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Parents' views of teen driving risks, the role of parents, and how they plan to manage the risks

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Abstract

Problem: There is limited information about how parents view teen driving risks and intend to handle these risks during the licensing process, and how they will respond to graduated licensing provisions. **Methods:** Parents in Connecticut were interviewed when their teens got their learner's permit. The survey was undertaken when the state did not have a midnight restriction or a passenger restriction. **Results:** Generally, parents were well aware of teen driving risks, thought parents should be thoroughly involved in the licensing process, and plan to be active participants themselves. **Discussion:** Parents were concerned about the risk of driving after midnight and already restrict that behavior. However, parents do not seem to see or understand the risks of having even one teen passenger in the vehicle. **Impact on Industry:** The views and existing practices of parents need to be taken into account in deciding on the provisions of graduated licensing legislation and how to best ensure acceptance and compliance.

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1. Introduction

Young beginning drivers – primarily 16-year-olds – have very high crash risk, and the risk is highest during the first months of licensure (Mayhew, Simpson, & Pak, 2003; Williams, 2003). To combat this problem, every state since 1996 has enacted one or more elements of graduated licensing, a risk management system designed to protect young beginners while they are learning. It does so by encouraging low risk driving and discouraging driving in high-risk situations. The central features of graduated licensing are an extended learner stage, followed by an intermediate stage in which driving late at night and with young passengers at any time of the day are prohibited. Driving under supervision as a learner is known to be low risk (Mayhew et al., 2003); late-night driving and driving

with young passengers are high risk activities (Chen, Baker, & Braver, 2000; Williams & Preusser, 1997).

The logic behind graduated licensing as a way to manage the driving of young beginners is compelling, and evaluations of state systems show them to be effective in reducing crashes (Shope & Molnar, 2003; Simpson, 2003). However, many states have weak versions of graduated licensing, missing one or more of the central features, or have lax provisions (e.g., not restricting night driving until midnight or 1 a.m.). Twenty-four states are rated as having “good” systems (Insurance Institute for Highway Safety, 2006), but none would be considered excellent. An excellent rating would go to a system that started the licensing process at age 16, had a learner stage of at least six months, a night restriction that began at 9 or 10 p.m., a restriction allowing no more than one young passenger, with both night and passenger restrictions in effect until age 18. Each of these features exists in several states, but no state has the whole package.

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In legislative debates about what a graduated system should consist of, limited attention has been paid to the collective views and existing practices of parents of teenagers. Parents clearly have a vested interest in how their teens are licensed, and they are the primary architects and enforcers of licensing rules, whatever the state requirements are. Parents have their own views about driving risks, views about the role of parents and their own plans for managing risks during beginning driving, and views about what restrictions should be placed on initial driving activities and when they should be lifted. We have limited information about parental views in these areas, but these views can be expected to affect how parents will react to graduated licensing legislation and its various components. For example, if most parents already are restricting certain activities, instituting a restriction on that activity will reinforce what parents already are trying to do, but it may not result in much behavior change. On the other hand, if restrictions are instituted that parents are not applying, parents may not encourage compliance unless they understand and appreciate the rationale for the restriction.

Thus parents' views and practices in regard to licensing can be important in determining what provisions should be promoted, and how well they will be received and supported if enacted into law. Surveys have indicated parents to be strong supporters of graduated licensing and its components, where it exists and where it does not, and it is likely that if their views were followed, there would be stronger licensing systems (Ferguson & Williams, 1996; Mayhew, Simpson, Ferguson, & Williams, 1998; Mayhew, Simpson, Ferguson, & Williams, 1999; Williams, Ferguson, Leaf, & Preusser, 1998; Williams, Nelson, & Leaf, 2002).

Connecticut is a case in point. In 1997, Connecticut added a six month minimum learner period, but had no other features of graduated licensing until enacting a passenger restriction that went into effect in 2004 (during the first three months, only one parent or other licensed driver age 20 or more permitted in the vehicle; second three months, only parents, one other licensed driver age 20 or more, and other immediate family members). The passenger restriction was amended in 2005 to allow both parents as passengers in the first three months. In 2005 a nighttime restriction from midnight to 5 a.m. also was added.

Connecticut's six-month learner period requirement (can be reduced to four months with driver education) had an important crash reduction effect. Since the licensing process in Connecticut does not start until age 16, this basically raised the age at which a full license could be obtained. The result was a 27% reduction in crash involvement of 16-year-olds (Ulmer, Ferguson, Williams, & Preusser, 2001).

