

The Chronicle of the American Driver and Traffic Safety Education Association

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The Problem With Statistics

Dr. Allen Robinson, CEO

Plans for both of our annual conferences are nearly finalized. In this issue you can read the program plans for the NSSP conference in Jackson, Mississippi and the ADTSEA program in Honolulu, Hawaii. The ADTSEA election results are also in this issue.



Allen Robinson

Congress is again considering legislation that will provide funding for the U.S. Department of Transportation and the National Highway Traffic Safety Administration. This legislation is essential for highway safety activities throughout the United States. H.R.3 Transportation Equity Act: A legacy for users provides guidance and money for improvements in highway safety. We are hopeful that Congress will enact this legislation quickly.

The National Transportation Safety Board continues to develop recommendations for driver education. This report will be released soon and Jennifer Bishop of NTSB will present these recommendations at the annual ADTSEA conference in Honolulu, Hawaii.

Most of you have read the series of articles in USA Today concerning teen traffic deaths. As we all know, this is a problem that requires many solutions. Unfortunately, the writers and contributors to these stories believe the quick fix is to change the licensing age to 17 or 18 years of age. It is obvious that if you don't drive, you will not be killed as a driver, but it doesn't change the high probability of dying as a passenger.

The problem with statistics and reporting of statistics is that writers mislead the reader. Highway
(Robbie continued on page 17)

I Wish You Enough

Elizabeth Weaver Shepard, President

In the last issue, our CEO, Dr. Allen Robinson, spoke of the Life Savers Conference in Charlotte, North Carolina scheduled for March 13-15, 2005.

I was delighted when I received an invitation to be a speaker during a session on teen drivers. A few days before I left for Charlotte, I called Allen and we talked about the Life Savers Conference and the teen driver session. He said: "we must show what driver education can accomplish and what



Elizabeth Weaver Shepard

driver education alone can't accomplish." He went on to say, "...we need to show the positive side." The more he spoke, the more I realized I had some rewriting to do on my speech. When it came to showing all the positives of driver education, I did not have enough in my presentation.

Life Savers organizes their sessions around five primary areas: 1) Adult Protection, 2) Child Passenger Safety, 3) Data and Research, 4) Impaired Driving, and 5) Law Enforcement. A 6th area is "Other Safety Priorities." Guess where teen drivers and driver education is? Yes, in the "Other" category. During the opening session, the speaker spoke about his teen daughter who was rapidly approaching driving age. He lamented about her readiness, and his concern, for about 5 minutes of his 15 minute speech. And in every session that day, and the next day, teen drivers was part of the presentation and/or discussion. I made it my goal during that conference to raise the consciousness of the participants that teen drivers is one of our nation's most tragic statistics, and we have not done enough together to create positive change. Driver education needs to be categorized in the primary areas, not in the "Other" category.

In the last issue, former ADTSEA President and Richard Kaywood Award recipient, Dr. Gary Bloomfield
(continued on page 17 under Beth)

Editor's Notes Where and when did this headline appear? "As cars sales grow in ___ driver's ed booms as well Injuries and deaths from traffic accidents rising, too" Was it 1955 or 2005 or somewhere in between these dates? Have you guessed the year yet because if you guessed the year as 1955 you would probably have filled in the blank with North America. If you had correctly guessed 2005 the blank is filled by China. The headline is from the February 21, 2005, Automotive News and was written by staff correspondent Alysha Webb writing from Beijing. Alysha's article went on to cite these facts: annual car sales rose 15.7% to 2.42 million new units in 2004, new drivers in China need 58 hours behind the wheel before they get a graduation certification, the World Health Organization estimates that 600 people are killed each day on China's roads, and traffic crashes are the leading cause of death for Chinese 15-45 years old.



What does the headline and facts have to do with us? They serve in stark contrast to one position in the debate concerning the need for a revival of driver education in North America. Some in the North America

A Rebuttal to Skeptics of Teen Driver Education

David C. Huff, Montana Office of Public Instruction

Why do some research professionals continue to hold positions that result in avoiding a serious overhaul of, and investment into, educating new drivers? Education-testing young drivers warrants as much attention and investment as crash-testing new vehicles! Exploring how to teach and motivate teen drivers will result in knowledge that is likely more valuable to society and traffic safety than exploring the crush of a new vehicle!

Researchers Allan Williams and Susan Ferguson of the Insurance Institute for Highway Safety (IIHS) have weighed in once again on their position regarding driver education. Although they title their article "Driver's Education Renaissance?", their comments reflect an old position that does not promote education; it promotes delaying and avoiding education. The premise of this position is kids who don't drive won't crash, and educating someone on how to do something will result in them doing it. Their commentary is posted at the Injury Prevention Online Web site. This article is a rebuttal to the position they put forward.

This author found no positive suggestions for improving driver education in the Williams and Ferguson commentary, yet research abounds on how people learn, and the body of knowledge on how it applies to driver education, although still largely ignored, continues to grow. Their specific, useful positive suggestions are limited to the agreed benefits of various elements of graduated driver experience models. But, because driver education results in kids driving, they also recommend that access to driver education be made less convenient by removing it from high schools.

Those who would define the

agenda on teen driver education should be able to offer something more positive than to make driver education less convenient to the general public. This suggestion leads this author to believe they are at a loss on how to improve driver education, or as to what role it can provide in improving the learning experiences of young drivers.

Their commentary continues their public message that scarce public dollars will be wasted if spent on driver education. They disclose that a good driver education program results in more skilled drivers, but the context and underlying message is "skilled drivers are not necessarily safe drivers." Even so, the article also conveys the fact that efforts over the past couple decades to convince the public that education measures are useless has failed, and with that admission the article appears to divulge a concern that efforts to keep public dollars from being invested into driver education are at risk.

The Williams and Ferguson article appears to be part of a strategy, perhaps well intended, to counter the ongoing struggle to adequately fund and improve driver education—a counter stimulated by renewed interest of the public and Congress in driver education. The struggle that exists between some researchers and those who directly work with teens is a challenging conundrum. Most parents and teachers believe education is important to help teens learn safe driving behaviors, but some of those who review literature and research at arms length from young, aspiring drivers believe teens should not be taught to do something that might result in their harm.

Would Williams or Ferguson consider delaying young minds from being taught the basics of the scientific method? Any teacher can

tell you that young minds will error in their methods, analysis and conclusions until they learn, through experience, to master the skill. Yet, society knows that young minds should be taught. Teachers, therefore, work patiently, over time, to establish a foundation of knowledge in the scientific method and provide expanding experience, helping students overcome errors and produce more accurate conclusions in more complex scientific inquiries. Society demands this be done because society understands the value of the educational process.

The facts cited by Williams and Ferguson overlook new emerging reports coming out of Washington and Oregon that indicate teens whose learning experience includes a standards-based, state-approved driver education program are safer drivers than those who do not take a state-approved driver education program. In addition, what is known by research is not the only useful body of knowledge relating to teen drivers. The writers report "86 percent" of the public "considered driver education courses 'very important' in training new drivers to drive safely." Those who are closer to the real world have ways of understanding things that frustrate the analytical and necessarily myopic world of research and empiricism. We must respect what is unscientifically "known" by the public. In fact, intuitive knowledge and hunches are an important seedbed of hypotheses that eventually become scientific knowledge.

Champions and guardians of empirical knowledge are invaluable contributors to public discussion and policy development. However, I learned years ago that while the advice of accountants and

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researches is very important, unless those analyzing the data understand the heartbeat of the business, their advice may not result in the hoped for outcome. Why is that? It is because the world of science is a discovery process and what has been empirically explored and documented represents only the tiniest piece of the universe of knowledge awaiting exploration. Despite our great and wonderful advances, what is unknown is far greater than what is known, and what is thought to be known is often, at best, only partially known.

It is not unusual for researchers to warn that a particular effort represents a focus for which there is no scientifically proven value, only to find through additional research that there is evidence of its value. Examples of this abound.

In the 1960s some members of the medical community warned there was no evidence of vitamins C and E's value as a preventative treatment for various ailments. Today, however, they are valued as an important part of a healthy diet, as anti-oxidants that fight free radicals and among other things, recognized as potentially beneficial in preventing cancer (<http://www.cancer.gov/newscenter/pressreleases/antioxidants>). A similar campaign by some scientists resisted alternate theories on the causes of ulcers. We now know that some forms of ulcers are caused by bacteria, are easily cured, and not just the symptoms of too much stomach acid (<http://www.cdc.gov/ulcer/>).

Delaying license may reduce crashes for the younger teens, but what does it do for the older teens who have yet to learn to drive, and how does that help rural states that insist on young teens being able to drive. At some point the would-be driver must learn to drive and begin the path of acquiring experience.

Society has invested too little effort and resources into improving methods of initial instruction. The public intuitively knows that education has to play a part as certainly as the staff at the IHS know that young minds must be taught the scientific method.

Perhaps the driver education agenda should be defined by experts in education, learning development and human behavior who have explored the nuances of the human mind and know the heartbeat of the education and training process. Perhaps it's time to expand the dialogue to folks who have suggestions other than Williams' and Ferguson's suggestion to avoid or delay the task, and who are willing to forge ahead and improve a driver education system that has yet to embrace present education and training knowledge and technologies. Perhaps experts at crashing cars and calculating the costs of crashes for insurance companies are not the experts that can best advance solutions to the driver education challenges.

