Permission to park: A statewide study of high school parking permits to determine compliance with graduated driver licensing law

Audrey Apanovitch, Victoria Champany, Meghan Wilson, MPH, Hadeer Emam, MBBCh, Kelly Ruiz, MA, Kevin Borrup, JD, MPA, *and* **Garry Lapidus, PA-C, MPH,** *Hartford, Connecticut*

BACKGROUND: Motor vehicle crashes are the leading cause of fatality among teens in the United States. Beginning in the 1990s, many states enacted graduated driver licensing (GDL) systems to delay full licensure while allowing beginners to obtain experience under lower-risk conditions. Many high schools require parent and guardians of newly licensed teen drivers to complete a student parking pass application (PPA) for their son/daughter to drive, park, and transport themselves to and from school activities. The objective of this study was to describe the content of these PPAs for compliance with Connecticut's GDL law.

METHODS: PPAs were requested via e-mail, fax, or telephone from all Connecticut's high schools (n = 233). PPA variables included school demographics, parking rules, prohibitions and sanctions for violations, as well as reference to GDL law.

RESULTS: Seventy-four schools were excluded because students were not allowed to park and schools did not require PPAs or declined to send us a copy of their PPAs. Of the remaining 159 schools, 122 (76.7%) sent us their PPAs. Responding schools were more likely to be suburban or rural. Most PPAs included a section on prohibitions and sanctions for driving misbehavior. Forty-three percent prohibited students from going to car during school hours, and 34% prohibited driving off campus/parking lot. Seventy percent warned of consequences for dangerous driving in parking lot, and 88% included the possibility of revocation for infractions. Only 14% had any reference to Connecticut's GDL law on their PPAs.

CONCLUSION: A small percentage of Connecticut high schools include information about GDL laws on their PPAs. All states should examine their PPA content and adopt a uniform high school PPA that includes key provisions of their state's GDL laws in an effort to promote teen driving safety. (*J Trauma Acute Care Surg*. 2015;79: S29–S32. Copyright © 2015 Wolters Kluwer Health, Inc. All rights reserved.)

LEVEL OF EVIDENCE: Therapeutic study, level V.

KEY WORDS: Teen driving; teen drivers; graduated driver licensing; GDL; motor vehicle crashes.

Motor vehicle crashes (MVCs) are the leading cause of fatality among teens in the United States.[1] There are several factors that contribute to increased risk of a MVC. Teens are more likely than older drivers to underestimate dangerous situations or not be able to recognize hazardous situations.[2] Teen drivers are more likely to speed and allow shorter distance from their vehicle to one immediately in front of them.[3] The presence of male teenage passengers also increases the likelihood of risky driving behavior.[4] Night driving, alcohol use, and low seat belt use are other factors that contribute to teen MVC risk.[5]

In response to this increased MVC risk, many states beginning in the 1990s enacted graduated driver licensing (GDL) systems to delay full licensure while allowing beginners to obtain experience under lower-risk conditions.[6,7] In an optimal GDL system, the minimum age for a learner's permit is 16 years; the learner stage lasts at least 6 months, during which parents must certify at least 30 hours to 50 hours of supervised driving, and the intermediate stage lasts until at least age 18 years, includes both a night driving restriction starting at 9:00 PM or 10:00 PM, and either prohibits or limits other teenage passengers.[7] As of October 2014, 50 US states and the District of Columbia have all three stages, but the systems vary in strength.[8] A 2007 review of studies involving GDL in the United States indicated that GDL systems decrease young driver crash risk by 20% to 40%.[6,9]

A longstanding practice at many high schools require parents and guardians of newly licensed teen drivers to complete a student parking pass application (PPA), also referred to as a driving agreement, for their son/daughter to drive, park, and transport themselves to and from school activities.[10] To date, no study has reported on the components of these PPAs. Therefore, the objective of this study was to describe the content of these PPAs, with a special focus on its compliance with the Connecticut's GDL law.

METHODS

The study protocol was reviewed and approved by the institutional review board of Connecticut Children's Medical Center. In spring 2014, we requested from all Connecticut high schools (n = 233) a blank copy of their PPAs. A second request

Submitted: January 30, 2015, Revised: April 20, 2015, Accepted: April 23, 2015.
From the Glastonbury High School (A.A., V.C.), Glastonbury; University of Connecticut Health Center (M.W., K.B., G.L.), Farmington; and Connecticut Injury Prevention Center, Connecticut Children's Medical Center (K.R., H.E., K.B., G.L.), Hartford, Connecticut.
This study was presented at the 19th Annual Injury Free Coalition for Kids Conference, December 5–7, 2014, in Fort Lauderdale, Florida.
A.A. and V.C. are students from Glastonbury High School, Glastonbury, Connecticut.
Address for reprints: Garry Lapidus, PA-C, MPH, 282 Washington St, Hartford, CT 06106; email: glapidu@connecticutchildrens.org.