Surveys of parents of teenagers in Connecticut before and after the new learner requirement indicated parents' positive response to this new rule, as well as to night and passenger restrictions and graduated licensing in general (Ferguson,

Williams, & Leaf, 2001). The same parents were interviewed on both occasions, before and after their teens had obtained licenses. At the time of the first interview, the six-month minimum learner period had just been enacted, while the night restriction had been debated but rejected. The learner period requirement received overwhelming support, with 92% of parents favoring it before their teen was licensed and 99% after their teen had gone through the licensing process. Night and passenger restrictions also received strong and increasing support, especially night restrictions (80% in favor in 1996, 85% in 1999). Passenger restrictions were endorsed by 58% in 1996 and 72% in 1999. In 1999, 67% of parents of 15-year-olds in Connecticut approved of a graduated system including the extended learner period plus both night and passenger restrictions, and 40% thought it should be more difficult to get a license than called for by the new law. Thus support for a strong graduated licensing system, including night and passenger restrictions, was evident among Connecticut parents in the late 1990s, although it took quite a few more years for these elements to be added.

Prior to the night and passengers restrictions going into effect, it was possible to obtain a more thorough reading of the views and practices of parents in Connecticut in regard to risk perception and licensing practices. This information was obtained from a major survey of more than 4,000 Connecticut parents. The survey allowed an assessment of the level of parent involvement they think appropriate in the licensing process, the licensing rules they impose on their own, what they want and presumably would support in a licensing system, and how Connecticut parents will react to incoming night and passenger restrictions, as well as any areas where they may misperceive risks.

2. Methods

Study participants were recruited at Connecticut Department of Motor Vehicles offices statewide in 2001–2002. Teens ages 16 years, 6 months or younger who successfully tested for a learner's permit and an accompanying parent were recruited. Of the 4,920 families approached, 4,503 parent-teen dyads (92%) agreed to participate. Of those recruited, 4,145 parents (92%) completed baseline surveys. These dyads were subsequently randomized to treatment and control groups to take part in a longitudinal study (the "Checkpoints" program) that sought to influence parents to adopt various limits on teen driving (Simons-Morton, Hartos, Leaf, & Preusser, 2006). Data for the present study were based on parent baseline surveys for the entire sample.

Four questions of parent attitudes about teen driving and intended licensing practices were addressed in the questionnaire. All were made up of multiple items scored on scales from 1 to 10, with 10 the most restrictive or concerned about teen driving. Summary scales were made up of the average of the scores on the items.

The first question was on parent judgments of risk of crash or injury for newly licensed adolescents under 14 conditions, such as being under the influence of alcohol, not wearing seat belts, driving after 9 p.m. or after midnight, with teen passengers, and on high-speed or unfamiliar roads. The second question was on perceived driving restriction norms for parent involvement with their teens' driving, with seven items including deciding the age at which their teens should be licensed, teaching them to drive, supervising their driving after licensure, and determining when and where their teens can drive. The third question included eight items concerning how soon after licensure teens in general should have privileges such as being able to have their own cars, driving whenever and wherever they wanted, driving as late as they wanted, and driving a carload of teens. Last was a question with 12 items on the initial limits these parents might plan to set on driving for their own teens when they first became licensed, including after dark, 9 p.m., or after midnight, with one or two teen passengers, on unfamiliar or high-speed roads, and without telling where they were going, or with whom, or when they would return.

Analysis of variance was used to relate these parent attitude measures to family income, parent education, race, and parent gender, and to two outcome measures: months time lag from permit to license and extent of teen vehicle ownership in the first year of licensure. (Though analysis of variance is based on normally distributed variables, the likelihood of Type 1 errors is not seriously affected by moderate non-normality in the data [Winer, 1971]. These data are somewhat skewed but otherwise fit analysis of variance assumptions.) Because of the large number of potential comparisons, a conservative level of $p < .01$ was required for statistical significance.

3. Results

Of the 4,145 parents who participated, 37% had annual household incomes under \$70,000, 50% had incomes of \$70,000 or more, and the remainder refused to say. Sixty-three percent were mothers and 37% fathers. Forty-nine percent of the teens were sons and 51% daughters. Eighty-eight percent of the parents were white and 12% non-white, of whom 4% were Hispanic and 4% African-American. Forty-five percent were college graduates or had graduate degrees.

Forty-nine percent of teens obtained their licenses within 4–6 months of getting their permits, the minimum possible time; 33% obtained their licenses from 7 to 10 months after getting their permits; and 18% obtained their licenses 11 or more months after getting their permits.

Teen vehicle ownership was measured as the number of post-license surveys in which the teens indicated that they had their own vehicles. There were four such surveys, at license, and 3, 6, and 12 months after licensure, so values

could range from 0 to 4. Twenty-three percent of teens did not own vehicles at all; 10% owned vehicles at one survey, 10% at two surveys, 17% at three surveys, and 41% owned vehicles at all four surveys.

