

Graduated Driver Licensing for Older Novice Drivers: Critical Analysis of the Issues

Allison E. Curry, PhD,^{1,2} Robert D. Foss, PhD,³ Allan F. Williams, PhD⁴

INTRODUCTION

Since the mid-1990s, all U.S. states have implemented Graduated Driver Licensing (GDL) systems for young beginning (i.e., novice) drivers. GDL is designed to limit high-risk exposure as experience is gained and incorporates the fact that humans learn “how to do” largely “by doing” into the licensing process.¹ Its basic components include a 6- to 12-month supervised learner period, followed by an intermediate license that restricts unsupervised driving at night and with young passengers. Introduction of GDL in the U.S. has led to substantial crash reductions, and GDL remains the most effective approach to reduce crashes among young novice drivers.²

Whereas jurisdictions outside the U.S.—including Australia, New Zealand, Canada, and Israel—require GDL for either some or all novice drivers aged ≥ 18 years, only seven U.S. jurisdictions (Connecticut, Indiana, Maine, Maryland, Minnesota, New Jersey, Washington, DC) currently require novice drivers aged ≥ 18 years to comply with one or more GDL provisions. Only three of these (New Jersey, Indiana, Washington, DC) apply full GDL rules, including nighttime and passenger restrictions, to all novice drivers < 21 years. Notably, however, the majority of international GDL systems lack key features considered essential in the U.S. for a well-designed GDL system; few have passenger limits or meaningful night driving restrictions. This highlights a key difference in approaches—the U.S. has opted to attempt to reduce crashes specifically among the youngest novice drivers, whereas other countries focus on a broader range of novices, without widespread adoption of specific protective restrictions on intermediate licenses that are particularly important for young novices.

As the U.S. novice driver population aged ≥ 18 years has been growing,^{3–5} the question of whether GDL should be applied to older novices has arisen. In 2012, the Governor’s Highway Safety Association⁶ noted that “states are wrestling with whether it makes more sense to strengthen their existing GDL provisions, which apply only to new drivers aged < 18 years, or try to increase

GDL requirements so that they include older teens.” Although few GDL improvements have been made in recent years, this is an ongoing topic of discussion in highway safety. Indiana recently extended GDL coverage to older novices, and there are ongoing efforts in at least one other state to do so. However, addressing the question of whether states should extend GDL requirements to older novice drivers requires going beyond the observation that older novice drivers do not currently experience GDL. It must also include considerations of the extent to which older novices have the elevated crash risk observed among younger novices, older novices are likely to comply with GDL restrictions, and GDL provisions that are calibrated to address risks of high school-age teens are appropriate and feasible for older novices.

U.S. NOVICE DRIVER POPULATION

Studies conducted before GDL was the standard indicated that a substantial proportion of individuals did not obtain a license as soon as they were eligible (generally aged 16 years in the U.S.).⁷ More recent studies report similar findings,^{3,4} indicating that about one third of people in the U.S. are first licensed at age ≥ 18 years. Although patterns differ by state, later licensing has increased nationally in recent years, most likely as a result of the recent economic recession.⁸ Teens cite not having a car, the cost of gas, and the cost of maintaining a vehicle as primary reasons for waiting to obtain a license,³ and recent studies have found a strong link between SES and licensing age.^{3,4} Collectively, these findings have raised

From the ¹Perelman School of Medicine, University of Pennsylvania, Philadelphia, Pennsylvania; ²Center for Injury Research and Prevention, Children’s Hospital of Philadelphia, Philadelphia, Pennsylvania; ³Highway Safety Research Center, University of North Carolina, Chapel Hill, North Carolina; and ⁴Allan F. Williams LLC, Bethesda, Maryland

Address correspondence to: Allison E. Curry, PhD, MPH, Center for Injury Research and Prevention, Children’s Hospital of Philadelphia, 2716 South Street, 13th floor, Philadelphia, PA 19146. E-mail: currya@email.chop.edu.

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concern that teens in lower-income households may be missing out on the benefits of GDL.

