

TRANSPORTATION POOLED FUND PROGRAM QUARTERLY PROGRESS REPORT

Lead Agency (FHWA or State DOT): Iowa DOT

INSTRUCTIONS:

Project Managers and/or research project investigators should complete a quarterly progress report for each calendar quarter during which the projects are active. Please provide a project schedule status of the research activities tied to each task that is defined in the proposal; a percentage completion of each task; a concise discussion (2 or 3 sentences) of the current status, including accomplishments and problems encountered, if any. List all tasks, even if no work was done during this period.

Transportation Pooled Fund Program Project # <i>(i.e, SPR-2(XXX), SPR-3(XXX) or TPF-5(XXX))</i> <p style="text-align: center;">TPF-5(207)</p>	Transportation Pooled Fund Program - Report Period: <input checked="" type="checkbox"/> Quarter 1 (January 1 – March 31), 2013 <input type="checkbox"/> Quarter 2 (April 1 – June 30) <input type="checkbox"/> Quarter 3 (July 1 – September 30) <input type="checkbox"/> Quarter 4 (October 1 – December 31)	
Project Title: The use of video feedback in novice 14½ year-old drivers: the million-mile study		
Name of Project Manager(s): Daniel V. McGehee	Phone Number: 319-335-6819	E-Mail daniel-mcgehee@uiowa.edu
Lead Agency Project ID: RT 1007	Other Project ID (i.e., contract #):	Project Start Date: 04/01/2009
Original Project End Date: 03/31/2013	Current Project End Date: 7/31/2013	Number of Extensions: 1, with expanded scope

Project schedule status:

☐ On schedule
 ☐ On revised schedule
 ☒ Ahead of schedule
 ☐ Behind schedule

Overall Project Statistics:

Total Project Budget	Total Cost to Date for Project	Percentage of Work Completed to Date
\$200,000		99%

Quarterly Project Statistics:

Total Project Expenses and Percentage This Quarter	Total Amount of Funds Expended This Quarter	Total Percentage of Time Used to Date

Project Description:

This study is the third in a series of studies investigating the effect of providing newly-licensed teen drivers with video-based feedback. Video clips are captured by a DriveCam event recorder when the system is triggered by abrupt braking, accelerator steering. During the feedback phase of the study, a weekly report is sent to the teen's parent(s). The report includes descriptions and videos of the events recorded for their teen during the previous week, how often their teen and his/her passengers were wearing seat belts, and a graph showing how the number of events for their teen compares to his or her. In addition, the event recorder provides immediate feedback to the teen in the form of a flashing light when it has been triggered. The first two studies investigating this kind of feedback, with cohorts of teen drivers from both rural Iowa and suburban Minneapolis, showed promising results. Teen drivers with a high incidence of safety-relevant events in the first 8 weeks of study before feedback began experienced an 89% and 64% reduction (rural and suburban, respectively) in the number of the events with feedback.

Objective Part 1:

The objective of the current study is to examine how age and experience interact with providing video feedback. This study involves three groups of teen drivers (30 participants in each group):

- (1) Teens age 14.5-15.5 with a school license
- (2) Teens age 16 who have an intermediate license and never held a school license
- (3) Teens age 16 who have an intermediate license and previously drove with a school license for at least 4 months.

Half the participants in each group will receive feedback beginning with the 5th week of the study. The other half is a control group (driving as they normally would) and does not receive any feedback. This allows us to compare the effect of the feedback to the natural maturation of new drivers as they gain driving experience.

Objective Part 2: Prevalence and Distribution of Distraction Errors**Progress this Quarter (includes meetings, work plan status, contract status, significant progress, etc.):**

Finalized report and conducted briefing on March 5, 2013. COMMUNICATED THESE RESULTS WITH IOWA LEGISLATURE.

Here is the executive summary"

BACKGROUND

More than 3,100 teenagers lost their lives in motor vehicle crashes in 2010. Young drivers have higher crash risk due to inexperience, immaturity, and a tendency to engage in high-risk driving behaviors (Williams, 2003). Crash risk is relatively low when young drivers are learning to drive with an adult in the vehicle, but increases about 10-fold when independent driving begins (Mayhew, Simpson, & Pak, 2003). Six states, including Iowa, have some type of restricted minor license or school permit allowing drivers under the age of 16 to operate a motor vehicle unsupervised. While these license types limit drivers to travel between school and school related activities, little is known about how these younger drivers compare to the traditional 16-year-old driver—or how this early experience might influence their driving later. Recent studies of 16- and 17-year-old drivers in rural and suburban settings have shown that event-triggered, video-based interventions may have the potential to improve driving safety among young drivers (Carney, McGehee, Lee, Reyes, & Raby, 2010; McGehee, Carney, Raby, Reyes, & Lee, 2007; McGehee, Raby, Carney, Lee, & Reyes, 2007). One limitation of these previous studies is that they did not include a true control group, and so could not evaluate the role maturation plays in developing drivers.

OBJECTIVE

This project examines the effects of age, experience, and video-based feedback on the rate and type of safety-relevant events captured on video event recorders in the vehicles of three groups of newly licensed young drivers:

1. 14.5- to 15.5-year-old drivers who hold a minor school license (see Appendix A for the provisions of the Iowa code governing minor school licenses)
2. 16-year-old drivers with an intermediate license who are driving unsupervised for the first time
3. 16-year-old drivers with an intermediate license who previously drove unsupervised for at least four months with a school license

METHODS

The young drivers' vehicles were equipped with an event-triggered video recording device for 24 weeks. Half of the participants received feedback regarding their driving, and the other half received no feedback at all and served as a control group. The number of safety-relevant events per 1,000 miles (i.e., "event rate") was analyzed for 90 participants who completed the study.

RESULTS

On average, the young drivers who received the video-based intervention had significantly lower event rates than those in the control group. This finding was true for all three groups. An effect of experience was seen for drivers in the control group; the 16-year-olds with driving experience had significantly lower event rates than the 16-year-olds without experience. When the intervention concluded, an increase in event rate was seen for the school license holders, but not for either group of 16-year-old drivers.

CONCLUSIONS

There is strong evidence that giving young drivers video-based feedback, regardless of their age or level of driving experience, is effective in reducing the rate of safety-relevant events relative to a control group who do not receive feedback. Specific comparisons with regard to age and experience indicated that the age of the driver did not have an effect on the rate of safety-events, while experience did. Young drivers with six months or more of additional experience behind the wheel had nearly half as many safety-relevant events as those without that experience.

Anticipated work next quarter:

Begin detailed analysis of driver distraction

Significant Results:

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Circumstance affecting project or budget. (Please describe any challenges encountered or anticipated that might affect the completion of the project within the time, scope and fiscal constraints set forth in the agreement, along with recommended solutions to those problems).

None

Potential Implementation:

GDL legislation that addresses extending the learner permit to one year. **WHICH WAS ACCOMPLISHED!!**