The impact of changes to the graduated driver licensing program in Queensland, Australia on the experiences of learner drivers

B. Scott-Parker, L. Bates, B. Watson, M. J. King, & M. K. Hyde

Abstract

Purpose: Graduated driver licensing (GDL) has been introduced in numerous jurisdictions in Australia and internationally in an attempt to ameliorate the significantly greater risk of death and injury for young novice drivers arising from road crashes. The GDL program in Queensland, Australia, was extensively modified in July 2007. This paper reports the driving and licensing experiences of Learner drivers progressing through the current-GDL program, and compares them to the experiences of Learners who progressed through the former-GDL program.

Method: Young drivers \((n = 1032, 609 \text{ females}, 423 \text{ males})\) aged 17 to 19 years \((M = 17.43, SD = 0.67)\) were recruited as they progressed from a Learner to a Provisional driver’s licence. They completed a survey exploring their sociodemographic characteristics, driving and licensing experiences as a Learner. Key measures for a subsample \((n = 183)\) of the current-GDL drivers were compared with the former-GDL drivers \((n = 149)\) via t-tests and chi-square analyses.

Results: As expected, Learner drivers progressing through the current-GDL program gained significantly more driving practice than those in the former program, which was more likely to be provided by mothers than in the past. Female learners in the current-GDL program reported less difficulty obtaining supervision than those in the former program. The number of attempts needed to pass the practical driving assessment did not change, nor did the amount of professional supervision. The current-GDL Learners held their licence for a significantly longer duration than those in the former program, with the majority reporting that their Logbook entries were accurate on the whole. Compared to those in the former
program, a significantly smaller proportion of male current-GDL Learners reported being detected for a driving offence while the females reported significantly lower crash involvement. Most current-GDL drivers reported undertaking their supervised practice at the end of the Learner period.

**Conclusions:** The enhancements to the GDL program in Queensland appear to have achieved many of their intended results. The current-GDL learners participating in the study reported obtaining a significantly greater amount of supervised driving experience compared to former-GDL learners. Encouragingly, the current-GDL Learners did not report any greater difficulty in obtaining supervised driving practice, and there was a decline in the proportion of current-GDL Learners engaging in unsupervised driving. In addition, the majority of Learners do not appear to be attempting to subvert logbook recording requirements, as evidenced by high rates of self-reported logbook accuracy. The results have implications for the development and the evaluation of GDL programs in Australia and around the world.

**Keywords**
Graduated Driver Licensing, Young Driver, Novice Driver, Road Safety, Logbook, Learner Licence

**1.1 Introduction**

**1.2 The young novice driver**

Young drivers aged 17-24 years constitute a major public health concern in terms of the number and rates of crashes in which they are involved, and the resulting injuries and fatalities. Although road crash fatality rates have steadily declined over recent decades, young drivers continue to be killed at rates that far exceed those of older, more experienced drivers (Department of Infrastructure, Transport, Regional Development and Local Government (DITRDLG), 2009). There are numerous consistent characteristics evident in young driver
crashes, fatalities and offences, including variables relating to the young driver themselves (e.g., their gender, DITRDLG, 2009), their passengers (e.g., their age, Lam et al., 2003), the cars they drive (e.g., smaller, older cars, Williams et al., 2006), and when and how they drive (e.g., speeding at night after drinking alcohol, Keall et al., 2004). Moreover, there are a range of psychosocial factors influencing the behaviour of young novice drivers, including the social influence of parents and peers, and person-related factors such as attitudes and sensation seeking (Scott-Parker et al., 2009a, 2009b).

A number of interventions to reduce young driver crash involvement have been implemented in jurisdictions around the world. Driver education, training and media campaigns are consistently found to be popular with the driving public; however there is little evidence that they are effective in reducing the crash and fatality rates of young drivers (e.g., Hedlund, 2007). In contrast, there is growing evidence confirming the effectiveness of graduated driver licensing (GDL) programs, which are designed to improve the safety of novice drivers by acting as a form of exposure control, allowing them to gain more experience under supervision over an extended duration of time in lower-risk driving circumstances (Williams and Shults, 2010).