Responses to four questions form the basis for the results. For each item in each question, parents were asked to use a 10-point scale to indicate their views. Tables 1–4 present the questions and responses, rank ordered high to low.

Scales made up of the averages of the items were consistent and reliable. For parental judgment of risk, the overall mean (on a scale from 1 to 10, with 10 = extreme risk) was 8.4; Cronbach's alpha was .91. For how involved parents should be, the mean was 9.3 and Cronbach's alpha was .79. For how soon teens should receive driving privileges, the mean was 8.4 and Cronbach's alpha was .85. For the initial limits parents expected to set for their own teens, the mean was 8.8 and Cronbach's alpha was .84.

Parents generally responded to these questions in ways that reflected high perceptions of risk, need for parent involvement, and restrictions once licensed. The individual items are of particular interest. Parents associated highest risk with drugs and alcohol and post-midnight driving and seat belt non-use; least risk for 9 p.m. — midnight driving and driving with one passenger. In terms of their involvement, they think it important to make decisions on when and how things should happen and are less interested in hands-on involvement in terms of teaching their teens to drive and supervising them once licensed. Many were agreeable to letting teens have their own cars at an early stage. For the first three months they were most likely to allow one teen passenger, which was permitted at the time of the surveys but is not allowed under Connecticut's new law.

Parents' overall scores on the four questions were modestly intercorrelated in expected directions, as shown in Table 5. Parents with higher perceived risks of teen driving were more likely to think parents should be highly involved ($r = .25$) and less likely to think privileges should be allowed quickly ($r = .34$) or to plan to allow various driving privileges in the first three months ($r = .36$). Parents who thought parents should be highly involved thought privileges should not be allowed quickly ($r = .18$) and were less likely themselves to allow driving privileges in the first three months ($r = .19$). Parents who thought privileges should not be allowed quickly were less likely to allow driving privileges in the first three months ($r = .31$). The correlations were not large but all were statistically significant at $p < 0.001$.

Associations between parent responses and demographic characteristics, and with time to licensure and car ownership during the first year of licensure, were tested with 6-factor analyses of variance. Main effect means are shown in Table 6. Relationships that were statistically significant at $p < 0.01$ are shown in bold in the table.

In the analyses, a small number of second- and third-order interactions reached statistical significance. When examined, they showed differences in the degree of relationships that do

Table 1
Parent judgments of risk for new drivers

How much risk for crash or injury do you think newly licensed teens have if they drive unsupervised in the following situations? (1 to 10, 1=*some risk*, 10=*extreme risk*)

Situation	Mean	N	S. Dev.
Under the influence of alcohol or drugs	9.9	4,130	1.0
While passengers use drugs or alcohol in the vehicle	9.7	4,130	1.3
While not wearing a seat belt	9.3	4,132	1.5
Between midnight and 6 a.m.	9.3	4,129	1.6
With several teen friends on a weekend night	8.9	4,129	1.7
In bad weather	8.7	4,130	1.8
Late at night on the weekend	8.6	4,132	1.8
Outside of local or familiar areas	8.2	4,133	2.0
With teen friends in the vehicle	8.1	4,131	2.0
Late at night during the week	8.1	4,127	2.1
On unfamiliar roads	7.9	4,128	2.0
On freeways or expressways	7.8	4,128	2.1
Between 9 p.m. and midnight	7.3	4,128	2.2
With one teen friend	5.7	4,127	2.4

not affect the patterns seen in the main effects, and the interactions are not discussed further.

Table 6 indicates that there were some significant associations among risk perception/expected licensing practices and demographic characteristics, and with time to licensure and vehicle ownership. Parent gender was significantly associated with all four variables, with mothers more likely than fathers to perceive high risk, think there should be strong parental involvement, and to think and plan for driving privileges to be delayed. Those with greater formal education perceived fewer driving risks and were less likely to think parents should be highly involved, but they were more likely to think driving privileges should be delayed. Family income was unrelated to all four variables; non-white parents perceived greater teen driving risks.

In the cases where there were statistically significant relationships, responses to the separate items making up the scales tended to be in the same direction, often statistically significant themselves.

