

Effectively Using the Matched Pair Study That Changed Motorcycle Safety Training

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The landmark study,^{1, 2} completed in the late 1990s, both accomplished what it originally set out to do and also turned motorcycle safety training on its head!

The study set out to *evaluate the effectiveness of a new and popular motorcycle safety program.*

The study found that the safety training was:

- Not effective for riders with more than 500 miles of riding experience.
- Not statistically significant when comparing riders with more than six months experience, trained or untrained.
- Effective for brand new riders (less than six months riding and less than 500 miles of riding experience).

The reasons why this study could have such impact and importance are:

- There was premeditation of how to evaluate the new, large, statewide motorcycle safety program before the program's widespread availability.
- The program was going to be implemented statewide in, what was, at the time, nearly a vacuum of safety training.
- There were large sample groups of trained riders and untrained riders.
- The new training program was widely respected as "State-of-the-Art" safety training.
- The implementation of this statewide training was aggressively funded.
- A key element of the statewide program was that it be uniformly conducted throughout the state on a massive scale.
- The study was both long term and well funded.

The original expectation was that this motorcycle safety program was highly effective and that the data just needed to be collected to show the effectiveness. The methodology to do this was straightforward:

"Matched samples of trained and untrained riders from the Southern California area are developed over a five year period, and the riding records of these pairs of riders are compared for three time periods: (1) Six months after training; (2) One year after training; and (3) Two years after training."¹

Contrary to the expected outcome, two major conclusions of this study that some still have difficulty accepting even today, are:

- "In the case of riders with more than 500 miles of experience prior to training or interviewing, no significant differences in accident rates were detected between the two groups, either before or after riders took the basic training course."¹

- “In the case of novice riders with less than 500 miles of prior experience, a matched-pair analysis shows ...beyond six months, riding experience begins to have a leveling effect on the differences between the two groups.”¹

New motorcycle safety programs and curricula can effectively use the powerful results of this landmark study. We now know when creating new “State-of-the-Art” motorcycle safety programs that we should:

- Purposefully design curricula for particular groups. Abandon the one-size-fits-all approach to safety training. Define, as precisely as possible, the targeted group and the targeted effect for a particular safety curriculum.
- Abandon the notion that skills training is the same as safety training. Build into the curriculum an element for the participants to learn the difference between skills training and safety training.
- Focus most of the motorcycle safety resources on beginner riders. Reduce resources being placed on skill development for skilled riders.
- Analyze the causal relationship of why new riders have more mishaps and focus on eliminating those particular mishaps. Develop countermeasures to these causes in the new curricula.

Even 10 years after this study’s completion, the usefulness of this study’s findings have not found their way into most motorcycle safety programs. We are sure this short paper and the four closing points can help individuals who are concerned with motorcycle safety to improve their programs.

References:

1. “EVALUATION OF THE CALIFORNIA MOTORCYCLIST SAFETY PROGRAM”
John W. Billheimer, presentation at THE HUMAN ELEMENT International Motorcycle Safety Conference March 1 - 4, 2001 Orlando, Florida
2. See **Table 2** of reference 1.

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