1.3 Graduated driver licensing (GDL)

New Zealand was the first country to adopt a GDL program in 1987, and many jurisdictions around the world have since implemented similar multi-phase licensing systems (Begg and Stephenson, 2003). These programs vary widely in structure and the restrictions contained within, and evaluations of GDL programs have shown mixed but generally favourable results (e.g., Cooper et al., 2005; Rice et al., 2004). The most favourable results are found for GDL programs that incorporate night time driving restrictions and passenger limits for new drivers allowed to drive unsupervised (Williams et al., 2010).
Table 1 outlines the GDL stages, assessments, restrictions, and time constraints implemented in Queensland, Australia, in July 2007 for novices with a Learner licence (herein referred to as the ‘current-GDL program’), and that of the previous licensing system (herein referred to as the ‘former-GDL program’). A key change in Queensland under the enhanced current-GDL program is that 100 hours of supervised practice is required to be certified in a logbook during the Learner period. Logbook hours must include 10 hours of night driving, a time that is risky for all drivers, and also a time in which novices frequently report little driving exposure (Harrison, 2004). Learners receiving supervision by a professional driving instructor are able to log three hours for each supervised hour, for a maximum of 10 practical hours (which corresponds to 30 hours being recorded in the logbook). It should be noted however that this decision appears to have been based on policy considerations relating to the cost of obtaining professional instruction, rather than on any evidence confirming the crash reduction benefits of professional instruction compared to parental instruction. The Learner period was also extended from 6 to 12 months, with a corresponding reduction in the minimum age from 16.5 years to 16 years, to enable Learners to undertake the additional driving practice. In addition, the current-GDL program explicitly addresses the potential distraction caused by the use of mobile phones, either by the driver or by passengers, through prohibiting the use of the mobile phone loudspeaker function by any vehicle occupant when a Learner is driving. Again it should be noted that there has been no evidence to date that such a restriction improves the driving outcomes for the novice driver.

Logbooks are returned to the licensing authority at least two weeks before the practical driving assessment (Queensland Transport, 2007a). Based on research that showed relatively low levels of driving experience prior to licensing in Australia (e.g., Harrison, 2004), and that more supervised driving practice during the Learner period has been found to correspond to reduced involvement in car crashes during unsupervised driving (Gregersen et
al., 2000), it is therefore anticipated that the Learner driver would gain more driving experience through meeting the requirements of the logbook. It is also anticipated that the experience would include a broad range of driving situations, including more driving in both low- and high-risk circumstances. Accordingly it appears that an implicit assumption of GDL programs like that in Queensland, which mandate a reasonably high amount of supervised driving practice while learning, is that it will contribute to a greater amount of practice being obtained in a wider variety of conditions than might otherwise be the case. In the case of Queensland, this is reinforced by requiring 10 hours of the supervised practice to be obtained at night.

Table 1

Graduated Driver Licensing conditions and restrictions for the former-GDL and current-GDL programs for Learner drivers in Queensland

<table>
<thead>
<tr>
<th>Former-GDL program (Before 1 July 2007)</th>
<th>Current-GDL program (After 1 July 2007)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learner Theory Test</td>
<td>Learner Theory Test</td>
</tr>
<tr>
<td>Learner Licence</td>
<td>Learner Licence</td>
</tr>
<tr>
<td>Minimum age 16 years 6 months</td>
<td>Minimum age 16 years</td>
</tr>
<tr>
<td>Must be held for 6 months minimum</td>
<td>Must be held for 12 months minimum</td>
</tr>
<tr>
<td>Can accumulate 4 demerit points</td>
<td>Can accumulate 4 demerit points</td>
</tr>
<tr>
<td>Zero alcohol limit if under 25 years</td>
<td>Zero alcohol limit if under 25 years(^1)</td>
</tr>
<tr>
<td>Must display L plates</td>
<td>Must display L plates</td>
</tr>
<tr>
<td>Must carry licence while driving</td>
<td>Must carry licence while driving</td>
</tr>
<tr>
<td>Must drive under the direction of a</td>
<td>Must drive under the direction of a</td>
</tr>
<tr>
<td>person who holds, and has held, an open</td>
<td>person who holds, and has held, an open</td>
</tr>
</tbody>
</table>
licence for that class of vehicle for at least 1 year

Must record 100 hours of certified supervised driving experience in a logbook, including 10 hours at night

Must not use mobile phones, including hands-free/ blue-tooth/ loud-speaker, while driving

No passengers can use mobile on loud-speaker function

<table>
<thead>
<tr>
<th>Q-Safe Practical Driving Assessment</th>
<th>Q-Safe Practical Driving Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Provisional Licence</strong></td>
<td><strong>Provisional Licence P1</strong></td>
</tr>
<tr>
<td>Minimum age 17 years</td>
<td>Minimum age 17 years²</td>
</tr>
</tbody>
</table>

¹ New alcohol restrictions were introduced in Queensland on 1 July 2010 limiting all novice drivers to a zero BAC limit, irrespective of age. The participants in the research reported in the paper were not subject to this revised condition.