Table 2
How involved parents should be

How involved should parents be above and beyond driver's education and state laws in the following areas of their teens' driving? (1 to 10, 1=*not at all involved*, 10=*very involved*)

Area of Parental Involvement	Mean	N	S.Dev.
Determining penalties or consequences for unsafe driving by their teens	9.6	4,131	1.1
Deciding at what age their teens should get a driver's license	9.4	4,125	1.4
Determining when and where their teens can drive	9.4	4,133	1.1
Deciding whether their teens are safe drivers	9.4	4,130	1.2
Determining when their teens are ready to take the license exam	9.2	4,127	1.5
Supervising their teens' driving after they are licensed	9.0	4,130	1.5
Teaching their teens to drive	9.0	4,127	1.7

Table 3
How soon teens should be able to ...

How soon after teens get driver's licenses do you think they should be able to do the following? (1 to 10, 1=*right away*, 10=*a year or more after being licensed*)

How Soon Should Teens Be Able to ...	Mean	N	S.Dev.
Drive as late as they want	9.2	4,122	2.3
Take trips longer than a day in the car	9.1	4,120	2.3
Take the car without telling a parent where they are going	9.1	4,122	2.4
Drive a carload of teenagers	9.0	4,122	2.4
Drive whenever they want	8.3	4,123	2.4
Drive wherever they want	8.3	4,121	2.4
Take day trips in the car	7.2	4,117	2.7
Have their own car	6.8	4,101	3.2

Longer times between permit and licensure were associated with thinking that licensing privileges should be delayed, a logical connection. Owning a vehicle was associated with parent plans to accelerate driving privileges in the first three months, in particular allowing driving after dark, between 9 p.m. and midnight, and with one teen passenger. Owning a vehicle was also associated with not thinking driving privileges should be delayed, but this was accounted for by the one item asking how soon teens should be allowed to have their own car.

4. Discussion

The results show overall that parents: think there are high teen driving risks; are concerned about their teens driving under risky situations; think parents should be highly involved in the driving activities of their teens; think driving privileges should be limited in the first year of licensure; and plan to restrict the driving of their teens during the first three months rather substantially. That is, parents recognize the risks and think they should be involved in reducing them, and most were planning on a graduated system of their own that has some restrictions on high risk driving.

Table 4
How often parents expect to allow their own teen

In the first three months after licensure, how often will your teen be allowed to drive under the following conditions? (1 to 10, 1=*very frequently*, 10=*never*)

Situation	Mean	N	S.Dev.
After midnight	9.8	4,141	1.0
Without telling a parent where s/he is going	9.6	4,139	1.4
Without telling a parent when s/he will return	9.6	4,141	1.4
Without asking a parent's permission	9.5	4,138	1.5
Without telling a parent who will be passengers	9.3	4,131	1.7
In bad weather	9.2	4,130	1.4
Between 9 p.m. and midnight	8.6	4,136	1.9
With 2 or more teen friends as the only passengers	8.5	4,130	2.0
Outside of local or familiar areas	8.4	4,140	2.1
On 55+ mph roads	8.0	4,123	2.1
After dark	7.8	4,134	2.1
With 1 teen friend as the only passenger	6.8	4,133	2.6

Table 5
Correlations between parent attitude measures

	Parental involvement norms	How soon allow, norms	What allow, 1st 3 mos.
Risk of teen crash	Corr. 0.25 N 4,132	0.34 4,129	0.36 4,133
Parental involvement norms	Corr. N	0.18 4,128	0.19 4,134
How soon allow, norms	Corr. N		0.31 4,129

All correlations significant, $p < .001$.

There was some variation among parents in their views and practices, although the differences were generally quite small. In particular, mothers were more safety conscious and more likely to delay driving privileges. In general, scores on individual items in the four questions were high, and this was reflected in the high mean scores. There is a social desirability component to most of the items, which is likely to have elevated parent ratings. This may also make the small differences among the items rated be more meaningful than they appear, and it certainly implicates the lowest-rated items, most notably

traveling with one teen passenger (5.7) as being of little concern.

One area in which parents differ is in whether and how soon their sons or daughters should have access to vehicles of their own. It is known that in this data set nearly half the teens reported having their own vehicle immediately upon licensure, and at the end of the first year of licensure, three-quarters were owners. Owners were more likely than non-owners to drive older and smaller vehicles, to drive more miles, do more risky driving, and to have more traffic violations and crashes (Williams, Leaf, Simons-Morton, & Hartos, 2005). In other words, ownership is a crash risk factor, and older and smaller vehicles provide inferior protection in crashes that occur. At the time their sons or daughters received learner's permits, parents of teens who subsequently had their own vehicle were already planning to relax driving privileges in the first three months of licensure. Vehicle ownership and type of vehicle driven are key factors for teen drivers, and more attention needs to be paid to informing parents about the consequences of these choices.

