

The Phenomenon of Teen Delay in Driving Licensure: Considerations at the Intersection of Mobility and Social Welfare for Emerging Adults

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Abstract: In 2021, there were 11.7 million licensed young drivers in the U.S. This is 1.5 million fewer young drivers compared to 2007. The phenomenon of delay in driving licensure among teens has notable implications for opportunities positioning them for life success when transitioning into emerging adulthood and in later life.

I. Vulnerability of Teen Drivers and an Initial Policy Remedy

Driving is a highly complex task. This is particularly true for teen drivers who are physically capable but more susceptible to motor vehicle crashes resulting in injury, disability, and death than their older counterparts.¹ In this context, key vulnerabilities include individual neurodevelopmental and social developmental characteristics. When teens begin to learn to drive, they are still in ongoing critical stages of brain development, which include maturation of underlying cognitive processes as well as individual personality, behavioral characteristics, and proclivities. Either

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immature cognitive faculties alone or jointly with common risk-taking related personality factors (e.g., sensation-seeking, inhibitory control) during adolescence may contribute to risky driving and crashes.² In 1996, the United States initiated implementation of state-level Graduated Driver Licensing (GDL) policy systems to help reduce serious and fatal crashes among teen drivers. Generally, GDL laws have encompassed 3 stages which teen novice drivers must complete for full independent licensure.

- Stage 1: obtain a learner's permit to drive with close supervision
- Stage 2: learn to drive independently while adhering to policy-imposed driver safety restrictions (e.g., passenger limits, nighttime driving)
- Stage 3: graduate to full independent driving without driver restrictions.

Comprehensive evaluation studies of state GDL laws have demonstrated significant reductions of fatal crashes among teen novice drivers.³ The success of GDL policies has largely been attributed to core safety policy components that initially reduce the exposure of novice drivers to high-risk driving scenarios (e.g., driving with passengers, nighttime driving). This strategy allows teen novice drivers to gain valuable experience in driving while sequentially "graduating" to more complex driving conditions and environments.

II. Teen Delay in Driving Licensure and Implication for Their Later Social Welfare

While driving among teens presents an inherent risk of crash by mere exposure to driving, for many, it remains a vital part in day-to-day functions and

activities that matter at both individual and societal levels. When considering independent transportation, it is clear that teen licensing and access to a vehicle allows them to effectively broaden their mobility. Further, it can enhance their readiness to act on important opportunities that will advance their development such as post-secondary school employment and education.⁴ However, over the last 10–15 years, many teens that would otherwise be legally able to obtain driving licensure within their state have opted to wait, contributing to the phenomenon of Delay in Driving Licensure (DDL). In 2021, among the 232.8 million U.S. licensed drivers, those in the 15 to 20 year old age group made up only 5.0% (11.7 million) of the total.⁵ This reflects a notable decline, with an estimated 1.5

million fewer licensed young drivers compared to the count in 2007.⁶ A recent nationally representative study found that more than 2/3 of teens legally eligible to be licensed in their respective state reported DDL by at least 1 year or more.⁷ Using a survival analysis approach, another nationally representative study found that the median time to licensure after reaching legal driving age was considerably different and disparate among racial and ethnic youth groups.⁸ The median time to licensure showed a delay of 0.41 years, 2.90 years, and 3.47 years for Non-Latino White, African American, and Latino teens respectively.

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Delay in driving licensure has raised important questions regarding the prospective social welfare of youth, particularly as they transition from late adolescence into emerging adulthood. Moreover, many questions remain around the effects of DDL on later education and employment outcomes, as well as the potential for differences and disparities that may emerge and widen among different youth groups throughout the lifespan. A recent study found that teens that reported no DDL, at four years after leaving high school, had a greater likelihood of reporting excellent to good health, having completed some technical school/college or an associate or a bachelor's degree, or a graduate degree, and being employed (< 30 hours/week or ≥ 30 hours/week).⁹ Admittedly, while the larger proportion of the study cohort were Non-Latino White youth with an overall lower likeli-

hood of DDL, there remained a substantial proportion of minority youth that similarly reported No-DDL. While earlier driving licensure may increase driving exposure and crash injury risk, the high prevalence of DDL among U.S. teens should be cause for considerable concern. Increasingly, studies suggest that DDL may cause teens and novice drivers to forego safety benefits associated with GDL. As GDL currently does not (with very few exceptions) apply to drivers 18 years and older, teens will not be covered by driver safety components in GDL policies.¹⁰ Furthermore, it is plausible that avoiding DDL may provide health, education, and employment advantages in emerging/early adulthood, and potentially beyond.¹¹ Hence, when assessing the social welfare impact of DDL, it is

critical to carefully consider the tradeoffs between its short- and long-term costs and benefits, both tangible and intangible, as well as intended and unintended consequences. It could be said that training for driving licensure is a form of investment in human capital accumulation. As such, the ability to drive affects directly and indirectly one's ability to access health care, education, employment, and participate in other leisure and consumption activities, both in the short-term and throughout the individual's lifespan. So, adopting a human capital framework can be insightful when assessing these tradeoffs.