The bottom line is that experience without skilled and knowledgeable instruction will lead to reinforcement and establishment of poor and illegal driving behaviors and habits. Society can't expect the teen driver to drive safely if they do not know how. A quality driver education and training experience is the foundation for safe driving behavior. That foundation needs to be true and sound so that subsequent safe-driver initiatives can build upon that foundation of knowledge and skill, including public policies that encourage improved driving norms for all drivers.

In the words of Russell W. Davenport, "Progress in every age results only from the fact that there are some men and women who refuse to believe that what they know to be right cannot be done."

For more on the suggestions of this author (David Huff) and other experts who believe something positive can be done, visit the Driver Education Forum sponsored by the National Transportation Safety Board at

www.nhtsa.gov/Events/symp_driver_ed/symp_driver_ed.htm.

Endnotes

David C. Huff is the director of traffic education for the state of Montana. He has a master of science in education--learning development with an emphasis on traffic education.

<http://ip.bmjournals.com/cgi/content/full/10/1/4>; March, 2005

One such resource: National Research Council. (2000). How people learn: Brain, mind, experience, and school. Washington, D.C.: National Academy Press.

The National Institute for Driver Behavior is one organization that applies brain-based research on how teens learn driver education curriculum and technologies. www.NIDB.org.

Williams A.F. (Dec. 2004) Are driver education courses for teenagers effective? CQ Researcher. www.thecqresearcher.com. Also posted at <http://adtsea.iup.edu/adtsea/>

National Highway Traffic Safety Administration research report on Oregon at 2005 Lifesavers Conference, and research reports on Washington driver education programs delivered at 2003 and 2004 American Driver and Traffic Safety Education annual conference by Nickolas Lovrich and Steve Ellwanger, Washington State University.

This author recognizes that even the best driver education efforts will have less positive long-term benefit than desired if the driving norms of society are poorer than the desired behaviors taught to the new driver.

The teens will soon drive like the parents and neighbors who

(more on page 6)



Driver Education, a 50 Year Retrospective

Don L. Smith, Ph.D. Professor Emeriti Michigan State University

Adapted from a speech given to the Michigan Driver & Traffic Safety Education Association on May 7th, 2004.

A good hard look at traditional driver education does not indicate it to be effective as a traffic safety measure. Historically, the first high school driver education course was developed by Professor Amos Neyhart of Penn State University and offered at State College, PA high school in 1933. During the late 1930s Leslie Silvernale, later founder and professor of the Michigan State University Highway Traffic Safety Center, coordinated the Cleveland Public Schools driver education program. The course was offered in conjunction with physical education, with 30 hours of classroom and 6 hours driving.

The first National Conference on Driver Education was held in 1949 at Jackson's Mill, WV. Neyhart and Silvernale recognized the need for standards; Silvernale suggested "30&6." (Both stated later the worse thing they ever did: both advocated a two-course driver education program with considerable driving experience between the courses.) The second National Conference was held in 1953 at Michigan State University (MSU) and "30&6" was set in "stone."

Early research on the effectiveness of driver education was well intended but poorly designed. The American Automobile Association (AAA) reported that driver education graduates had 50% fewer accidents than non-driver education drivers. The National Commission for Safety Education (founder of the American Driver and Traffic Safety Education Association) in the early 1950s reported similar results. Michigan, in a special legislative summer session, held in 1955, created a driver education law requiring "30 and 6" for all driver license applicants under the age of 18. The National Highway Traffic

Safety Administration (NHTSA), reflecting widespread support for and belief in the safety benefits of driver education, included it as one of NHTSA's original 16 standards.

A few years later researchers reported different results on the effectiveness of driver education as an accident counter-measure than the early poorly designed studies reported. At the University of Colorado, Conger found no difference in accident rates between driver education graduates and non-driver education drivers. The Insurance Institute of Highway Safety (IIHS) Connecticut Study found driver education graduates had more accidents than non-driver education graduates. Professor David Klein of MSU found a direct correlation with MSU males' driving records and their fathers' records; however there was no correlation with formal driver education. The NHTSA Safe Performance Curriculum (SPC) study conducted in the DeKalb County, GA schools, indicated no difference between SPC graduates and a group of high school aged drivers that received a 4-hour pre-licensing program.

All studies do agree that driver education is successful in preparing beginning drivers for respective state licensing requirements. Over the years many efforts have been made to improve driver education. Developments in curriculum and textbook revisions have been created by some very qualified groups and individuals. Technology has been incorporated, i.e. simulation, ranges, computer and various integrative techniques. Advanced driver education has included evasive techniques, skid control, etc. Teacher preparation has improved, from 2 academic credits up to a minor, M.A. and Ph.D.

degrees in traffic safety education.

ADTSEA has developed an excellent credentialing program for driver education instructors. However, results in reducing accidents, injuries and fatalities have not seen an appreciable improvement. Rather than criticizing the research we should look at what may be "wrong" with driver education and not the research.

In too many states, including Michigan, driver education is still primarily limited to preparing for the driving test. As presently offered, it does not allow for emotional maturity, a factor we know is a problem with teen-age drivers. Most programs do not allow for sufficient real-world driving experiences over a sufficient period of time.

Dr. Jack Weaver, former director of the SPC program in GA has stated the SPC, a great program, was still like "trying to put a gallon of milk into a quart jar..." SPC was giving too much in too short of time, not allowing for experience and maturity. The late Senator Patrick Monaghan, while the first U.S. Secretary of Education stated

"...driver education is important; it's ineffectiveness as an accident preventive measure in the manner in which it is presented..." The problem with driver education basically is one of FORMAT, not of content or methodology. Amos Neyhart maintained driver education should be two separate courses. Les Silvernale suggested driver education should be taught only to those who already "know how to drive." The 1994 NHTSA Report to Congress concerning young novice drivers proposed that driver education should complement a Graduated Driver License (GDL) program with two driver education courses and a minimum of one year

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perpetuate the norms. Solutions must also be pursued for improving the norms of all drivers. See the author's recommendations at the National Transportation Safety Board Web site listed in the closing paragraph above, and comments by: Evans, L (2004) Traffic Safety, Chapters 13 and 16. <http://scienceservingsociety.com>

http://www.zaadz.com/quotes/authors/russell_w_davenport/

Excerpts from Driver education renaissance?

A F Williams, S A Ferguson

Why we need evidence based highway safety policy COMMENTARY appearing in "Injury Prevention" the full commentary can be found at www.injuryprevention.com

Despite decades of research indicating driver education does not reduce crash involvement among beginning drivers, it still has tremendous popular appeal as a means to improve driver safety. Formal driver education programs enjoy widespread public acceptance around the world as the preferred way to prepare beginners for licensure. For example, a survey in the United States found that 86% considered driver education courses "very important" in training new drivers to drive safely. Only 2% thought it was not important. When the young driver problem is addressed in public forums, there inevitably is an appeal for more or better driver education.

WHY DRIVER EDUCATION DOES NOT PRODUCE SAFER DRIVERS

There is little reason to think driver education should produce drivers less likely to crash. The courses generally are of short duration (for example, 30 hours in-

class and six hours in-vehicle); in the available time, it is possible to teach only basic driving skills. There is less opportunity to teach safe driving techniques, and any safety messages that are conveyed can be overwhelmed by ongoing parental, peer, personal, and other social influences that shape driving styles and crash involvement. ...The audience for driver education courses also may be relatively unmotivated by safety concerns. In surveys, most teenagers say they want to get licensed as soon as possible, and the goal of many driver education students is likely to center on learning enough skills to pass the driving test.

DRIVER EDUCATION AND SKILLS ACQUISITION

What, then, is pre-license driver education able to contribute? In a 1977 article, Pat Waller discussed the unrealistic expectations of a high school driver education teacher, compared with the way teachers of other subjects are judged. She asked the question, "Should the driver education teacher be responsible only for whether the student can drive adequately or whether he actually does drive in this manner?" and went on to note the many outside factors that influence subsequent driving performance. It seems apparent that driver education should be considered as one method for teaching young beginners how to drive adequately, that is, it is a way to learn basic driving skills. Is it the best method? Driver education courses vary, so there is no blanket answer.

However, one would expect professional instruction to be superior to lay instruction for teaching skills, and there is some evidence that good programs accomplish this. For example, the Safe Performance Curriculum

group in the landmark DeKalb County study received what was considered at the time to be state of the art driver education, and this group scored higher on the Southern California on-road performance test than those in a control group or minimum training group.

DRIVER EDUCATION AND EARLY LICENSURE

It would be more defensible if driver education were promoted as the best way to learn driving skills rather than as a way to produce safer drivers. However, driver education is not benign. When available at early ages, it is associated with earlier licensure, which leads to additional crashes and injuries.

Another Perspective on Driver education renaissance?

Bob Green

www.survivethedrive.org

Every human endeavour is benefitted by some type of concentrated, focused learning that when stimulated and guided in an orderly manner, affirms improvement with more predictable achievement, . . . except . . . that those improvements and benefits are denied to the educational process of driving!!!... I still don't get it.

If a little better program gave a little better results for a little while (as in DeKalb), then the program needs to be further improved, rather than being judged (as also, many consider "accident prone" teenagers) as ineffective (or, as in this article, judged to be more dangerous). The Academics that wrote this paper (I'm sure) picked the research that reaffirmed their prejudices. And I know I'm now talking to two Ph.D.'s!