OLDER NOVICE DRIVER CRASH RATES

Few existing studies have assessed the crash risk of older novice drivers in comparison with novice drivers aged 16 and 17 years. Decisions by Canadian provinces to apply GDL to all novice drivers were based on evidence that newly licensed drivers of all ages had a greater crash risk than those who had been driving for a few years.⁹ Only three U.S. studies have directly compared crash rates of older and younger novice drivers over their initial years of licensure.¹⁰⁻¹² The first was in California, which applies GDL only to novice drivers aged <18 years and has a minimum licensing age of 16 years. The second and third were in New Jersey, which applies full GDL rules to all novice drivers aged <21 years and includes a minimum licensing age of 17 years. Both found that drivers licensed at age ≥ 21 years experienced substantially lower initial crash rates and more gradual reductions over time than novice drivers aged 17-20 years, calling into question the potential to reduce crashes by extending U.S. GDL policies to novice drivers aged >20 years. On the other hand, both studies indicated that drivers who obtain an intermediate license at ages 18 through 20 years experience relatively high initial crash rates, which decline rapidly over the first year of driving. Given the lack of evidence indicating drivers in the U.S. who begin at age ≥ 21 years would greatly benefit from a GDL system, the subsequent sections focus primarily on older novices who obtain their license at the ages of 18 through 20 years.

EFFECTS OF GRADUATED DRIVER LICENSING ON OLDER NOVICE DRIVER CRASHES

Although there is extensive literature on the effects of U.S. GDL systems on younger novice crash rates, evidence about the effects of GDL systems that apply to novices aged 18-20 years is extremely limited. To date, no international study has rigorously examined the effect of GDL specifically on novices aged 18-20 years; further, such studies would have a limited ability to directly inform future efforts in the U.S. given the difference in approaches to GDL previously discussed. Two U.S. studies have provided some insight on this issue. Williams et al.¹³ showed reductions in population-based rates of total (10%), as well as injury (10%), and late night crashes (17%) among drivers aged 18 years after New Jersey's introduction of GDL in 2001. Although this study provided suggestive evidence of positive effects, the

study was not able to determine effects of GDL specifically on drivers who were first licensed at age 18 years. Ehsani and colleagues¹⁴ examined the possible effect of establishing, and later extending, a mandatory learner period for older novice drivers in Maryland. Similar to Williams et al., crash rates were examined among the state's population of drivers aged 18 years and not specifically on novice drivers aged 18 years. Further, the study's results were somewhat conflicting—an effect was observed only for lengthening the learner period from 4 to 6 months and only among minor crashes—precluding clear conclusions about the effect of a learner period on older novices.

One study of teen driver fatal crashes, conducted by Masten and colleagues¹⁵ in 2011, looked beyond the ages directly affected by GDL and suggested that GDL might somehow be increasing crash risk for drivers aged 18 years. Despite the authors' caution that replication was needed before this could be considered established fact, this study led some to suggest extending GDL to older novice drivers was necessary. However, evidence on this is mixed, and more recent studies have not found negative effects of GDL on drivers aged 18 years.^{14,16}

ACCEPTANCE, COMPLIANCE, AND ENFORCEMENT

It is important to consider whether older novices would comply with GDL restrictions to the extent that younger novices do, because most of the crash reductions produced by GDL accrue while drivers are under the protective restrictions of learner and intermediate licenses. Several studies report high compliance with supervised driving requirements, nighttime restrictions, and passenger restrictions among young novice drivers.¹⁷⁻¹⁹ This high level of compliance with GDL does not result from law enforcement efforts to ensure adherence to GDL restrictions,^{11,17} but rather seem to reflect the broad willingness of most novices to comply, along with parental efforts to ensure their teens adhere to their license provisions. If these conditions do not hold among older novices, the benefits of GDL would be degraded by low compliance. However, recent research provides some encouraging evidence. In a 2013 survey, 73% of New Jersey residents aged 17-19 years said they somewhat or strongly approved of New Jersey's GDL policy.²⁰ Moreover, actual compliance appears to be quite high among intermediate drivers aged 18-20 years in New Jersey with both the one-passenger limit (>90% of trips) and 11:00PM nighttime driving limits (>95% of trips).¹⁷ In a national survey of parents of adolescents aged 15-18 years, 95% believed that all novices aged <21 years should be covered by GDL.²¹ Even though fewer older

novices reside with a parent than is the case with younger novices, this suggests that lack of compliance among older novices might not be a serious problem. However, additional evidence documenting actual compliance in U.S. states that have extended GDL to older novices is needed.