Although the body of literature in understanding teen DDL has increased, there remains a dearth of empiric research that provides understanding as to how and through what mechanisms DDL effects weigh on the lives of emerging and young adults when it comes to their later education, employment, and overall welfare.

III. Pragmatic Considerations of Factors Contributing to Delay in Driving Licensure Among US Teens

Delay in driving licensure is prevalent among US teens and explanations have been limited. Recent literature has pointed to a number of factors associated with teen DDL including race and ethnicity, family affluence, and parent factors (e.g., level of parent education and family structure).¹² In addition, a recent report by the

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AAA Foundation for Traffic Safety found that various other factors contribute to DDL, including ability to get around without driving, cost of gas, overall cost of operating a vehicle, and lack of time.¹³ These findings are consistent with earlier hypotheses. For example, an analysis from The Brookings Institution found that the growing trend of young people driving less could be attributed to improved urban policies emphasizing pedestrian and transit options, reducing reliance on private vehicles. Further, the same analysis notes that these policies involve congestion charging, removing, or minimizing parking requirements, and enhancing pedestrian-friendly infrastructure¹⁴

In addition, as previously noted, GDL policies that have been implemented in all US states over the past decades have had undeniable safety benefits for novice teen drivers.¹⁵ At the same time, it is plausible to consider that GDL policies may have the unintended consequence of inducing DDL, by making it costlier, financially, emotionally, convenience wise, and time-wise, to obtain a driver's license. GDL also reduces the benefits of a license by limiting driving hours and restricting passengers, thereby altering the cost of economic activities that are complementary to driving, such as leisure, education, employment, to cite a few examples. Indeed, there is empirical support for these claims. According to a recent study by Argys et al., approximately half of the decline in teen labor force participation in the U.S. since 1995 could be attributed to the restrictions associated with GDL.¹⁶ Emerging evidence also suggests that GDL policies impact teen human capital accumulation by restricting their mobility. Many teens use automobiles to access school, employment, and leisure activities that are essential to their development and well-being. Indeed, Bostwick recently showed that restricting teens' mobility significantly reduces high school dropout rates and teen employment.¹⁷ They employed a novel triple-difference research design to overcome the fact that school, work, and leisure decisions are interrelated, and isolate the effects of automobile-specific mobility restrictions on schooling and employment.¹⁸ To determine whether this result was driven by the complementarity of school and work, they applied a multiple discrete choice model that rationalizes unintended consequences, finding that school and work are weak complements. Combined, these findings suggest that improved educational outcomes following the adoption of GDL policies reflect decreased access to leisure activities rather than reduced labor market access.

Others have suggested that the changing social and economic circumstances of teens and younger adults may be another contributing factor to DDL. These

populations increasingly live in households and communities with limited financial resources and access to a vehicle, making them less likely to pursue or have a driver's license (i.e., DDL). According to data from the US Census and the American Community Survey (ACS) and an analysis by The Brookings Institution, the share of young adults (age 25 to 38) with a vehicle in the household is significantly lower today (by as much as one percentage point) than the comparable proportion in the 1980s.¹⁹ Data also suggest that young adults may be driving fewer miles than before. Further, these financial disincentives to own a car and/or pursue licensure may be reinforced by the fact that cities have become better at providing widespread mobility without requiring owning or operating a car, through public transportation systems and urban designs, in addition to the emergence of affordable and reliable rideshare options.

Additionally, teens and young adults' decisions to drive are likely influenced by various forms of social factors. Two broad families of social influence models that formalize such behaviors may be relevant to DDL decisions, including the social motivation and reward sensitivity models.²⁰ These models can be combined within the random utility framework to understand teen and young adult choices regarding driving licensure. By understanding the mechanisms at play in teen and young adult decisions regarding the timing of driving licensure, we can tailor interventions and policy responses to safely incentivize teens (and their parents) to mindfully invest early in acquiring proficient driving skills. For example, if the decision to DDL is driven by risk attitudes (e.g., risk aversion, prudence, temperance) and is subject to social motivation, it may be fruitful to focus on interventions around less risky approaches to preparing them to become skillful independent drivers. One approach may consist of using a "meaningful roles" intervention framework. In that approach, teens' motives and goals for DDL are addressed in a tailored fashion, by offering them pro-social alternatives to DDL, such as building a mindset and broader culture of safety, thus effectively meeting the same status or other desired goals as the DDL behavior.²¹ If their decisions are best characterized by reward sensitivity, such as under risky situations, this would support the utility of prohibiting teens from gathering in such risky situations. One strategy may be strengthening restrictions on teen drivers, specifically limiting them from driving with other teen passengers without adult supervision, as this scenario poses one of the highest crash risks for this group. Notice that it is also possible to combine the "meaningful roles" inter-

vention with interventions that address the adverse outcomes of reward sensitivity.

In conclusion, while the causes as well as short- and long-term consequences of DDL abound, it will be imperative to consider the teens' evolving preferences and risk attitudes when devising potential policy responses.

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