Repetition and recency of tasks, . . . well you know, neural pathways and all. If a driver might become more crash prone as a result of more ranted on a bit again but if you've read this,

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SUGGESTED STANDARDS FOR THE IMPROVEMENT OF DRIVER EDUCATION

Warren P. Quensel Assistant Professor Emeriti Illinois State University

The primary purpose of driver education is to give beginning drivers an adequate foundation for becoming competent and responsible users for the Highway Transportation System (HTS). Such a foundation of the required knowledge and skills should be designed to help new drivers continue to improve with experience.

Based on the non-fatal collision reports of the last twenty years, there has been little if any progress in the preparation of teenage drivers. The potential of driver education has never been fully realized because of inadequate time standards, teacher training programs, administrative policies, and program financing.

Adequate Program Standards

The minimum time standards of thirty hours classroom and six hours BTW instruction were set in 1949 at a national conference held in West Virginia. The leaders present also recommended that students receive two hours of supervised practice in the family automobile for each hour of BTW instruction in the school training automobile. During the late fifties, research was conducted for the development of time standards for those laboratory programs that included simulators and/or multiple-car ranges. It is unfortunate that the criterion used was the ability of the students to pass the state road tests. So, these very old standards were inadequate when established, and they are certainly inadequate now.

Research projects now need to be conducted that will determine adequate minimum time standards for all types of courses. Such projects should measure how much time students need to achieve those objectives that have been derived from driver task analysis studies. The amount of properly structured back seat observation time needs to

be included.

This is because students do not need to be BTW to practice perceptual skills and the analysis of situations for indicating the proper responses. Until research is completed, there should be forty hours of classroom instruction, nine hours of BTW instruction, and twenty hours of back-seat observation. For programs with simulators or multiple-car ranges, a minimum of five hours of instruction should be BTW on street. The minimum time standards time .

Teacher Preparation

Over the years, most driver education teacher preparation programs consisted of only one or two courses. Many of these were of the two or three week workshop type offered only during the summer months. When courses were offered as part of a college department, the instructors usually had little preparation or experience in the traffic safety field. Financial support provided was in the form of scholarships to the students rather than for university staff or instructional materials. There were few texts except those used for the high school courses.

To have better prepared teachers, there is a need to establish comprehensive traffic safety programs in a number of universities across the country. A broad based program should be developed and maintained for teachers, loss prevention specialists, supervisors, staff members for motor vehicle departments, and drivers of various vehicle types. Workshops and non-credit courses need to be available. Graduate programs should be conducted along with research in cooperation with state agencies. Funds from private as well as public sources should be solicited to help

support these programs. There is a need for the outside support of one full-time faculty position and a few research projects. Some of the funds that are being spent currently on projects with little payoff could be redirected to such universities.

The most effective programs of instruction need to be organized and scheduled in accordance with the accepted principles of learning rather than administrative expediency. The length of practice periods and the span of time over which the course is scheduled are important factors to consider. Studies show that shorter and more frequent lessons provided over an adequate period of time are more effective than a few lengthy lessons given over a shorter span of time. It is known too that properly spaced recalls are best for the acquisition and retention of information.

Lengthy laboratory practice periods often use up much nervous energy which can be very exhausting for beginners. Both the classroom and laboratory instruction must be conducted for a minimum of eight weeks during the regular school year. This includes courses taught before and after regular school hours and on Saturdays. During the summer months, the minimum span of time may be only four weeks. The length of class periods should be comparable with other subject areas. In no case may the instruction period be greater than ninety minutes. The time for each individual practices BTW may not exceed thirty minutes per lesson.

Relevant /Measurable Curriculum

In 1957, Leon Brody of the NYU Safety Center published a report on the "Teaching of Perceptual Skills. II" Two years later, Fletcher Platt of the Ford Motor Company published the OPERATIONAL ANALYSIS OF
(continued on next page)

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TRAFFIC SAFETY. This included a theoretical model of driving. From then on, most of the traffic safety research and program developments were based on a study of driving rather than on an analysis of traffic accidents for their causes.

During the sixties, a more important study for driver education was conducted by C.E. Schlesinger and M.A. Safren. They developed a comprehensive driving task model which specified the major driver tasks, the critical skills to perform these tasks, and some objective ways of measuring these skills. Their research became the basis for the so-called IPDE process.

During the eighties, many states upgraded their state curriculum guides based on the two decades of driver task analysis studies. So, there are now curriculum guides that will provide for more effective driver education programs.

Parent Involvement in Driver Education

Driver education must be considered a shared responsibility of the school, home, and community. Reaching out to parents and the community will make the work of the schools easier and more effective. It will provide for a better understanding and support for driver education. Best of all, young people will receive improved learning opportunities and a variety of experiences.

Parents or relatives can help the most during the course by providing extensive practice in car control skills and the basic maneuvers. Then, they can help with the perception and proper responses to problem situations.

Teachers will need to provide parents with a laboratory handbook if such practice is to be effective. Parents can be asked to supervise such activities as making use of the car owner's manual, making checks

under the hood and around the car, and calculating the gas mileage. After the course, parents should be encouraged to help with night driving, parking, passing on two-lane highways, and sustained driving on rural highways.

Evaluation and Research

It is difficult to evaluate the effectiveness of driver education when there is little if any objective data being collected at the local or state levels. The problem with state and national statistics is that there is no way to determine what program or combination of programs account for any increases or decreases in collisions. Was the change due to the improved engineering, enforcement, education, or emergency medical service programs?

At the local level, an ongoing evaluation plan should be conducted to measure student achievement of program objectives and program effectiveness for reducing collisions. Student achievement assessments should include a comprehensive on-road situations test that has been validated. The school program effectiveness is evaluated by surveying and assessing the driving records of all licensed senior students. Actually, the best source of information on driving experiences are the drivers.

A Driver Experience Survey form has been developed and utilized successfully in a number of high schools. The form contains questions related to training, licensing, suggestions for course improvement, and driving experiences as a licensed driver. It is best administered two or three weeks before the end of the school year. A sample questionnaire is available from the author.

Local Administration and Supervision

There is no doubt that good educational administration and supervision is of greater importance to the effectiveness of driver

education than to most other courses in the secondary curriculum. This is because the nature and scope of a comprehensive driver and traffic safety education program requires a greater variety of administrative responsibilities and decisions.

Not only are all youth, including those in special education and out-of-school, to be assured of the opportunity to participate in the program, but they need to be enrolled in accordance with certain age requirements. There are so many variables involved, that unless purposely avoided, scheduling and organization of the total program might easily be based on expediency rather than carefully planned policies and sound educational principles. Other administrative responsibilities involve the selection of special equipment and facilities, financing, special records and reports, community support, and the establishment of working relationships with other local and state agencies who have traffic safety responsibilities. Certainly the responsibility to provide driver and traffic safety education presents a challenge to the conscientious administrator.

The local school administrator should identify one qualified person on the staff to supervise and assist in the administration of the driver and traffic safety education program. Appropriate authority and time should be given to the person designated to enable him to act effectively on matters for which he is given responsibility. The person designated should be charged with the following duties:

1. Assisting in the formulation of general policies and practices for driver and traffic safety education based on legal responsibilities and conditioned by local student needs.
2. Program supervision and improvement of instruction."
3. Selection and evaluation of

(Continued on page 14)

Teen Driver Electronic Report Card

Westat DRAFT Report January 21, 2004

1.0 Workshop Problem and Objectives

The focus of this workshop was to explore ways to reduce teenage driver fatalities and injuries by using vehicle-based technologies to detect and report unsafe driving behaviors. In various implementations, these systems could be used by parents and their teenage children, by driver education programs, by DMVs, law enforcement agencies, or by the court system. For the purposes of this workshop, the term, "Teen Driver Electronic Report Card" (TDERC) was used to describe such monitoring systems. A brief introduction to the concept was given in the workshop announcement:

Traffic crashes continue to be the number one killer of teenagers. Traditional traffic safety initiatives (e.g., licensing, enforcement, and education) have improved safety, but achieving even greater reductions in fatalities and injuries may require innovative new approaches to further increase safe driving practices among teens. One promising approach is to use advanced, vehicle-based technologies that can operate in real time to sense, record, present or transmit information on unsafe driving behaviors. These technologies can be integrated into a safety device that functions as a "Teenage Driver Electronic Report Card" (TDERC) on safe behaviors. This electronic report card would function as a learning tool and motivator to help teens identify and improve their unsafe actions. To implement an acceptable and effective TDERC, a systematic research program is needed. The research needed to develop, implement, and evaluate a TDERC will be the focus of this workshop.

The objective of the workshop was to identify the viewpoints of stakeholders and researchers about:

• The degree to which the teen crash

problem can be addressed by a TDERC.

- Technical feasibility of a TDERC.
- Deployment of TDERC in the real world, including the role of private sector and public institutions.
- Factors influencing effectiveness, acceptance, and feasibility of TDERC programs.
- Research needs and methods.

The workshop was organized by Michael Perel (National Highway Traffic Safety Administration).

2.0 Workshop Structure

Participants were invited to attend the workshop based on their expertise, interest, and previous work in areas related to teenage driver safety. Among the participants were experts on teen behavior, vehicle technologies, law enforcement, insurance programs, driver education, crash statistics, and research methods. A goal was to bring together experts from several different disciplines who could contribute to the discussion of TDERC from different perspectives.