FURTHER CONSIDERATIONS IN EXTENDING GRADUATED DRIVER LICENSING POLICIES TO OLDER NOVICE DRIVERS

The limited evidence available from U.S. studies does not support extending GDL to new drivers aged ≥ 21 years. However, the increasing number of beginning drivers aged 18–20 years, along with their initially high crash rates, does warrant further consideration of (1) mandatory supervised learner periods, (2) passenger limits, and (3) nighttime driving restrictions.

Mandatory Supervised Learner Periods

A few studies suggest that an extended learner period may improve driving ability,^{22,23} but the primary effect of mandatory learner periods results from a reduction in the amount and riskiness of driving during the first 6 to 12 months of driving by GDL licensees as compared with the early driving of pre-GDL licensees, given that this early driving period now involves adult supervision.²⁴ To the extent that a mandatory holding period for novice drivers aged 18–20 years increases their time spent as a learner driver, this could reduce the amount and riskiness of their initial driving. However, given the key role that parents play in U.S. GDL systems, it is unknown whether this effect can be achieved among older novice drivers. Parents may be less readily available to supervise initial driving and to ensure adherence to this requirement, and other potential supervisors may not be as motivated or protective as parents.

Intermediate License Nighttime Driving Restrictions

Nighttime restrictions are designed to limit driving exposure at night—a time period of high risk for newly licensed drivers.²⁵ These restrictions, especially those that begin at 9:00PM or 10:00PM, have been shown to reduce crashes among drivers aged 16 and 17 years.^{26,27} Presently, data on nighttime crash risk for older novice drivers is available only from a study in New Jersey, which provides initial evidence of a potential benefit from a 9:00PM limit for novice drivers aged 18–20 years as well.¹² Currently, 36 states have nighttime limits that begin at 11:00PM or later—even for the youngest novice drivers—despite the fact that approximately 60% of all

nighttime crashes among young novice drivers occur from 9:00PM to 11:00PM.¹²

Intermediate License Passenger Restrictions

Most states limit younger novice drivers' carriage of multiple young passengers given that carrying passengers is associated with increased crash fatality risk for drivers aged 16 and 17 years.^{25,28} Several studies that have attempted to estimate the unique effects of individual GDL provisions suggest that passenger restrictions reduce fatal crash incidence among these drivers.²⁹ Although some researchers have looked at whether passengers increase crash risk for drivers aged 18–20 years,³⁰ these studies examined crash-involved drivers whose actual driving experience ranged from a few days to ≥ 5 years. To the authors' knowledge, no study has directly examined whether carrying passengers increases either crash or fatality risk specifically among novice drivers aged 18, 19, or 20 years.

Summary

Although there is solid evidence that appropriately calibrated GDL provisions (e.g., 12-month learner periods, nighttime limits that begin at 9:00PM) result in substantial crash reductions among younger novices, the evidence base to support extending GDL systems to novice drivers aged ≥ 18 years is limited and still developing. Jurisdictions that currently have weaker provisions for younger novice drivers need to consider whether policy efforts to improve their existing licensing systems for the youngest novices or extending current weak GDL provisions to novice drivers aged 18–20 years would produce greater overall benefits.

FUTURE RESEARCH DIRECTIONS

To date, there is no compelling evidence to suggest extended restrictions are needed for drivers aged ≥ 21 years. With respect to novices aged 18–20 years, it has been established that this population is growing and that, similar to younger novice drivers, these drivers have initial high crash rates that steeply decline over the period of early licensure. Thus far, data from one state (New Jersey) suggest that novice drivers aged 18–20 years benefit from a GDL nighttime driving limit and that they comply with nighttime and passenger limits. However, further understanding of how older novice crash risks vary across different jurisdictions and driver subgroups (e.g., lower- versus higher-income households), as well as how older novices' driving patterns, travel needs, and support systems differ from those of the youngest novice drivers, is urgently needed. These data would provide valuable evidence on whether the U.S. GDL approach—

which was originally designed for high school–age teens—is logistically feasible for, acceptable to, and produces similar benefits among older novice drivers. Thus far, New Jersey has presented the only opportunity to directly examine some of these questions. Evidence on these issues from other states that have recently extended some GDL requirements to older novices (e.g., Indiana, Washington, DC, Connecticut) is sorely needed. This critically important information would directly inform policymakers as they make important decisions regarding young and novice driver safety in the U.S.

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