DOI: 10.1097/TA.0000000000000711

Copyright © 2015 Wolters Kluwer Health, Inc. All rights reserved.

was sent a week later to nonresponding schools. A third and final request was sent to nonresponding schools 3 weeks following the initial request. Requests were made via e-mail, fax, or telephone.

After a preliminary review of the PPAs, we developed a 19 variable coding sheet. The variables included (1) school name; (2) town; (3) school size by number of students (S < 400, M 401–699, L 700–1199, LL > 1200); (4) location (urban, suburban, rural); (5) need for permit to park (yes, no, students do not park); (6) park in designated area; (7) prohibition of going to car during school hours; (8) prohibition to drive off campus/parking lot; (9) notifying administrator of any changes; (10) parent permission for their son/daughter to drive to and from school; (11) need for parent permission for son/daughter to ride as passenger to off-campus event/activities with other students as drivers; (12) parent permission for son/daughter to drive other students to off-campus event/activities; (13) need parent permission to drive siblings to school; (14) verification that vehicle is insured; (15) any reference to GDL law; and if yes, what information is provided; (16) revocation of PPA for infractions; (17) notification if an MVC occurs; (18) display of permit on vehicle; and (19) consequences of dangerous driving in parking lot. Variables 6 through 19 were coded as yes, no, or not included; questions 15 and 16 were coded as yes or no.

We used district reference groups to PPAs. Developed by the Connecticut Department of Education, district reference groups are a town classification system based on a combination of three socioeconomic status indicators (median family income, parent education, parent occupation), three indicators of need (children in single parent families, children eligible to receive free or reduced priced school meals, language spoken at home is other than English), and enrollment.[11] The nine classifications are a progression from "A" to "I" with Group A containing municipalities characterized by wealth and the highest levels of educational attainment. By contrast, Group I contains the poorest and highest-need districts. Each parking form was coded and checked for interrater reliability. Data were entered into Excel and analyzed using SPSS. Frequencies were calculated for each variable. Characteristics of schools that may affect inclusion of GDL laws on the PPAs (school size and location) were treated as categorical variables and were analyzed using χ^2 contingency tables.

RESULTS

Figure 1 describes Connecticut high schools' participation and response rate. Of the 233 Connecticut high schools, 67 (28.7%) responded to our first request and sent us their PPAs; after the second request, another 26 schools (11%) sent us their PPAs, and after the third request, another 29 schools (12.4%) sent us their PPAs, yielding a total of 122 PPAs received. Another 55 schools (23.6%) reported that they did not have PPAs, and 11 schools (4.7%) reported that students were not allowed to park at their school. Eight schools (3%) declined to send us their PPAs leaving a total of 159 eligible schools with PPAs in the study. A total of 122 of the 159 PPAs were collected (76.7% response rate) and were the basis for further analysis.

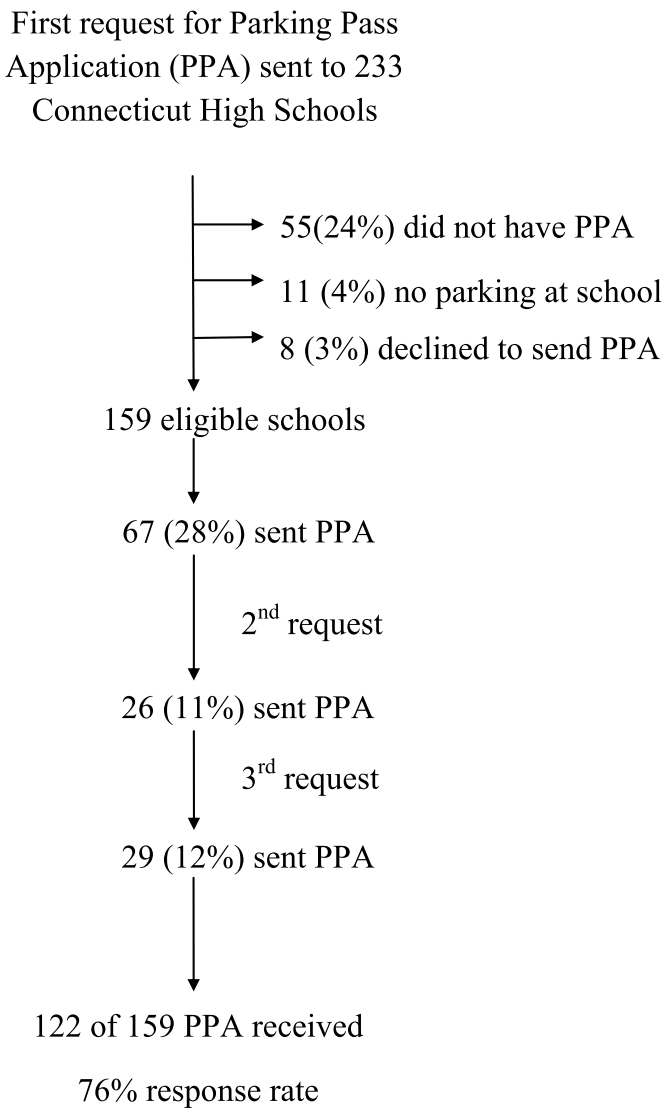

Figure 1. Connecticut high school participation and response rate.