² Numerous changes were made to the nature of the Provisional period at the same time, however they are beyond the scope of the experiences of the Learners reported in the paper and are therefore not provided in this table.

1.4 Study Aims

The study has two aims. Firstly, the driving and licensing experiences and characteristics of Learners within the current-GDL program will be reported. Secondly, selected experiences and behaviours will be compared for this group with Learners who obtained their licence through the former-GDL program. Bates et al. (2009, 2010a, 2010b) reported the driving and licensing experiences of 149 young Queensland Learner drivers who received their licence through the former-GDL program (see Table 1), and these Learners
comprise the comparison group. The former-GDL Learners were recruited from the North Brisbane (metropolitan) and Townsville (regional) areas of Queensland. As such, a subset of the current-GDL Learners who resided within these two areas was selected to compare with the former-GDL Learners surveyed by Bates et al. This comparison provided a means of examining whether the current-GDL program is having the desired effect upon Learner driver behaviour and licensing experiences.

2.1 Method

2.1.1 Current-GDL Program

2.1.1.1 Participants

Learner drivers (N = 1032; 609 females, 423 males) aged 17 to 19 years (M = 17.43, SD = 0.67) volunteered to complete either a 30-minute online survey (n = 1027) or a paper (n = 5) version of the survey. The Learners had just passed their Q-Safe Practical Driving Assessment in the current-GDL program and progressed from a Learner to a Provisional driver’s licence. The subsample\(^2\) of 183 Learner drivers comprised 72 males and 111 females aged 17 to 19 years (M = 17.52, SD = 0.72). [As noted earlier, the current-GDL program began on 1 July 2007, and novices aged 16.5 years and older prior to this date undertook their driver training and licence progression under the former-GDL program. Recruitment of the current-GDL sample commenced on 1 April 2010. To ensure that all the Learners in the analyses had progressed through the current-GDL program only, those participants who self-reported being 19 years of age or less at the time of the study were included in the current-GDL sample.]

2.1.2.2 Design and Procedure

Every Learner driver in the state of Queensland, Australia who passed their Practical Driving Assessment in the months of April, May, and June 2010 was invited to complete a survey as part of a larger study exploring the attitudes and experiences of novice drivers and
offered the chance to win 1 of 40 $AUD200 petrol vouchers for their participation. They were issued with a recruitment flyer advertising the research at the government Licensing Centre at the time they passed their test and a follow-up letter was also mailed to all eligible Learners. The overall response rate was 14.4% ($n = 1333$, 9393 reminder letters were mailed to Learners, however only Learners aged 19 years or less are included in the present analyses). Participants completed 10 sociodemographic questions (6 similar questions featured in both the former- and current-GDL program questionnaires), collecting such information as their gender, age, and marital status. Participants responded to 18 questions regarding their GDL experiences as a Learner (14 similar questions featured in both the former- and current-GDL program questionnaires), such as difficulty obtaining practice and the accuracy of their logbook entries. They were also asked if they had been detected for a driving offence, and if they had crashed the vehicle whilst on their Learner licence. The survey was cross-sectional in design. The online survey tool was administered using KeySurvey Enterprise Online Survey Software.

2.1.2 Former-GDL Program

2.1.2.1 Participants

As noted above, the former-GDL participants in this study were drawn from a sample recruited previously by Bates et al. (2009, 2010a, 2010b). Learners were recruited immediately after having passed their Q-Safe Practical Driving Assessment (in the former-GDL program) which had enabled them to progress from a Learner to a Provisional driver’s licence. These Learner drivers ($N = 149$; 75 females, 74 males) were aged 17 to 19 years ($M = 17.54$, $SD = 0.72$) and completed a 35-minute telephone survey.