3.0 Summary of Presentations and Discussions

This section summarizes the presentations and comments made by workshop participants during the meeting. Michael Perel (NHTSA) moderated the discussion. The comments reported here are not direct quotations from individual participants. They have been reproduced from notes taken during the meeting and from accounts of workshop participants. Many of the descriptions below are simply summaries of the main discussion points. There has been no attempt to identify the speaker of any individual comment, and the comments reported do not necessarily reflect a consensus opinion.

3.1 Teen Driver Crash Problem

Dr. James McKnight (Transportation Research Associates) presented data from a retrospective study of errors made by teen drivers involved in crashes. One-third of the 2100 crashes in the study sample resulted in injury or death (0.5% fatalities), while the remaining crashes resulted in property damage only (PDO). Dr. McKnight observed that the proportion of fatal crashes is small compared to all teen crashes, that fatal crashes are primarily speed related, and that these crashes may involve the so-called "reckless" teens, who may be difficult to reach with any type of intervention. He recommended that the focus of study for a TDERC program should be on the injury-causing and PDO crashes, because if we do this, all teens may benefit from the program. A theme which emerged from the presentation was that crashes involving teen drivers, especially in the first 1000 miles of driving, are primarily due to errors related to inexperience with driving, rather than to age-related factors; the primary evidence being that there is a two-thirds reduction in the crash rate for teens after the first 1000 miles of driving. Dr. McKnight concluded that teen driver crashes are caused by mistakes, which are often due to inexperience, and that teens often don't recognize the danger of the driving situation. He indicated that an important question is how to prepare teens to recognize driving hazards in the environment. In the discussion which followed, some participants cautioned that we shouldn't put too much emphasis on inexperience as the most important factor in teen crashes. Most participants agreed with the statement that in the U.S., age-related factors and inexperience

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contribute equally to the high crash rate for teen drivers.

Dr. Tom Dingus (VTTI) presented data, including video clips, from the 100-Car study of instrumented vehicles, conducted by Virginia Tech Transportation Institute. This study shows the feasibility of recording many parameters of vehicle dynamics and vehicle control, position of the vehicle in relation to the roadway, and in relation to other vehicles. Five on-board video cameras capture the driver's glance directions and behavior as well as external events occurring in front of, and around the vehicle. Together these systems provide a record of normal driving and allow deviations from normal driving to be identified from sensors, for example, from events of high lateral or longitudinal acceleration. Although no drivers under the age of 18 were included in this study, Dr. Dingus pointed out that the youngest age group (18-20 years old) of drivers ($n = 16$) had higher numbers of abnormal events as compared to older drivers, and that many episodes of distracted driving (attending to other tasks besides driving) were observed in this group. Dr. Dingus was optimistic that the capability to monitor just about any driving behavior would be possible to develop. In the discussion which followed, it was suggested that obtaining naturalistic driving data for young teens may provide answers about what parameters to measure and when to monitor teen driving behavior. There was some discussion about the naturalness of the behaviors observed in the 100-Car study, because the drivers knew that they were being recorded. Dr. Dingus responded that the drivers in the study seemed to habituate to the devices on the vehicle very quickly, and that he was convinced that the behaviors recorded were quite natural. A question was raised

as to the effectiveness of monitoring devices in a TDERC system, in reducing risky behavior, if drivers habituate to the devices, as in the 100-Car study. It was pointed out that a key difference with proposed TDERC concepts is that there would be feedback to the driver (and drivers' parents or others).

Discussion on Teen Driver Safety

Discussion on teen driver safety included an attempt to define more clearly which population of drivers is to be targeted by a TDERC program, and which types of crashes are to be targeted. Young (16-17 years old), novice drivers were defined as the target group. There were some differences of opinion about whether to focus on fatal crashes. The following points were made: one person thought that the system should focus on crashes in general, and could reduce fatal crashes too. Another participant thought that the "hard-core offenders" are harder to address, and that these may be addressed by later versions of a TDERC system. One person stated that finding ways to reduce PDO crashes is not important unless it is predictive of more serious crashes. Some participants felt that fatal and non-fatal crashes have the same root causes, but that the different outcomes are due to the circumstances. For example, a run-off-the-road event may be fatal if a tree happens to be in the vehicle's path. In later discussions, it was stated that we should distinguish between the behavioral problems associated with crashes in the first 1000 miles from those occurring later. The belief expressed was that the important issues in the first 1000 miles are not aggressive driving, lack of seat belt use, or lack of cognitive ability.

The following question was addressed to all participants, "What is unique about teen crashes?" One view was summarized by saying that teen drivers are the same as adult

drivers, but with a lack of experience. Another participant pointed out that early naturalistic driving data suggest that distraction is a key factor for young drivers, who, as a group seem more willing than older drivers to engage in secondary tasks while driving. One participant summarized the primary contributing factors to fatal crashes for teens as: excessive speed, inattention, driving on the wrong side of the road, failure to yield, and running off the road (and subsequent over-corrections in steering). A discussion of countermeasures for running off the road included the observation that insight is needed into what behaviors lead to running off the road.

The discussion focused on the question of teen behavior, with the goal of modifying undesirable behaviors. Several generalizations about teen behavior were mentioned, with the caveat that not all teens show all of these characteristics:

- Teens tend to be egocentric "performers" who adjust their behavior to the audience present. This may explain why having teen passengers contributes to the crash risk. The discussion moved to the effectiveness of the TDERC and whether teens' behaviors would be modified by having a monitoring system present. Several participants gave examples or commented on the importance of the link between monitoring and feedback. For example, monitoring of location and speed in police patrol cars reduced crashes for a period of time, but when it was determined that this information would not be used for disciplinary action, the crash rate increased again. Another example addressed the concern that teens may forget that the monitoring technology is in the vehicle and fail to be influenced by it. Although teens may initially try to act properly when a driving instructor is present, they

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quickly revert to bad driving habits which are easily detected by an instructor.

- Teens have a peer-orientation. They are sensitive to being evaluated by friends and family. They may take risks to show off.
- Teens tend to be motivated by sensation seeking. They enjoy the feeling of going fast, and enjoy taking risks, even without an audience present.
- Teens perceive less risk than do adults in the same situation. Teens do not always appreciate the potential danger of driving situations, and may be in more crashes because they didn't take risks seriously.
- Teens have an optimistic bias concerning their driving abilities. They think that they are skillful drivers. In fact, teens do have fast reaction times, detect other vehicles faster, and judge speed more accurately than older people. However, while vehicle handling skills are built quickly, perceptual skills in driving may not be developed without a lot of experience. An example was given to support the view that greater skill can sometimes be an indicator of a higher crash rate. Amateur race drivers have a higher crash rate than the general population.
- Teens have a need for independence. They have growing capabilities for autonomy and self-sufficiency. They value cars because no one can monitor them. They may have a different life, of which parents are not aware, that is centered on their vehicle.

Attitude and maturity, which are contributors to the teen crash problem, may be difficult to measure, difficult to correct with technology, and may determine whether a TDERC system would be accepted. On the other hand, if a TDERC system is very effective in reducing risky driving behaviors, then the

driver's attitude may be less relevant.

The concept of "driving intensity" – the overall style of driving, was discussed. Naturalistic data show that some drivers always accelerate, brake, and corner harder than other drivers. Also, different vehicles will have different characteristics (weight, handling, etc.), and the TDERC system would need to take these differences into account. There may be a need to define either individual or group norms for certain driving parameters as well as defining unacceptable levels of deviation from these norms.

3.2 Measures and Technical Feasibility

Dr. Max Donath's (University of Minnesota) presentation on technological options for implementing the TDERC concept focused on how technology could be used in three different ways by:

- Forcing behavior – vehicle operation requires specific desirable behaviors to occur (wearing seatbelt), or prevents undesirable behavior (speeding).
- Providing driver feedback – real time warnings to alert the driver about poor driving and other potential risks.
- Reporting behavior – various measures (including video) of vehicle dynamics, and location can be saved for inspection by parents or other authorities.

Dr. Donath discussed lack of seatbelt use, alcohol use, excessive speed as three areas where drivers' risky behaviors could be controlled with technologies such as interlocks and Intelligent Speed Adaptation (ISA) systems.

Several technological issues were identified for existing, near-term and future systems. For example, driver feedback about speed should be context sensitive, but there is no database of local speed limits currently available. Future systems with context sensitivity eventually could be extended to include

weather, roadway conditions, and traffic conditions, and predictions of road curvature.

Headway monitoring requires extensive use of RADAR or LIDAR technologies, which are currently being used in adaptive cruise control systems. Lane position monitoring may be achieved with image processing or a combination of sophisticated GPS technologies and a database of digitized roadways, although these technologies may be too costly in the near-term to be used for a dedicated system to monitor teen drivers.

Some human factors issues were identified in the area of speed control. ISA systems, which restrict speed, may have unintended behavioral consequences. Some data suggest that drivers whose speed is regulated by an ISA system may try to compensate for "lost time" by accepting shorter gaps in cross traffic flow, and by maintaining closer following distances. Another potential problem is complacency, and over-reliance on the system. Drivers who use ISA systems with mandatory fixed limits on speed, may tend to drive near that fixed limit even when conditions dictate a lower speed to be safe.