Table 1 describes the high school demographics and the PPA variable content. Compared with the distribution of the 233 high schools in the state, 35% urban, 57% suburban, and 9% rural, our sample had a distribution of 21%, 70%, and 9%, respectively. Responding schools were more likely to be suburban; however, this could be the result of the overall high number of schools from these areas in the state.

Ninety-four percent of the schools required a permit to park a vehicle, and most (93%) required that student's park in designated areas. Two thirds (66%) required proof/display of a permit sticker or hang-tag, 40% required verification that the vehicle was insured, 26% required students to notify a school administrator of any changes in their PPA, and 16% required that students notify an administrator if an MVC occurs on school grounds.

Most PPAs included a section on prohibitions and sanctions for driving misbehavior. Slightly less than half (43%) prohibited students from going to car during school hours, and 34% prohibited driving off campus/parking lot. Seventy percent

© 2015 Wolters Kluwer Health, Inc. All rights reserved.

Copyright © 2015 Wolters Kluwer Health, Inc. All rights reserved.

TABLE 1. School Demographics and PPAs Variable Content Yes (n = 122)

Variable	n	%
School size		
• S	13	10
• M	33	27
• L	43	35
• LL	33	26
Location		
• Rural	11	9
• Suburban	85	70
• Urban	26	21
Need permit to park	115	94
Park in designated area	113	93
Display permit tag on vehicle	81	66
Verify that vehicle is insured	49	40
Notify administrator of changes	32	26
Notify administrator if MVC occurs	19	16
Prohibited to go to car during school hours	53	43
Prohibited to drive off campus/parking lot	41	34
Consequences of dangerous driving in parking lot	86	70
Revocation for infractions	107	88
Need parent permission to drive to and from school	92	75
Need parent permission to ride as passenger to off-campus event/activities with other student driver	8	7
Need parent permission to drive other students to off-campus event/activities	9	7
Need parent permission to drive siblings to school	2	2
Any reference to CT GDL law	17	14

warned of consequences for dangerous driving in parking lot and 88% included the possibility of revocation for infractions.

Three quarters required parent permission to drive to and from school.

Three common driving situations requiring parent permission were not included in a majority of PPAs. Only 7% of the PPAs included parent permission to ride to off-campus events/activities with other student drivers, 7% included parent permission to drive other students to off-campus events/activities, and 2% included parent permission to drive siblings to school.

Finally, a small minority 17 (14%) of the PPAs had any reference to Connecticut's GDL law. There was wide variation in the GDL content ranging from a mention, "students are expected to comply with Connecticut's GDL" to a full paragraph describing the specific provisions (e.g., passenger/night restrictions, cell telephone restriction). There were no significant differences in school size and location that was associated with inclusion of the GDLs on the PPAs.

DISCUSSION

To our knowledge, this is the first published report describing the contents of teen driver parking pass permits among a statewide sample of high schools. The major finding of our study is that only a small proportion of PPAs include current GDL information. This is important for several reasons. First, data demonstrate the MVC crash rate are elevated in the afternoon and evening hours after school is dismissed.[12] Second, some of the PPAs in our study included content that allowed teens to ride as a passenger or drive other students to off campus events or activities. If checked yes by the parent, that allows the teen driver, with the school's approval to be noncompliant with the state's GDL law. They also can give the impression that off-campus events/activities are an exception to teen driver laws and passenger restrictions which they are not.[10] Third, most of the PPAs did not include any reference to the state's teen driving law and can reasonably be construed by many parents as encouraging and/or authorizing a high risk practice, teens driving with other teen passengers.[4,10]

There are few other traffic related studies that examined content on forms as a way to highlight issues and change organizational practice. One 2008 study examined safety device items on police accident report forms and compared them with the corresponding laws in that state.[13] Most forms included a seat belt use variable, but many did not contain a variable to code for booster seats. In addition, many states code for helmets, which include bicycle helmets, but do not have a full or partial bicycle helmet law. This study of police accident report forms, like ours examining PPAs, demonstrate that the forms do not reflect current traffic safety laws.

