Motorcycle Rider Training and Collision Avoidance

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Does rider training improve collision avoidance performance?
• “Formally trained” riders in the Hurt study were mostly LAPD or CHP motor officers, who had far more rigorous training than most rider training courses and more riding experience.

• In Thailand, only one rider had any formal training.
Rider collision avoidance braking by rider training, Hurt Study

![Graph showing the percentage of riders using different braking methods based on training type.](chart)

- **None**: 31% (Self-taught), 31% (Family, friends), 34% (Formal training)
- **Front (any combination)**: 31% (Self-taught), 24% (Family, friends), 28% (Formal training)
- **Rear only or rear brake & swerve**: 30% (Self-taught), 33% (Family, friends), 26% (Formal training)

Legend:
- Self-taught (n = 393)
- Family, friends (n = 340)
- Formal training (n = 61)
Rider evasive action choice & execution by rider training, Hurt study

- Formal training (n = 61)
  - No Action: 36.1%
  - Right choice, poor execution: 18%
  - Wrong choice, good execution: 29.5%
  - Wrong choice, poor execution: 11.5%

- Family, friends (n = 343)
  - No Action: 31.5%
  - Right choice, poor execution: 15.2%
  - Wrong choice, good execution: 35.6%
  - Wrong choice, poor execution: 9.9%

- Self-taught (n = 400)
  - No Action: 30.5%
  - Right choice, poor execution: 19.5%
  - Wrong choice, good execution: 30.5%
  - Wrong choice, poor execution: 14%

Legend:
- □ No Action
- ■ Right choice, poor execution
- ▲ Wrong choice, good execution
- ◇ Proper choice and execution
Loss of control mode by rider training for riders who took evasive action, Hurt study

Loss of control mode

- No loss
- Capsize
- Wobble
- Lost wheelie
- Slide-out
- High-side
- Ran off road

- Self-taught (n = 272)
- Family, friends (n = 235)
- Formal training (n = 40)
Loss of control mode by rider training for Thailand riders who took evasive action

[Bar chart showing the percentage of riders experiencing different modes of loss of control, categorized by training method (Family, friends vs. Self-taught), for Thailand riders who took evasive action.]
Loss of control mode among riders who took evasive action

- Ran off road
- High side
- Slide-out
- Capsize
- No Loss

Thailand (N = 550)
Hurt study (N = 603)
Thailand, cumulative percent distribution, front and rear skid mark length
Time from Precipitating Event to impact, Thailand & Hurt studies
But lower crash speeds mean less severe injuries, right? Right?
AT-RISK ZONES FOR MOTORCYCLE IN LANE 2, CAR LEFT TURN

A. MOTORCYCLE CLEARS BEFORE CAR ENTERS
B. MOTORCYCLE BRAKES ENOUGH TO BE STRUCK BY CAR
C. COLLISION UNAVOIDABLE
D. FRONT AND REAR BRAKING REQUIRED TO AVOID
E. REAR-ONLY BRAKING SUFFICIENT TO AVOID
F. CAR CLEARS BEFORE MOTORCYCLE ARRIVES

1. CAR BEGINS TURN
2. ENTERS MOTORCYCLE PATH
3. CAR EXITS MOTORCYCLE PATH
Brake type and frequency of braking slide-out

![Bar chart showing the percent who slid out for different brake types in Thailand and Los Angeles. The chart compares single leading shoe, double leading shoe, single disc hydraulic, and double disc hydraulic brakes.](chart_image)
Thailand, rider training and collision avoidance action

![Bar chart showing different actions taken by riders and their sources of training.](chart.png)