Dr. Donath reviewed the capabilities and limitations of several driver monitoring devices that are currently available to consumers. Some of these devices are passive devices which read data from the OBD-II port (available on many vehicles manufactured after 1996). Some provide auditory feedback to the driver, and others provide real-time notification of parents through a cellular telephone call. The communication capability of cell phone networks was mentioned as a possible solution for wireless access to vehicles. Another system reviewed stores video clips from forward facing and rearward facing cameras for a short period of time immediately preceding and

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immediately following any event in which sensors detect excessive lateral or longitudinal acceleration of the vehicle. The systems reviewed had significant limitations, including inability to identify the driver of the vehicle or number of passengers, lack of clear user interface, difficulty for parents to review data from the device or understand reports, inability to modify speed thresholds based on local speed limits, prevailing traffic conditions, weather, pavement conditions, or local roadway geometry. None of the systems reviewed included any forcing functions.

Research needs and other issues identified in the discussion surrounding this presentation are incorporated into the sections below.

3.3 Deployment Issues and Options

- Marketing needs may dictate whether the focus of a TDERC program is on fatal crashes vs. less severe crashes. Getting people to purchase and use the technology may require additional features, such as theft deterrence.

- The driver interface cannot increase distraction and needs to have a perfectly clear message.

- When developing hardware, it is important to keep in mind that mass-production reduces prices, so it may be possible to make a more advanced device earlier and with less cost.

- Would insurance incentives be adequate to mitigate the potential extra liability/exposure to parents that may come with having documented evidence of their teen's bad driving behavior?

- An important issue regarding implementation is determining who is in the vehicle. Teen drivers may not have their own vehicle, but may use other family vehicles. "Smart Key" technology could be used to restrict monitoring to certain drivers (key holders). Detecting the number of passengers is also of interest, but

video cameras may be perceived as being too intrusive, creating privacy concerns.

- An implementation concept involving "Smart Key" technology is to marry intelligent key data storage capability with parent/teen driving contracts or graduated licensing programs. Teen drivers could be required to demonstrate a certain number of hours/miles of safe driving behavior, which would be linked to the teen driver's Smart Key.

- Would TDERC systems be implemented as an OEM device or sold as an aftermarket product? Without standards, aftermarket product developers may face difficulties accessing vehicle data.

- What features of any proposed TDERC system would be unique for teens? How would other advanced vehicle systems such as adaptive cruise control and collision warning systems interact with a teen driver system?

- How will local data be put into the system (e.g. statutory speed limit guidelines based on road type for each state)? These will be limited, and often won't correspond to local posted speed limits.

New name needed for system to monitor teenage drivers

One participant strongly recommended that a new name for the TDERC concept should be developed because teen drivers would not like the name, "Teen Driver Electronic Report Card." This is because report cards generally have very negative connotations for teenage students, and because people who are in their mid to late teen years may prefer to think of themselves as young adults rather than teens. For them, the word "teen" may have negative associations based on the large number of "teen" products which are marketed to younger teenagers. The following names were suggested by participants:

- "Young Adult Safety Promotion

System"

- "Teen and Young Adult Safety System"
- "Electronic Driver Improvement Module"

Other considerations for finding a suitable name were discussed:

- Five to ten possible names should be developed and then tested in focus groups.

- Need to consider naming from a marketing perspective to teens and parents, but the name should also make sense in terms of NHTSA program objectives. Perhaps two names could be used; one for marketing purposes, and one for the program overall.

- How the system is going to be implemented should be factored into the name. Specifically, what will be the roles of states and GDL programs?

- Acceptance of the concepts should be formally evaluated, then this can guide the name.

- Teen organizations such as Students Against Drunk Driving (SADD) and other groups may be solicited for advice about names.

Program Implementation Models

- Legislation would be required for any system to be implemented as part of a GDL program, but obtaining legislature buy-in may be very difficult.

- One legal requirement for implementing any sanctions is to prove that the suspected violator was the person behind the wheel when the violation occurred. A technical solution to this problem may be to use a smart key, plus a driver camera. This solution would increase costs (hardware, data storage capacity, etc.).

Court-ordered TDERC: Discussion focused on implementing a court-ordered TDERC program for those teens who have already been cited for a violation.

- This has the potential to be a great intervention; however, the lack of standard laws, especially GDL laws,

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makes developing a program difficult because each state would have to customize the program.

- Currently, GDL violators have an incentive to plead not guilty because they are typically scheduled to be out of the GDL system by the time of their trial.
- People tend to have crashes before they have been cited for violations.
- Due to the current structure and high workload in traffic court, buy-in from judges may be difficult. Many judges are now already reluctant to give points, or other sanctions because evidence must be taken, and this takes too much time in court. In one jurisdiction, after multiple teen fatalities, police had to increase ticket writing for judges to take the problem more seriously.
- Can TDERC technology be developed to stand up in court as evidence? Judges are never the first to make decisions, but if using the technology starts voluntarily, perhaps with the help of insurance incentives for motivation, judges will be more accepting of it overall.

Department of Motor Vehicles model: In another proposed program model, DMVs would administer a TDERC program themselves, outside of the court system. For example, many DMVs currently have authority to extend GDL requirements, but usually not past age 18. Some states may be able to impose restrictions past age 18. Any additional authority and responsibility for DMVs would require legislation.

- If TDERC technology were implemented as part of DMV oversight, a mileage requirement could be instituted as the basis for advancement through the GDL license stages (mileage would be recorded objectively by an in-vehicle system). Teens would have to sign off on the mileage (driving data) to verify that they were the driver. Forcing teens to prove that they have

the required experience may keep them in the GDL program longer. One participant noted that anything which increases the length of time that a new driver is under GDL restrictions will have a safety benefit.

- Assuming that teen driving data are damaging, parents' knowledge of it would put them at greater liability risk. Parents may need incentives in order to accept this greater legal risk. Insurance companies would also face liability issues if they had access to individual driver's data. There may be legal questions for DMVs having monitoring data as well.

- DMVs may not like the ideas being discussed here. Current GDLs are simply a license restriction, not a monitoring program. Adding the TDERC program would require many more person-hours at the DMV, which will increase their costs. DMVs would need additional funding from the program to get their acceptance. Also, under the proposed model, DMVs would be responsible for putting extra restrictions on teens and this may degrade the DMV image. This is another possible reason why DMVs may be reluctant to take on the TDERC program.

- One suggestion to limit liability issues for DMVs would be to have a contract with the parent, saying that they will review the monitoring data with their young driver, (but not send it to the DMV). The parents' accountability may be enough to deter bad driving behaviors.

Funding of TDERC program: The costs of operating a TDERC program (either DMV-based or court-based) could be violator-funded by those (e.g., speeders, DWI) who must pay fines. These fines could have an add-on fee imposed that would fund the TDERC program.

- Some jurisdictions already have so many add-on fees to traffic tickets that police officers are hesitant to write citations for minor violations. Some states take out a percentage

of fines to fund certain programs rather than listing add-ons, in this way the offender doesn't know where the money is going.

Driver education programs: The use of TDERC systems in driver education programs was discussed.

- Driver education professionals believe that young driver monitoring would be effective; however, parents generally do not want to spend more money in the licensing process of their teens, especially if they are already paying for professional driving instruction.

- Driver education instructors would benefit greatly from a print out with actual driving data for trips taken when the teen is not in class.

Insurance incentives: Insurance industry involvement in TDERC implementation was discussed.

- Insurance companies now give discounts for teen drivers from existing covered families who are already good risks. A motivation for insurance companies is to attract better (good risk) drivers. Perhaps those who choose to use TDERC systems would be better risk drivers.
- Insurance companies would not want to receive actual driving data, as this would cause legal liability problems for them if they were aware of an individual's risky driving behavior.

- Insurance companies would need actuarial data. They would need data collected over time to determine if the costs saved by using TDERC systems would justify additional discounts. Definitive data may take 10 years to acquire.

- The insurance industry would be interested in research from TDERC studies which show how to predict who is a risky driver, and may then use that information as a filter for potential customers.

- The insurance industry would like to know whether reducing risky behaviors reduces crashes. Perhaps government and industry could work

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together to provide the research required to answer this question.

DWI offenders used for system evaluation: A novel approach for developing and testing the implementation of TDERC systems was suggested. DWI offenders could be required to (or choose to as an alternative to losing their driver's license) use driver behavior monitoring equipment. Although DWI drivers may have different driving behaviors than teen drivers, the following benefits of this model were discussed:

- As a first step for TDERC, this might be relatively easy to implement because feedback to DMVs would work the same way as the current monitoring of alcohol interlock devices.
- This would be a way to get public exposure and acceptance of the technology
- It provides a test of whether DMVs can assume the new tasks that would be involved with such a system.
- It provides an opportunity to do a large scale field test, and work out any technological problems.

Although this model might be effective for working through various deployment issues with driver monitoring systems, some workshop participants questioned the logic of using DWI drivers as surrogates for novice drivers. For example, the driving behaviors, acceptance level, and nature of the feedback provided might be very different for these groups.

High School implementation model: The idea of using TDERC systems for high school students who drive to school was discussed. This model could be used initially for system evaluation purposes. High schools may make the device a prerequisite for parking in the student parking lot.

- The needs for this model would include a cooperative school district

and high schools that have limited student parking. Schools will differ in the amount of student parking available, but in some schools, the parking benefit could be the motivation for students to participate.

- A possible motivation for school districts is to get kids with licenses out of school buses in order to reduce overcrowding on buses or reduce the number of buses needed. The approach described above may work against this goal, if participation in a TDERC program presents a barrier to students driving themselves to school.

Privacy concerns with TDERC

There was a brief discussion of privacy concerns related to TDERC.