Examining the practices of key organizations, such as law enforcement, health departments, and schools, has potential for affecting the health and safety of the greater community. By changing its own internal regulations and norms, an organization can affect the health and safety of its members. Changing organizational practice is one of six components described in the Spectrum of Prevention, a tool for developing a multifaceted approach to injury prevention and for encouraging practitioners to implement comprehensive initiatives.[14] The tool is composed of six levels of increasing scope beginning with strengthening individual knowledge and skills, promoting community education, educating providers, fostering coalitions and networks, changing organizational practices, and influencing policy and legislation. Examining and revising the PPAs is an example of changing organizational practice and can serve as a means to educate teenagers and their parents about current GDL laws. It also has the potential to promote a culture of safe driving by using PPAs that require young drivers to follow current driving laws on schools grounds as well as for school events and functions.

This study has one notable limitation. It was conducted in one small Southern New England state. The use of PPAs and its content may vary substantially to those from other states or regions. An important strength of our study is the response rate of 77%.

CONCLUSION

Only a minority of Connecticut high schools include information about GDL laws on their PPAs. The study demonstrates that some PPAs in Connecticut high schools are condoning unsafe and illegal activities. Therefore, it is suggested that all schools should examine their PPA content and adopt a uniform high school PPA that reinforces safe driving messages, such as GDL laws, in an effort to promote teen driving safety.

© 2015 Wolters Kluwer Health, Inc. All rights reserved.

Copyright © 2015 Wolters Kluwer Health, Inc. All rights reserved.

AUTHORSHIP

A.A., V.C., M..W, H.E., and K.B. were involved in the literature search, study design, and data collection. H.E. and K.R. were involved in data analysis and interpretation as well as writing and critical revision of the manuscript. G.L. contributed to all activities related to this study.

ACKNOWLEDGMENT

We thank and credit Tim Hollister, author of *Not So Fast: Parenting Your Teen Through the Dangers of Driving* who first identified PPA content as a fruitful area for study and practice change. We also thank Diane Pintavalle, teacher at Glastonbury High School for supporting coauthors (A.A., V.C.) who were students in her Advanced Research Methods Course.

DISCLOSURE

The authors declare no conflicts of interest.

REFERENCES

1. Centers for Disease Control and Prevention. Web-based Injury Statistics Query and Reporting System (WISQARS). (2012). *National Center for Injury Prevention and Control, Centers for Disease Control and Prevention*. Available at: http://www.cdc.gov/injury/wisqars/index.html. Accessed September 29, 2014.
2. Jonah BA, Dawson NE. Youth and risk: age differences in risky driving, risk perception, and risk utility. *Alcohol, Drugs and Driving*. 1987;3:13–29.
3. Insurance Institute for Highway Safety (IIHS). *Fatality Facts: Teenagers 2012*. Arlington, VA: The Institute; 2012. Available at: http://www.iihs.org/iihs/topics/t/teenagers/topicoverview. Accessed September 29, 2014.
4. Simons-Morton B, Lerner N, Singer J. The observed effects of teenage passengers on the risky driving behavior of teenage drivers. *Accid Anal Prev.* 2005;37(6):973–982.
5. Shope J. Graduated driver licensing: review of evaluation results since 2002. *J Safety Res*. 2007;38:165–175.
6. Ferguson SA, Teoh ER, McCartt AT. Progress in teenage crash risk during the last decade. *J Safety Res*. 2007;38:137–145.
7. Preusser D, Tison J. GDL then and now. *J Safety Res*. 2007;38:159–163.
8. Insurance Institute for Highway Safety. Licensing systems for young drivers. Available at: http://www.iihs.org/laws/graduatedLicenseIntro.aspx. Accessed October 9, 2014.
9. Rogers SC, Bentley GC, Campbell B, Borrup K, Saleheen H, Wang Z, Lapidus G. Impact of Connecticut's graduated driver licensing system on teenage motor vehicle crash rates. *J Trauma*. 2011;71(5 Suppl 2):S527–S530.
10. Hollister T. *Not So Fast. Parenting Your Teen Through the Dangers of Driving*. Chicago, IL: Review Press; 1997–1998.
11. Connecticut Voices for Children. District Reference Groups. Available at: http://www.ctdatahaven.org/reports/ece06drgerg.pdf. Accessed October 23, 2014.
12. Insurance Institute for Highway Safety. Fatality Facts: Teenagers. Available at: http://www.iihs.org/iihs/topics/t/teenagers/fatalityfacts/teenagers. Accessed October 23, 2014.
13. Brock K, Lapidus G. Police accident report forms: safety device coding and enacted laws. *Inj Prev.* 2008;14:405–407.
14. Cohen L, Swift S. The spectrum of prevention: developing a comprehensive approach to injury prevention. *Inj Prev.* 1999;5:203–207.

© 2015 Wolters Kluwer Health, Inc. All rights reserved.

Copyright © 2015 Wolters Kluwer Health, Inc. All rights reserved.