

The Effect of Extending Graduated Driver Licensing to Older Novice Drivers in Indiana

INTRODUCTION

Graduated Driver Licensing (GDL) systems were designed to protect young novice drivers by creating a safe environment in which to learn to drive and limit exposure to known high-risk conditions until the drivers have amassed at least several months of experience driving. A large body of research has found that GDL systems have substantially reduced the rates of crashes, injuries, and deaths of 16- and 17-year-old drivers. However, AAA Foundation research has estimated that as many as one in three drivers do not obtain their first license until the age of 18 or older. Although previous AAA Foundation research has also shown that that new drivers licensed at ages 18-20 have crash rates similar to equally-inexperienced younger beginners and much higher crash rates than same-aged peers with more driving experience, most states do not apply most key provisions of their GDL programs to new drivers aged 18 years or older.

On July 1, 2015, the state of Indiana modified its Graduated Driver Licensing (GDL) system, extending restrictions on driving late at night and on carrying young passengers—previously only applicable to newly-licensed drivers younger than 18—to all newly-licensed drivers under the age of 21. Specifically, the updated GDL program restricted new drivers under age 21, from driving between the hours of 10 p.m. and 5 a.m. and from carrying non-family passengers for their first six months of license driving, unless they had a qualifying supervisor (a licensed driver aged 25+, or 21+ if the supervising driver is the driver's spouse). This study examines the crash rates of drivers who received their first driver's license at ages 18-20 in the state of Indiana before versus after Indiana updated its GDL system.

KEY FINDINGS

Drivers licensed under the updated GDL system had higher rates of crashes than did drivers licensed under the previous GDL program during their first year of licensed driving. This finding was likely attributable to an overall increase in driving exposure, and not an effect of the modified GDL system per se. The total number of crashes of drivers of all ages increased substantially over the study period both statewide and nationally, likely due at least in part to increases in driving associated with increased economic activity following the Great Recession.

The rate of crashes that occurred between 10 p.m. and 5 a.m. was slightly higher among drivers licensed under the updated GDL system than among those licensed under the previous system; however, the proportion of all crashes that occurred during these hours

ABOUT

Established in 1947 by AAA, the AAA Foundation for Traffic Safety is a nonprofit, publicly funded, 501(c)(3) charitable research and educational organization. The AAA Foundation's mission is to prevent traffic deaths and injuries by conducting research into their causes and by educating the public about strategies to prevent crashes and reduce injuries when they do occur. This research is used to develop educational materials for drivers, pedestrians, bicyclists and other road users.

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did not change at all, suggesting that the increased rate was attributable to an overall increase in driving generally and not an increase in the amount or danger of driving at night.

The rate of crashes in which passengers were present was also slightly higher among drivers licensed under the updated GDL system than among those licensed under the previous system. However, similarly to night-time crashes, the proportion of crashes in which passengers were present did not differ between drivers licensed under the updated versus previous GDL system.

METHODOLOGY

Researchers from the University of North Carolina Highway Safety Research Center obtained data on drivers licensed in the state of Indiana and drivers involved in crashes in the state from January 2012 through April 2018.

Drivers who received both an Indiana learner's permit and Indiana operator's license after July 1, 2015 were considered to have been licensed under the updated GDL system; drivers who received both a permit and license before July 1, 2015 were considered to have been licensed under the previous GDL system. Drivers with no record of a learner's permit were excluded because it was unclear whether they were novice drivers. Drivers who obtained a permit before July 1, 2015 and license after that date were excluded because it was unclear whether or not the new GDL requirements applied to these drivers. Drivers licensed after March 1, 2017 were excluded to ensure that records of any police-reported crashes within drivers' first full year of licensed driving would be included in the data. The final study population included 56,534 novice drivers who received their driver's license at age 18-20 in the state of Indiana between January 1, 2012 and March 1, 2017.

Poisson regression was used to investigate whether the first-year crash rates of drivers licensed under the updated GDL system differed from those licensed under the previous GDL system after controlling for other factors that might also influence crash rates.

Rates of crashes that occurred during hours during which driving was restricted under the updated GDL system (10 p.m. – 5 a.m.) and rates of crashes in which passengers were examined using Poisson regression models to estimate the effect of the updated GDL system on these types of crashes. Additionally, because the rates of these types of crashes would be influenced by the overall amount of driving in addition to the risks of these conditions and compliance with the restrictions, linear regression models were used to estimate the proportions of crashes that occurred during restricted hours and with passengers present before and after the GDL system was updated.

MORE INFORMATION

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