Research Report Summary

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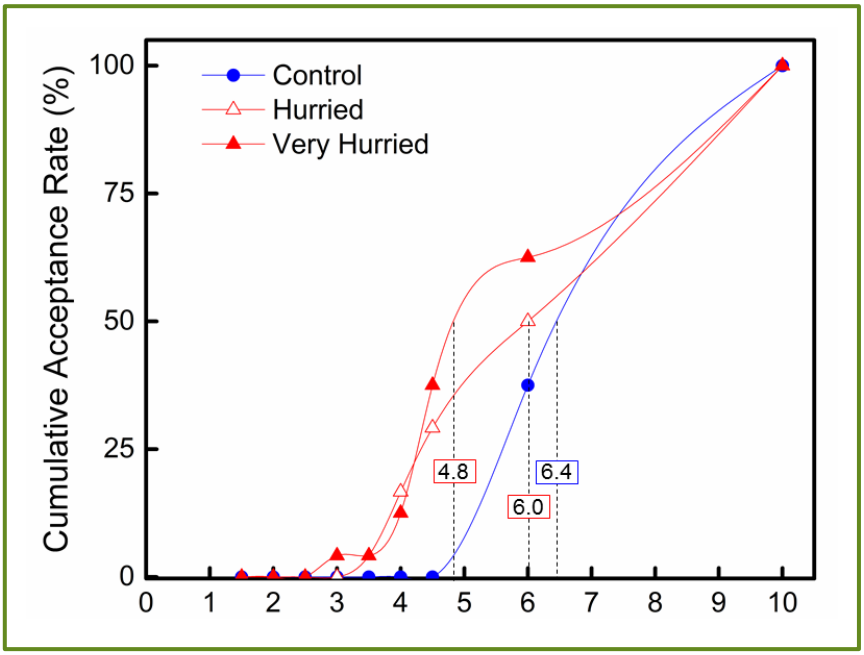
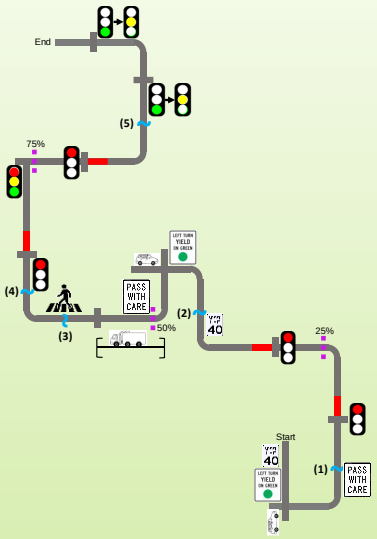
The Use of a Driving Simulator to Determine How Time Pressures Impact Driver Aggressiveness

Thirty-six drivers were recruited with an equal male/female split and a broad distribution of ages. Financial incentives and completion time goals calibrated from a control group were used to generate a *Hurried* and a *Very Hurried* experimental group. As compared to the control group, *Very Hurried* drivers selected higher speeds, accelerated faster after red lights, accepted smaller gaps on left turns, were more likely to pass a slow vehicle, and were more likely to run a yellow light in a dilemma zone situation. These trends were statistically significant and were also evident with the *Hurried* group, but a larger sample would be needed to show statistical significance. The findings from this study provide evidence that hurried drivers select higher speeds and exhibit riskier driving behaviors. The practical implications from this research are abstract but nonetheless significant. The findings from this research



Simulated Drive Layout



Random signal

Red until driver reaches stop bar

Dilemma zone: light turns as driver approaches

Circular green ball, driver instructed to turn left

Continuous Speed Collection Zone

Drive Progress Update

Speed Collection Point (#)

Oncoming Traffic

Slow Vehicle Passing Opportunity

Two Crosswalks in Urban Setting

Participants encountered various elements throughout the drive that tested their response to time pressures.

indicate that drivers who are in a hurry select higher speeds and make riskier driving decisions. With the proliferation of GPS, drivers can monitor their projected arrival time in real-time and reroute themselves through local or neighborhood roads to avoid congestion. Projects primarily focused on relieving congestion may also yield safety benefits on surrounding roads in the network, as drivers may make more aggressive decisions based on the difference between their remaining projected travel time and their desired remaining travel time. This finding is important as funding agencies often have one pot of money for congestion projects and another pot of money for safety projects. The results of this study indicate that a project aimed to reduce congestion may also legitimately claim safety benefits.

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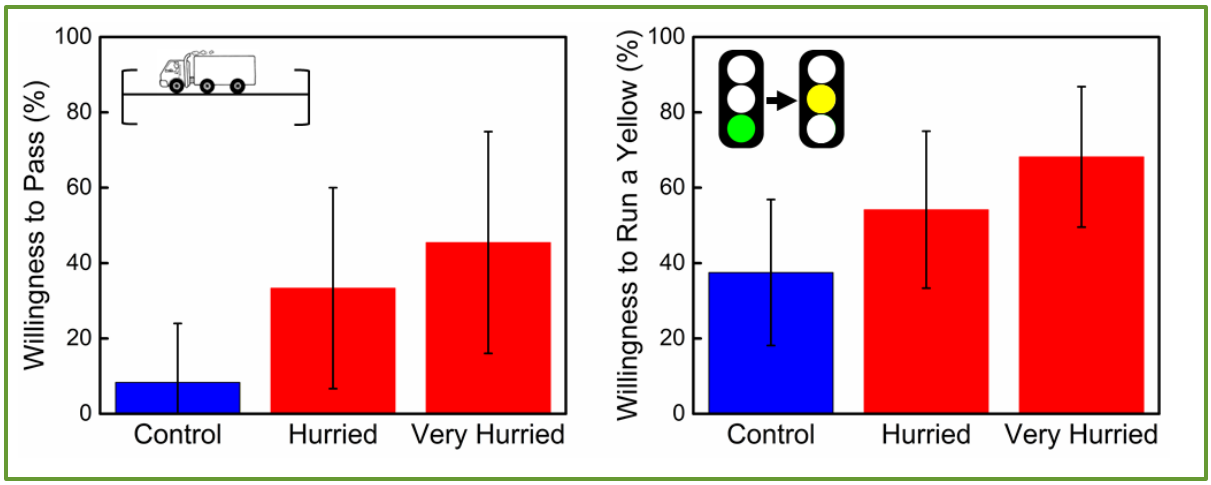
Finally, the findings from this study may have implications to the field of commercial motor vehicle (CMV) safety. Truck drivers often operate with financial incentives tied to meeting certain delivery time goals. These incentives lead to time pressures on the driver and may lead to an increase in CMV crashes. Future research should explore how time incentives impact CMV safety.



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