2.1.1.2 Design and Procedure

During 2006 and early 2007, novice drivers of any age who appeared to have undertaken a Practical Driving Assessment were approached outside two major licensing
centres in Brisbane (metropolitan city) and Townsville (regional town), in Queensland, Australia. Four hundred and twenty-five novices were approached to participate in the research. Details including the person’s name, gender, telephone number and suitable times to call were collected for 257 novice drivers, representing a 60.5% response rate. Novices were contacted within a few weeks and the telephone survey was administered to 219 novices, representing a 51.5% response rate overall and an 85.2% response rate for those who indicated they would participate in the research (however as noted in 1.4, only those novices aged 19 years or less are included in the present analyses). A cinema voucher ($AUD13) was then posted to participants as compensation for their time. The survey was cross-sectional in nature; and was designed to collect information regarding sociodemographic variables, experiences with the former-GDL program, and respondents’ crash and offence history as a Learner driver. Other social and personal influences upon their driving behaviour were also collected as part of a larger research project (Bates et al., 2009, 2010a, 2010b).

2.1.3 Statistical Analysis

Means were compared using parametric t-tests for items scored on a Likert scale, and the non-parametric Pearson Chi-square test for categorical items. Whilst experiences and behaviours measured via a Likert scale do not represent strictly interval data, for larger sample sizes these measures move toward normality. In some instances Levene’s test for equality of variances indicated that variances within the two GDL program samples were not equal, therefore where appropriate the analyses report the statistics for ‘equal variances not assumed’ (Hair et al., 1998). Regardless, all analyses were evaluated at a significance level of $\alpha = .05$. No missing values were imputed, and cases with missing data were deleted list-wise, pair-wise, or analysis-by-analysis where relevant. Analyses were conducted using Statistical Package for the Social Sciences (SPSS) version 18.0.

3.1 Results
3.2. Part A: The Characteristics, Behaviours and Experiences of Current-GDL Learners

3.2.1 Sociodemographic Characteristics

The sociodemographic characteristics of the Learners who participated in the current-GDL program survey are summarised in Table 2. As can be seen, the sample comprised more females than males, and was predominantly single, studying and working full- or part-time. To gain insight into the representativeness of the current-GDL program Learner driver sample, the residential postcode of the novice was collapsed into the corresponding accessibility/ remoteness index of Australia (ARIA) code. ARIA is a categorical system based upon geographic accessibility to goods and services, and is also a measure of potential social interactions (Commonwealth Department of Health and Aged Care, 2001). The current-GDL novices adequately sampled all ARIA codes. To illustrate, in 2006, 60.0% of Queensland’s population resided in ARIA code 1 (major cities), whilst 57.6% of the current-GDL participants reside in ARIA code 1; 21.8% of the population resided in ARIA code 2 (inner regional) and 22.4% of the participants reside in ARIA code 2; 14.9% of the state and 16.8% of the participants resided in ARIA code 3 (outer regional); 2.0% of Queensland’s population and 2.2% of the participants resided in ARIA code 4 (remote); whilst 1.2% of the state’s residents and 1.0% of the current-GDL participants reside in ARIA code 5 (very remote) (Australian Bureau of Statistics, 2010).

Table 2

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Females</td>
<td>More than males</td>
</tr>
<tr>
<td>Single</td>
<td>Predominantly</td>
</tr>
<tr>
<td>Working</td>
<td>Full- or part-time</td>
</tr>
<tr>
<td>Residential Postcode</td>
<td>ARIA Code</td>
</tr>
<tr>
<td>1 (Major Cities)</td>
<td>60.0%</td>
</tr>
<tr>
<td>2 (Inner Regional)</td>
<td>21.8%</td>
</tr>
<tr>
<td>3 (Outer Regional)</td>
<td>14.9%</td>
</tr>
<tr>
<td>4 (Remote)</td>
<td>2.0%</td>
</tr>
<tr>
<td>5 (Very Remote)</td>
<td>1.2%</td>
</tr>
</tbody>
</table>

