

Fatal Motorcyclist Crashes A Look at Ride-along Factors

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**Skilled Motorcyclist Association
Responsible, Trained, and Educated Riders, Inc**

SMARTER

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SMARTER

- **Nationally recognized one-stop spot for accessing motorcyclist safety research**
- **Over 400 research reports posted – approximately 20 categories**
- **SMARTER believes individual riders and policy decision makers make higher quality decisions when those decisions are based on factual knowledge and the conclusions of quality research. *Our mission, therefore, is to gather, examine, catalogue, share, post and distribute motorcyclist safety factual information and research and to advocate for the use of such knowledge as the basis of decisions.***

Objectives

- **Identify five factors regularly associated with fatal motorcyclist crashes**
- **Distinguish between the meaning of correlation and cause (cause and effect)**
- **Reflect and consider current efforts based on understanding of correlation and cause**
- **Learn some stuff about what current research tells us about the commonly identified ride-along factors**

Correlation and Causation

-the line of reasoning-

In theory, the difference between cause and correlation should be easy to distinguish. In practice, however, it is sometimes difficult to clearly establish cause and effect compared with correlation.

A correlation between variables does not automatically mean that the change in one variable is the cause of the change in the values of the other variable.

Ride-along Factors you Know

- **Talk with 2 – 4 others and brainstorm factors (variables or characteristics) you know/think are associated with fatally injured motorcycle riders. Don't worry about correlation or cause – just brainstorm the ride-along factors.**
- **3 min max**
- **Then we will share**

Share

- **This idea is not new**
- **Experienced motorcyclists safety professionals have an understanding of the concept of ride-along factors**
- **Some of what we think we know is confirmed by data/research**
- **Other factors we assume are “ride-alongs” have not been researched**
- **Here are the five most commonly identified ride-along factors that have been confirmed by data analysis/research**

The Big Four 4 + One

- **Alcohol impairment or had been drinking**
- **Speeding**
- **Not wearing a helmet**
- **Without a valid motorcycle operator license (often associated with lack of training)**
- **Previous driving violations**

Correlation or Cause?

Variables (factors as used here) are considered related when the values of two or more change so that as the value of one increases or decreases the value of the other changes proportionally.

In practice, it is not always easy to clearly establish cause and effect compared with correlation. We may have incorrect assumptions or lack of research or the research is incomplete or results are mixed.

This is where a problem arises with the ride-along factors and the implementation of countermeasures.

Correlation

Correlation is a statistical measure (expressed as a number) that describes the size and direction of a relationship between two or more variables.

A correlation between variables, however, does not automatically mean that the change in one variable is the cause of the change in the values of the other variable.

Example

Cause

Cause and effect is the relationship between two things when one thing makes something else happen.



Talk about correlation & cause

- **2-4 others**
- **Share some examples outside of the motorcyclist fatal crash scenario**
- **3 min**

Share

Questions to be Addressed

Does the identified ride-along factor contribute to causing the crash, contribute to the fatality, both or neither?

Is the ride-along factor related to the fatal crash as a cause or is the relationship correlational in nature?

The five factors: a very quick review

Alcohol

Does alcohol impairment contribute to causing the crash?

Yes (cause and effect) – reasons

Does alcohol impairment contribute to the injury leading to death?

No – reasons

Speeding

Does speeding contribute to the crash?

Yes (cause and effect) – reasons

Does speeding contribute to the injury causing death?

Yes (cause and effect)- reasons

Not wearing a helmet

Does not wearing a helmet contribute to the crash

No evidence – No

Does not wearing a helmet contribute to the injury causing death

Yes – helmet effectiveness research (cause and effect)

Without a valid license

Does not having a valid license contribute to the crash?

No research – No – license represents demonstrating basic skills such as straight line riding, turning, shifting, stopping. Lacking these skills is rarely if ever identified as a crash cause.

Example – license today, expires tomorrow, crash the next day?

Does not having a valid license contribute to injury causing death?

No.

Previous Driving Violations

Does having a history of previous violations contribute to the crash?

No

Does having a history of previous violations contribute to the injury causing death

No

But could we use this information? How?

Process time

Talk with 2-4 others

Based on this information what suggestion(s) would you have for countermeasures (increase effort, decrease effort, stop all effort, start something new???)

What questions do you have?

5 min discussion & then we will share

The Big Four 4 + One - recommendations

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Speeding

Not wearing a helmet

Without a valid motorcycle operator license (often associated with lack of training)

Previous driving violations

Want to Follow UP?

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