Connecticut parents are highly supportive of graduated licensing concepts and at the time their teen received a learner's permit have plans to impose their own rules and

Table 6
Differences in parent attitudes by demographics, teen permit-to-license lag, and teen vehicle ownership

	Risk of crash/injury, new teen drivers			Parent involvement, norms			How soon allow, norms			What allow, 1st 3 months, own teen		
	Mean	N	St.Dev.	Mean	N	St.Dev.	Mean	N	St.Dev.	Mean	N	St.Dev.
Family income												
<\$70,000	8.5	1,575	1.4	9.4	1,574	0.9	8.4	1,575	1.8	8.8	1,575	1.1
\$70,000 or more	8.3	2,128	1.2	9.2	2,128	0.9	8.4	2,127	1.7	8.8	2,128	1.1
Parent education	Mean**	N	St.Dev.	Mean**	N	St.Dev.	Mean*	N	St.Dev.	Mean	N	St.Dev.
Up to some college	8.5	2,249	1.3	9.4	2,249	0.9	8.3	2,249	1.8	8.7	2,255	1.2
College graduate	8.2	1,877	1.2	9.2	1,878	1.0	8.5	1,873	1.6	8.8	1,883	1.0
Parent race	Mean**	N	St.Dev.	Mean	N	St.Dev.	Mean	N	St.Dev.	Mean	N	St.Dev.
White	8.4	3,678	1.3	9.3	3,679	0.9	8.4	3,675	1.7	8.8	3,686	1.1
All other	8.7	455	1.5	9.3	455	1.1	8.3	454	2.0	8.8	459	1.4
Parent gender	Mean**	N	St.Dev.	Mean**	N	St.Dev.	Mean**	N	St.Dev.	Mean**	N	St.Dev.
Father	8.1	1,486	1.3	9.0	1,486	1.0	8.1	1,485	1.8	8.6	1,492	1.1
Mother	8.6	2,645	1.2	9.4	2,646	0.8	8.5	2,642	1.7	8.8	2,651	1.1
Lag, permit-License	Mean	N	St.Dev.	Mean	N	St.Dev.	Mean*	N	St.Dev.	Mean	N	St.Dev.
4–6 months	8.3	1,897	1.3	9.3	1,898	0.9	8.3	1,897	1.7	8.7	1,900	1.1
7–10 months	8.4	1,253	1.3	9.3	1,253	1.0	8.4	1,251	1.8	8.8	1,258	1.1
11+ months	8.5	707	1.4	9.3	707	0.9	8.5	705	1.7	8.8	711	1.2
Car ownshp, 1st year	Mean	N	St.Dev.	Mean	N	St.Dev.	Mean**	N	St.Dev.	Mean*	N	St.Dev.
Never	8.4	419	1.2	9.2	421	1.0	8.7	417	1.6	8.9	422	0.9
One survey	8.4	338	1.3	9.2	338	0.9	8.6	338	1.8	8.9	339	1.1
Two surveys	8.4	325	1.2	9.3	325	0.9	8.4	325	1.8	8.8	326	1.1
Three surveys	8.4	557	1.3	9.3	556	0.9	8.3	557	1.8	8.7	558	1.2
All four surveys	8.4	1,108	1.3	9.3	1,108	0.9	8.3	1,107	1.7	8.7	1,108	1.2

* $p < .01$.

** $p < .001$.

regulations. To the extent parents in Connecticut are like parents in other states, graduated licensing imposed by law will support and validate their efforts. Importantly, it has been found that parents in states with strong graduated licensing laws are better able to establish and enforce driving restrictions in general, including those not covered by the law (Hartos, Simons-Morton, Beck, & Leaf, 2005).

Nighttime and passenger restrictions were not yet in effect in Connecticut when this survey was conducted. There are implications for both measures. For the first three months, Connecticut parents were most likely to allow one teen passenger, which increases crash risk and which the new law does not allow. Parents do not seem to see or appreciate the risks of having teen passengers in the car. Thus passenger restrictions are needed in states that do not have them to influence parents to do the right thing, and where they do have them (as is now the case in Connecticut) parents will have to be educated about the rationale for the restriction in order to have higher compliance. This is especially the case for parents who allow early vehicle ownership.

The incoming midnight restriction will probably not accomplish very much since parents are well aware of that risk and already report prohibiting driving after midnight. There is an argument that the night restriction should start earlier, as is the case in some states, although parents in this survey were not very concerned about driving from 9 p.m. to midnight, particularly parents who allowed their teens to own vehicles. We know that parents are the chief enforcers of graduated licensing legislation. The key messages of this study are that parents would welcome strong graduated licensing systems, and parental views and existing practices need to be taken into account in deciding on the provisions of this legislation, explaining its rationale, and taking steps to encourage compliance.

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