- Legally, there are no privacy issues for children under 18. Implementation problems are more related to acceptance of the system and how it would be used by teens and their parents.
- A system that uses only interlocks or other ways to force behavior without reporting or storing data would not have any privacy issues.
- Systems that keep records have the potential to violate privacy.
- The "reasonable expectation of privacy" may be limited or may not apply if drivers are fully informed that they are being monitored.

(Quensel from page 8)

instructional materials, teaching aids and equipment with long range and immediate goals.

4. Assist with scheduling and enrollment of students on the basis of guidelines provided by the state office.
5. Determination of annual budget and assist with cost accounting to assure that the per capita cost for reimbursement may be substantiated.
6. Evaluating the effectiveness of the instructional program in driver education on the basis of most recent research on the field.
7. Carrying on an effective public relations program to assure

community support through understanding.

Summary

A more relevant and measurable driver education curriculum has been developed that was based on two decades of driver task analysis studies. What is needed now are improved program standards. Most driver education program standards are over forty years old, and they must be upgraded if teenage drivers are to have adequate preparation for such a hazardous task. A few model programs will need to be conducted so standards can be based on true research findings.

The teacher preparation staffs at two or more universities should be involved in conducting these model programs. Then, they can upgrade their programs to meet the needs of driver education beginning teachers.

Once adequate standards are determined, state and national leaders will need to promote the necessary changes in legislation. Included should be a requirement for schools to have a parent involvement program to be eligible for state approval. Objective data will need to be collected to convince state legislators to act.

Evaluation like curriculum improvements is an ongoing process. With a proper self-reporting survey form, any high school can easily determine the effectiveness of their driver education program in terms of crash rates. Such surveys should be conducted at least every five years. Once driver education programs can be shown to be cost effective, then support and adequate funding should not be a problem.

References

- Automotive Safety Foundation. (1970) RESOURCE IN DRIVER AND Traffic Safety Education.
- Brody, Leon. (1957) Teaching Perceptual Skills. for Safety Education. NYU Center
- Edwards, Ward. (1968) Information (more on page 15)

(from page 14)

Processing, Decision-Making, and Highway Safety. Proceedings for the Second Annual Traffic Safety Symposium of the Automobile Insurance Industry.

Illinois Office of Education. (1972) DRIVER EDUCATION FOR ILLINOIS YOUTH. (1976) DEMONSTRATION CENTER-SATELLITE DRIVER EDUCATION CURRICULUM.

Iowa Department of Education. (1975) PROGRAM RESEARCH IN DRIVER EDUCATION.

NHTSA. (1974) HUMMRO DRIVER TASK ANALYSIS. (1974) HUMMRO SAFE PERFORMANCE CURRICULUM.

Platt, F.L. (1959) OPERATIONS ANALYSIS OF TRAFFIC SAFETY. Ford Motor Company.

Quensel, W.P. (May, 1963) Teaching Visual Perception in Driver Education. ADEA News and Views. (April, 1976) How to Measure Program Effectiveness.

Journal of Traffic Safety Education. (July, 1979) An Evaluation Plan for Driver Education.

Journal of Traffic Safety Education. Schlesinger, L E. (March 1967) Objectives, Methods, and Criterion Tests in Driver Training. NSC Traffic Safety Research Review.

Seals, T.A. (1975) Steps Toward Driver Education Curriculum Improvement. Allstate Insurance Company.

Van Fleet, E.L. (January, 1981) The Illinois Demonstration Satellite Performance Curriculum--A Year Later. Journal of Traffic Safety Education.

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driving experience between courses. The 1995 AAA Foundation for Traffic Safety Northport Group Study suggested driver education should "dovetail" with the GDL, two courses with two years driving experience between the courses.

The Michigan GDL Task Force Driver Education subcommittee

recommended the following to the state legislature and the MI Department of Education (DOE): revision of existing state administrative rules, removing the antiquated "30 & 6," and creation of two distinct courses. Twelve to 24 months was to separate the two courses and substantial supervised practice driving was to occur during the time between the courses.

Under the Task Force's recommendation course one is to include instruction in basic skills and knowledge, have a parent orientation and would have 16-20 clock hours. The Michigan GDL Task Force Driver Education subcommittee recommended the following to the state legislature and the MI Department of Education (DOE): revision of existing state administrative rules, removing the antiquated "30 & 6," and creation of two distinct courses. Twelve to 24 months was to separate the two courses and substantial supervised practice driving was to occur during the time between the courses.

Under the Task Force's recommendation Course two was recommended to focus on safe driving concepts integration and be student centered; with 14-20 clock hours in classroom instruction and 2-4 hours of on-road/range, including driver performance measurement and evasive skills/maneuvers.

Michigan currently has two "Segments" of driver education, with 90 days (which includes 30 hours parental supervised driving, 2 hours at night) between the courses.

Segment one consists of 24 hours classroom and 6 hours of on-road instruction, of which 3 hours may be on a range (simulation not included). Segment two consists of 5 hours classroom and one hour for an examination, with no further on road instruction. When the actual is compared to the recommended Michigan's program standards fall short of what was recommended and

what is needed.

We must continue striving to improve and make our programs meet the highest standards.

(Green from page 6), then the training isn't achieving its goals. Find what makes the training more effective(?). I'd try to find the motivation that works. The most difficult of the human traits to influence are judgement and maturity. I've seen too many teachers give up on those.

I'd also take issue along the same lines about the condemnation of emergency procedures training. Would you deny someone the capabilities and awareness of limitations that could threaten or save a life? Please don't withhold training from my surgeon or airline pilot.

Spontaneous learning through experience reminds me of learning how to hammer a nail or ride a bicycle (without help). . .except in a car, the consequences of error are kinetically far more substantial (the proximity of hazard in this case is similar). My dad couldn't have taught me quadratic equations or how to play the piano (no proximity of hazard), but because he had a license, he felt qualified to take me out driving. Ditto for my (in 1963) driver training teacher. So you are probably of similar ilk..

I'd also propose a study of the nations' (addressed to several Canadians also) prosperity and its effect on teen's crash rate as compared to teen's proprietary use of their "own" cars, miles traveled and proportion of time spent driving after licensing. Few kids "ask" for the keys anymore.

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Editor's Notes from page 2)

would argue that one of the world's largest country's with all it's history and size just doesn't get it. Don't the Chinese know that more people

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(Beth from page 2) said to "Do it anyway." He spoke of the difficulties he faced during his many years leading Washington state's driver education program. It's as though he was sitting in my office and assuring me that I am not alone. He quoted from the "Paradoxical Commandments" and I especially related to this one: What you spend years building may be destroyed overnight. Build Anyway." I hear you Gary.

As long as policy-makers continue to think of driver education as a "wanted" but not "needed" education, we can never do enough. As long as the teen statistics are what they are, we can never do enough. As long as parents are willing to put their teens into a driver education course without asking about their standards and curriculum, we can never do enough. As long as the standards for training new teachers needs to be improved, we can never do enough. As long as there are those who do not recognize the value in driver education, we can never do enough. As long as there are people and organizations that say driver education "doesn't work," we can never do enough.

We have many accomplishments worth celebrating and my revised Life Savers speech reflected many of them. I have dusted off my attitude, and am ready for the next step forward. I will continue because I know I have not done enough. I hope you have enough:

- support to keep your attitude bright.
- resources to keep your spirit alive.
- pain so that the smallest joys in life appear much bigger.
- gain to satisfy your wanting.
- loss to appreciate all that you possess.

See you in Honolulu! Beth

(More Robbie from page 2)

fatalities are a grave concern to all of us. Using statistics inaccurately

to push a cause does not solve the problem. Most researchers and traffic safety professionals illustrate the statistical problem associated with teen drivers. As an example, the Insurance Institute for Highway Safety reports that motor vehicle crash deaths per 100,000 people in 2003, the 16 to 19 age group had a death rate of 29.1. This same year the 20 to 24 age group had a death rate of 27.0 and males in this age group had a higher death rate than males in the 16 to 19 age group.

This special report in USA Today also reports that 1 in 5 16-year-olds crash their cars within the first year. This also means that 4 in 5 16-year-olds do not crash.

The headline in the USA Today on March 1, 2005 was Deadly Teen Auto Crashes Show a Pattern. "The most dangerous drivers: 16-year-olds and most deadly single vehicle teen crashes involve night driving or at least one passenger 16 to 19." On the front of Section B the following question is asked: 16 is it too young to drive a car? USA Today Poll found: 3 in 5 say 16-years-old is too young to have a license. Another headline read: "On an average day, 10 teens are killed in teen driven autos." In 2003 USA Today reports that 3,500 teenagers died in traffic crashes.

All of these statistics when used in context are correct. However, when the researchers and the writers say that the solution to the teen fatality problem is to raise the legal driving age, they are missing the point. In 2003 there were 937 16-year-old drivers killed in traffic crashes. This new driving age does nothing for the other 2,563 teens killed in 2003.

This series of articles did not mention the number of 16-year-old individuals in the U.S. population. According to the U.S. Census Bureau there were 3,975,021 16-year-olds in 2000. An estimate for 2003 is 4,010,850. The Insurance

Institute reports that 31 percent of the 16-year-olds received driver licenses in 2003. The Federal Highway Administration – Highway Statistics 2003 reports that 1,262,899 16-year-olds were licensed to drive in 2003. By comparing these figures we see they do agree.

