crashes, while only 17 percent of passenger vehicle (passenger cars and light trucks) drivers in fatal crashes did not have valid licenses. A valid motorcycle license includes a rider having a valid driver license (non-CDL license status) with a motorcycle endorsement or a motorcycle-only license.* (NHTSA Traffic Safety Facts – Motorcycles, (May 2022, DOT HS 813 306)

As a result of this identified correlation, many state motorcyclist safety programs have implemented some measure aimed at increasing the number or percent of properly licensed riders in an effort to reduce crash rates. These efforts are based on the assumption there is a cause-and-effect relationship between these two variables (license status and crash risk).

The authors do not think the known relationship in these variables is causal and therefore do not think such efforts will reduce fatal crash rates. This article presents the rationale for our thinking.

Cause or Correlation

Most readers will have heard the phrase, “correlation is not causation.” We hear that so often you’d think it would be easy to tell the difference between factors that are merely correlated and those where change in one factor influences a change in the other. But in practice it’s not always easy. A correlation between variables does not automatically mean that the change in one variable is the cause of the change in the value of the other variable. If we don’t get this relationship correct, we might direct our efforts in the wrong place.

In this case, the authors think that is exactly what has happened. Many believe lack of a proper license is a cause of crashing, when in fact there is no causal relationship.

Common Ride-along Factors

There are a number of easily identifiable factors that are correlated with fatal motorcyclist crashes. These factors can be analyzed as a contributor to either the cause of the crash, the injury resulting in death, both or neither. For example, alcohol impairment, failure to wear a helmet and speeding are three common factors correlated with fatal crashes. There are other factors including hitting solid objects and having a history of traffic violations, for example.

Alcohol impairment effects a persons judgment, vision, balance and coordination. We can easily determine impairment contributes to causing a crash.

Helmets do the job they are designed to do – protect the head and brain in the event of a crash. Head and brain injuries are a leading cause of death in the event of a crash. Again, it is easy to understand how the choice to not wear a helmet contributes to death in the event of a crash.

The research confirms, as readers will surmise, that speeding contributes to both the cause of the crash and the injury leading to death. Speed influences the risk of crashes by increasing total stopping distance and by making evasive steering maneuvers more difficult.

Speeding also increases the risk of injuries because it increases the crash energy exponentially. For example, when impact speed doubles the energy that needs to be managed quadruples. As crash speeds get very high, motorcyclist protective gear may not be able to keep the forces on riders/passengers below severe injury levels.

These three ride-along factors are clear in their relationship to fatal crashes. But what about “operating without a valid license?”

Operating without a valid license

Here is a ride-along factor that is more difficult to analysis. We can clearly reduce motorcyclist fatalities by implementing countermeasures aimed at reducing alcohol impairment, reducing speeding and increasing helmet use. However, the impact of efforts aimed at increasing the percent of riders who are properly licensed is more complicated.

We know not having a valid motorcycle operator license is a ride-along factor so we know there is a correlation between not having a proper license and fatal crashes. But does not having a proper license contribute to causing the crash?

Many think the answer is YES because they think having a proper license is an indicator of having the physical skills necessary to safely operate the machine. But this isn't necessarily the case. As a counterexample, Xu's (author Xu Simon) family doesn't follow this trend. Her mother's 1970 Oklahoma driver's license came standard with a motorcycle endorsement, which she maintained over 50 years through a grandfather clause despite having never operated a motorcycle. Her brother, in contrast, had ridden on a permit in Texas for years with no incident. He just hadn't gotten around to completing the requirements to get his license.

A 1994 DOT brochure put it this way: *...most unlicensed riders lack the knowledge, training and experience necessary to pass a licensing exam - or ride safely on the street*” (DOT, 1994). This statement is in a brochure almost 30 years old and shows how easy it can be to assume a cause-and-effect relationship when there is no evidence to support the assumption.

By 2014 NHTSA had this to say in a report on driver licensing “... *being involved in a fatal crash while having an invalid license does not imply that either the invalidly licensed driver, or the fact that she or he had an invalid license, was the cause of a crash*” (NHTSA, 2014). It took 20 years but the incorrect assumption was corrected.

The authors looked to the research and found nothing addressing this issue. While one often stated goal of licensing is to assure that motorcycle riders have the minimum skills needed to operate motorcycles safely, the practical effectiveness, for reducing crash risk, of motorcycle operator licensing, is not known. *There are no evaluations of whether increasing the proportion of motorcycle riders who are validly licensed reduces the number of motorcycles crashes.*

It is often concluded, without evidence, that not having a valid license contributes to causing the crash. The stated reason is that the person without a valid license does not possess the necessary skills to avoid a crash. However, think about this. A person has a motorcycle endorsement and rides regularly. Does that person immediately put themselves at greater risk of a fatal motorcyclist crash if they fail to renew their license when it expires?

Our answer to the first question, does not having a valid license contribute to the crash, is NO. Not having a valid license is not a contributor to the crash

Our answer to the question is also NO. Certainly not having license cannot be a factor contributing to an injury causing death.

Summary

This is a tough one and more high-quality research may help tease out the nature of the correlation between license status and fatal motorcyclist crashes. The over-representation of unlicensed riders in the fatal crash statistics may be a symptom of high-risk behavior choices. The rider says to him or herself “a couple drinks won’t hurt or I can handle 10 MPH over the limit or I know the law says I need a special license but I have been riding for 8 years without and have never been stopped.” On the last point, contrary to impaired riding and speeding, there is no evidence that not being properly licensed has a causal relationship to the crash. It is simply a correlated ride-along factor.