In 2003 there were 937 16-year-olds killed in teen crashes. Does it seem realistic to prevent 1,262,899 16-year-olds from obtaining a drivers license that will assist them with opportunities to: go to school, participate in extracurricular school activities, go to work and be involved in other social activities. Their solution of raising the driving age makes little sense.

The solution is not preventing license use, but to better train and use stricter licensing tests before issuing a drivers license to a 16-year-old or any new driver. Training does not exist today for most teenagers who desire a driver's license. When training is available, it is often inadequate. We need to look at the real problem and not the confusing statistical analysis of critics of young drivers.

(Editor's Notes from page 15) taking driver education means more will drive and thus more will die in car crashes? A second impact the facts from China have to do with us is to remind us that driver education standards do not have to be low. Three traffic safety educators with a total of over 150 years of experience sent me material that appears in this edition. Professors Smith and Quensil submitted articles and Frank Thissen sent me the information about China. The three wise and experienced educators all urge us to think about raising the standards bar. Another wise sage once said those who fail to learn from history are doomed to repeat it. I do hope we all can learn from history and begin a process leading to improved traffic safety education.

4.1 million Canadians admit to nodding off or falling asleep at the wheel at least once in the past 12 months, according to the findings from the 4th annual Road Safety Monitor (RSM) released today by the Traffic Injury Research Foundation (TIRF). The survey focused on the practices, knowledge and concern among Canadians about the issue of drowsy and fatigued driving.

Despite the disturbing number of Canadians nodding off at the wheel, the survey of 1,200 Canadians showed that only 57% of respondents believe this is a serious road safety issue.

For a more detailed description of the results of the Road Safety Monitor: Drowsy Driving report, click on the following url address: <http://trafficinjuryresearch.com/whatNew/whatNew.cfm?intNewsID=149&intContactID=3>.

Identifying best practices states in motorcycle rider education and licensing

Stéphane Baldir, Justin D. Baer and Andrea L. Cook
Journal of Safety Research, Vol. 36, No.1, pages 19-327

Abstract

Problem: After decreasing to a historic low in 1997, motorcycle crash-related fatalities are increasing. Although causes remain unclear, motorcycle rider education and licensing play key roles in reducing motorcycle crashes and injuries. Yet, little is known about what constitutes effective rider training and licensing. This study develops a model of best practices in motorcycle rider education and licensing and combines primary and secondary data to identify states that most closely adhere to this model. Evidence on the validity of the model is also examined. Method: States were rated along three areas of best practices: (a) program administration; (b) rider education; and (c) licensing based on 2001 data collected for a National Highway Traffic Safety Administration (NHTSA)-sponsored study.

Results: Results indicate wide variation in states' adherence to best practices; several states meet most, others very few. When the areas of best practices are considered separately, a state tends to behave similarly on all three. Initial evidence supports the validity of the model, with high best practices states having the lowest rates of motorcycle fatalities. Impact on Traffic Safety: As motorcycle-related crashes increase and state and federal support for rider education programs diminishes, it is critical that states identify deficiencies in their program and learn from successful states about efficient, cost-effective strategies for increasing best practices in motorcycle rider education and licensing.

Effects of the California graduated driver licensing program

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UCLA School of Public Health, Los Angeles, California
Journal of Safety Research, Vol. 34, No. 4, pages 375-382

Abstract

Problem: On July 1, 1998, in an effort to ameliorate the problem of high teenage driver crash rates, California implemented a graduated driver licensing system (GDLS). Method: Data on injury crashes of 16- and 17-year-old drivers from a pre-GDLS year were compared with data from two post-GDLS years. Per-capita crash rate ratios were adjusted for changes in crash rates of 25- to 34-year-old drivers, who were unaffected by the GDLS. Prevented numbers and 95% confidence intervals were estimated.

Results: Fatal or severe injury crash rates were significantly lower during each of the two post-GDLS years (adjusted rate ratios (RR)=0.72 and 0.83, for 2000 vs. 1997 and 2001 vs. 1997, respectively). Significant rate reductions were observed for all crash types, particularly for struck object (RR=0.71 and 0.80, for 2000 vs. 1997 and 2001 vs. 1997, respectively) and non-collision (RR=0.63 and 0.72, for 2000 vs. 1997 and 2001 vs. 1997, respectively). Minor injury crash rates were also lower during post-GDLS years (RR=0.87 and 0.90, for 2000 vs. 1997 and 2001 vs. 1997, respectively). Percent reductions were notably larger during the hours of the late night driving restriction (midnight-5 a.m.) (RR=0.79 and 0.87, for 2000 vs. 1997 and 2001 vs. 1997, respectively).

Summary: The implementation of the California GDLS was followed by large reductions in the rate of injury-producing motor-vehicle crashes. Impact on industry: This evaluation supports previous evidence that GDLS is an effective countermeasure to adolescent motor-vehicle crashes and their associated injuries. States with a traditional licensing system may prevent adolescent driver crashes by adopting a GDLS. Future studies should examine factors that influence teenager compliance with GDLS provisions and identify approaches to improving compliance.

A meta-analysis of the driver improvement literature
Scott V. Masten and Raymond C. Peck R.C. Peck and Associates
Journal of Safety Research, Vol. 34, No. 4, pages 403-427

Abstract

Problem: Given the public safety risk posed by violation and crash repeaters and the substantial costs for state driver improvement programs, it is important that their effectiveness be scientifically demonstrated and that intervention programs are based on sound research findings. Method: Crash and traffic violation standardized effect sizes (d) representing 106 individual interventions were coded from 35 methodologically sound studies and analyzed using meta-analysis.

Results: Driver improvement intervention in general was associated with small but significant reductions in both crashes ($dw = 0.03$) and violations ($dw = 0.06$). Significant effects were found on both measures for warning letters, group meetings, individual hearings, and license suspension/revocation. Of the driver improvement interventions studied, license suspension/revocation was by far the most effective treatment for both crashes and violations ($dw = 0.11$ and 0.19). Since one of the objectives of license suspension/revocation is to eliminate driving for the period of suspension, it is possible that much or all of the effect is due to reduced exposure and/or more careful driving during the suspension interval. Results were mixed for other types of interventions, although distributing educational or informational material was not associated with any reductions. Interventions associated with violation reduction tended to also be associated with crash reduction, although the relationship was not very strong ($r = .30$).

Discussion: Although interpretation of the effect size estimates was complicated by almost ubiquitous heterogeneity, the results do suggest an overall positive impact of driver improvement interventions in general. Impact on Industry: The results support the continued use of driver improvement interventions, chiefly warning letters, group meetings, individual hearings, and especially license suspension/revocation. The results also suggest that court-triggered traffic violator programs are less effective than interventions triggered by drivers license agencies.

Influences during adolescence on perceptions and behaviour related to alcohol use and unsafe driving as young adults

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 University of Otago, Dunedin, New Zealand**

Accident Analysis & Prevention Volume 36, Issue 5, September 2004, pages 773-781

Abstract

Objective: To investigate whether aggression, parent and peer influences, and previous traffic-related experiences at ages 15 and 18 impacted on (a) differences between the perceived safe and estimated legal alcohol consumption limit, and (b) driving while impaired (DWI) behaviour at age 21.

Method: The study population was a birth cohort involved in a longitudinal investigation of health and development. At the ages of 15 and 18, study members completed questionnaires assessing parent and peer attachment, experience travelling with an alcohol impaired adult or youth, aggression, and previous crash experience. At age 21, study members were questioned about how much alcohol they perceived they could drink and still drive safely, and whether they had driven after 'perhaps consuming too much alcohol'. For each participant their legal alcohol consumption limit was estimated using their height and weight. Path analysis was used to determine whether variables measured at ages 15 and 18 predicted differences between the perceived safe and estimated legal alcohol consumption limit and driving while impaired, both measured at age 21.

Results: Insufficient females drove while impaired at age 21, who also had complete data on all other variables, to conduct path analysis for this outcome. For males, aggression at ages 15 and 18, travelling with an impaired youth at age 18, and previous crash experience at age 18 predicted DWI behaviour at age 21. Only aggression at age 15 predicted the difference between perceived safe and estimated legal alcohol consumption limit for the males. For females, aggression at ages 15 and 18, and travelling with an impaired adult at age 15 predicted the difference between perceived safe and estimated legal alcohol consumption limit.

The effects of driver training on simulated driving performance

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Accident Analysis & Prevention Volume 1, Issue1, January 2005 pages 63-69

Abstract

Given that the beneficial effects of driver training on accident risk may not be an appropriate criterion measure, this study investigates whether professionally trained and experienced drivers exhibit safer driving behaviour in a simulated driving task compared with drivers without professional driver training. A sample of 54 police trained drivers and a sample of 56 non-police trained drivers were required to complete two tasks. Firstly to overtake a slow-moving bus on a hazardous stretch of single-lane road with bends and hills and secondly to follow a lead vehicle travelling at 55 mph in a built-up section with a speed limit of 30 mph. Results showed that in comparison with non-police trained drivers, police drivers were significantly less likely to cross the central division of the road at unsafe locations during the overtaking task and reduced their speed on approach to pedestrians at the roadside in the following task to a greater extent. Police drivers also adopted a more central lane position compared with non-police trained drivers on urban roads and at traffic lights during the following task. Driver group differences in simulated driving performance are discussed with reference to the implications for driver training assessment and skill development.

Collisions & violations of alcohol, cannabis, cocaine abuse clients before & after treatment

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Accident Analysis & Prevention Volume 36, Issue 5, September 2004, Pages 795-800

Abstract

Prior research has shown that those with alcohol problems have significantly elevated rates of traffic events (i.e. traffic violations and collisions) than licensed drivers from the general population and that treatment is associated with reductions in alcohol-related collisions. However, very little research exists on traffic events and the impact of treatment for cannabis or cocaine clients.

The objectives of this research are: (1) to determine whether clients in treatment for a primary problem of alcohol, cannabis or cocaine have significantly elevated rates of traffic events than a matched control group of licensed drivers; and (2) to assess whether a significant reduction in traffic events occurs after treatment for each client group compared to a control group.

Driver records of patients admitted to substance abuse treatment in 1994 for a primary problem of alcohol (n=117), cannabis (n=80) or cocaine (n=169) were accessed from the Ministry of Transportation for Ontario, Canada. A comparison group of 504 licensed drivers frequency matched by age, sex and place of residence, was also randomly selected. Data was collapsed into two 6-year time periods: 1988–1993 (i.e. before treatment) and 1995–2000 (i.e. after treatment). Six repeated measures analysis of variance tests were conducted where traffic violations and collisions of three treatment groups (i.e. alcohol, cannabis or cocaine) and a control group were compared before and after treatment.

All three treatment groups had significantly more traffic violations than the control group and no significant interactions between time period and group membership were found. For collisions, there was a significant interaction between the alcohol and control groups and between the cocaine and control groups. The average number of collisions for the alcohol and cocaine groups decreased after completing treatment, whereas the number for the control group was stable over the same time periods. Neither the interaction term nor the between group effect was significant in the comparison of the cannabis and control groups. When rates of collisions were calculated based on the period that each driver had a valid license, the interaction term was still significant for the comparison of the alcohol and control groups but not for the cocaine and control groups.

The results contribute to existing literature by demonstrating that cocaine and cannabis clients have a higher risk of traffic violations than matched controls and that reductions in collision risk was found after treatment for the alcohol and cocaine groups. More research is needed to better understand the reasons for the higher risk of traffic events and to determine reasons for declines.

Perceptual and attentional effects on drivers' speed selection at curves

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Accident Analysis & Prevention Volume 36, Issue 5 , September 2004, Pages 877-884

Abstract

This paper describes an experiment comparing the relative effectiveness of various types of warnings on drivers' speed selection at curves. The experiment compared three types of curve warnings across three different curve types in a driving simulator. All of the warnings worked reasonably well for severe curves (45 km/h), regardless of demands from a secondary (cell phone) task. For less demanding curves, only those warnings with a strong perceptual component (i.e., implicit cues) were effective in reducing drivers' curve speeds in the presence of the cell phone task. The design implications of these data appear straightforward; curve warnings that contain perceptual components or emphasize the physical features of the curve work best, particularly in cognitively demanding situations. The cell phone task added to driver workload and drivers became less responsive to primary task demands (i.e., speeds were elevated and reaction times were longer).

Investigation of the driving experience of a sample of Victorian learner drivers

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Accident Analysis & Prevention Volume 36, Issue 5 , September 2004, Pages 885-891

Abstract

This paper presents the results of an investigation of the driving experience of a small sample of learner drivers in Victoria, Australia. Participants (n=110) kept a continuous logbook of their driving experience over the 2 years of the learner-driver period, including information about the distance and time of each driving trip, their level of confidence, and monthly data concerning the number of crashes, near misses, and unpleasant emotional interactions with their supervising driver. The analysis of these data suggests that learner drivers accrue relatively little driving experience and that they tend to obtain this experience in daytime, fair-weather driving. The implications of these results are discussed.

Does increased confidence among novice drivers imply a decrease in safety?

The effects of skid training on slippery road accidents

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University of Turku, Turku, Finland**

Accident Analysis & Prevention Volume 36, Issue 4 , July 2004, Pages 543-550

Abstract

Finnish driver training was renewed in 1990 with the inclusion of a compulsory skid training course in the curriculum. The study evaluated the renewal's effect on accidents in slippery road conditions. A questionnaire was sent by mail to 41,000 novice drivers who were randomly selected from the official register of driving licenses. It included questions on driving exposure and the accidents the drivers had been involved in during 6–18 months following licensing. The rate of return was 74.7%. Half of the drivers had received their license in 1989 and had, therefore, not received any skid training. The other half had received their license in 1990 after the introduction of the skid training course. The results showed no effects of the renewal on slippery road accidents for either male or female drivers.

Another questionnaire was sent to 1300 old and new curriculum drivers immediately after licensing and a second time 1/2–1 year later, both with questions about skills, worries and perceived risks regarding driving in slippery conditions. The new curriculum drivers showed higher confidence in their skills and they were less afraid to drive in slippery conditions than the old curriculum drivers. This increase in confidence as a result of skid training is discussed. It is argued that high confidence in one's personal skills does not necessarily imply negative safety. The crucial factor is how these skills are used, and for what purpose.

Driver behaviour during flashing green before amber: a comparative study

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Accident Analysis Volume 36, Issue 2, March 2004, Pages 273-280

Abstract

The paper discusses the results of extensive measurements of drivers' stopping behaviour during signal programmes with and without flashing green before amber. Ten locations in Switzerland, Austria, and Germany were recorded with a video camera and analyzed using an image-processing system. About 5000 cycles were documented.

The analysis shows that the flashing green increases the number of early stops, as drivers tend to underestimate the duration of the time to the end of amber. Discrete choice models of the stopping behaviour are estimated for inclusion in suitable microsimulation models of traffic flow. The model results show that speed and distance to stop line, and their interaction (potential time to the stop line with unchanged speed) explain the stopping process.

Being "at fault" in traffic crashes: does alcohol, cannabis, cocaine, or polydrug abuse make a difference?

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Inj Prev 2003;9:343-348

Abstract

Objective: To compare associations of alcohol, cannabis, and cocaine abuse and traffic crash risk for "at fault" crashes and all crashes. **Design:** A historical cohort study. **Setting:** Toronto, Ontario.

Patients or subjects: Subjects beginning treatment at the Centre for Addictions and Mental Health (CAMH) in 1994 for abuse of alcohol, cannabis, cocaine, and all combinations of these substances (n = 590, with 411 drivers). A control group consisted of 518 records from the Ontario registry of registered drivers, frequency matched for age and sex and residence.

Interventions: CAMH subjects took part in therapeutic programs. Pre-intervention (11 115 driver-years) and post-intervention intervals (8550 driver-years) were defined and compared.

Main outcome measures: Crash and collision rates, adjusted relative risks (ARRs) of crash involvement and of "at fault" crashes were computed using Poisson regression to control for variations in time at risk, age, and sex of participants.

Results: Pre-treatment, significant ARRs of 1.49 to 1.79 for all crashes were found for abusers of cannabis, cocaine, or a combination. ARRs increased by 10%–15% for "at fault" crashes. Post-treatment, all associations were very modest for all abuse types. Only younger and male drivers had a significantly increased risk, which was stronger for "at fault" than for all crashes.

Conclusions: Abuse of cannabis and cocaine pre-treatment was more strongly related to "at fault" crashes than to all crashes. Interaction between these substances means that the effects of combined abuse cannot be predicted from simple main effects.

Evaluation of California's graduated driver licensing program

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Journal of Safety Research, Vol. 35, No. 5, pages 523-536

Abstract

California's Statewide Integrated Traffic Records System, this study found that teenage passengers are a causal factor in crashes of 16-year-old drivers and that in the three years following implementation of the new law, the average number of teenage passengers carried by 16-year-olds decreased by approximately 25%. Without considering the beneficial effect of a decrease in the crash rate, the decrease in the number of teenage passengers in actual crashes resulted in an estimated saving of eight lives and the prevention of 684 injuries over a three-year period. **Results:** After removing trend, seasonality, and transition effects in the data, no overall reductions in fatal/injury crashes for 15–17-year-olds or 16-year-olds (separately) were found to be associated with the 1998 program

enhancements, suggesting no overall exposure reduction effect of the longer instruction permit period nor increased competency associated with the higher number of required practice hours. However, the 12-month nighttime and 6-month passenger restrictions were found to be associated with annual savings of 55 and 816 fatal/injury crashes, respectively. Discussion: Finding no overall impact of the 1998 GDL enhancements was not surprising given findings of an earlier survey suggesting that California teens and parents were largely already practicing program requirements prior to implementation and were not fully complying with the program requirements afterwards. Though the observed crash savings associated with the restrictions were of modest size, this is the first study to evidence a direct positive impact of the passenger restriction component of GDL programs. Larger reductions could be realized if the nighttime restriction started earlier and parents/law enforcement could be motivated to better enforce these restrictions. Impact on Industry: The findings provide support for passenger and nighttime restriction components of GDL programs.

An in-depth look at parent-imposed driving rules: Their strengths and weaknesses

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Journal of Safety Research, Vol. 35, No. 5, pages 537-546

Abstract

Introduction: With a growing interest in increasing parental involvement in teen driving, it is important to find out what parents are already doing. Method: This study assessed the content, delivery, rigidity, and consequences of 143 driving rules reported by 24 parent-teen dyads. Results: Strengths included that driving rules covered the full range of concerns, especially night driving limits and passenger limits, and most parents and teens reported that violations would be followed by consequences, especially talk/warn or no driving. Weaknesses included that many rules were not very strict and only half showed parent-teen agreement on content. Conclusions: These findings suggest that teen driving rules are not clearly defined.

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