The sociodemographic characteristics, experiences as a Learner driver, gaining a Provisional driver’s licence, and crash involvement and offence detection of novices as they progress through the Learner phase of an enhanced graduated driver licensing (GDL) program in Queensland (n = 1162)
<table>
<thead>
<tr>
<th>Key Measure</th>
<th>M (SD) / Proportion of Learners</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sociodemographic Characteristics</strong></td>
<td></td>
</tr>
<tr>
<td>Age (Years)</td>
<td>17.43 (.67)</td>
</tr>
<tr>
<td>Gender (Female)</td>
<td>59.0%</td>
</tr>
<tr>
<td>Marital Status (Single)</td>
<td>97.8%</td>
</tr>
<tr>
<td>Education (Grade 12 or less)</td>
<td>91.5%</td>
</tr>
<tr>
<td>Study Status (Studying)</td>
<td>76.2%</td>
</tr>
<tr>
<td>Employment Status (Working)</td>
<td>69.4%</td>
</tr>
<tr>
<td><strong>Experiences as a Learner Driver</strong></td>
<td></td>
</tr>
<tr>
<td>Learner Duration (Months)</td>
<td>16.17 (5.67)</td>
</tr>
<tr>
<td>When Practiced Driving</td>
<td></td>
</tr>
<tr>
<td>Mainly at Beginning of Learner Period</td>
<td>10.9%</td>
</tr>
<tr>
<td>Throughout the Learner Period</td>
<td>34.6%</td>
</tr>
<tr>
<td>Mainly at End of Learner Period</td>
<td>54.5%</td>
</tr>
<tr>
<td>Unsupervised Driving (Novices)</td>
<td>10.9%</td>
</tr>
<tr>
<td>Males</td>
<td>14.4%</td>
</tr>
<tr>
<td>Females</td>
<td>8.5%</td>
</tr>
<tr>
<td>Driving Practice (Hours) (^1)</td>
<td>92.41 (24.81)</td>
</tr>
<tr>
<td>Hours Recorded in Logbook (^2,3,4)</td>
<td>109.61 (25.36)</td>
</tr>
<tr>
<td>Most Common Vehicle Practiced In</td>
<td></td>
</tr>
<tr>
<td>Manual</td>
<td>41.4%</td>
</tr>
<tr>
<td>Automatic</td>
<td>37.4%</td>
</tr>
<tr>
<td>Equally Manual and Automatic</td>
<td>21.0%</td>
</tr>
<tr>
<td>Logbook Accuracy</td>
<td></td>
</tr>
</tbody>
</table>
Entries Accurate 83.4%
Rounding up of Entries 12.6%
Extra Hours Included 4.0%
Parents/Friends Supervisor (Hours) 89.20 (43.85)
Mother Main Supervisor 53.5%
Males 47.7%
Females 57.6%
Instructor Main Supervisor 4.5%
Instructor Supervisor (Hours) 9.71 (11.11)
Difficulty Practising (Difficult) 22.4%
Males 17.4%
Females 26.0%
Continued Practising after Logbook Submitted 4 94.8%

Gaining a Provisional Licence
Gained Provisional (1st Attempt) 68.5%
Number of Attempts 1.38 (.72)
Provisional Licence (Manual) 70.7%

Learner Driver Behaviour: Crashes and Offences
Crashes 2.5%
Offences 2.6%

1 Please note the calculation of the mean and standard deviation of the current-GDL hours of driving practice utilised the number of hours of supervised practice by parents/friends and professional instructors, rather than the number of hours recorded in the logbook.

2 Please note the calculation of the mean and standard deviation of the current-GDL hours recorded in logbook excluded 41 novices (3.9%) not required to submit a logbook containing a minimum of 100 hours certified practice. Novices can apply to be exempt from completing a logbook, for example if they can demonstrate that they would be unable to document adequate driving practice within the three year maximum Learner period. If
the exemption is granted they are required to hold their Learner driver’s licence for a two year minimum duration (Queensland Transport, 2007b).

3 Please note that the logbook hours will exceed actual hours of supervision when professional driving instructors are used, since three logbook hours can be claimed for each hour of the first 10 hours of professional instruction.

4 Novices are required to submit their Learner logbook at least two weeks prior to undertaking their Practical Driving Assessment. This allows the logbook to be audited for accuracy and completeness, prior to the assessment of their driving skills and abilities.

### 3.2.2 Experiences as a Learner Driver

Table 2 also summarises the current-GDL experiences as a Learner driver. The participants held their Learner licence between 12 and 48 months. It is noteworthy that this is *not necessarily* a measure of the length of time the participants spent actively learning to drive. To illustrate, when participants were asked to indicate when they gained most of their driving experience, the majority reported they practiced ‘mainly at the end’. Some participants reported driving unsupervised whilst on a Learners (which is illegal and attracts a penalty of $160 and 1 demerit point, Transport and Main Roads, 2010), and the average number of times was 16.78 ($SD = 40.20$) with a range of 1 to 250 times (80.0% of participants reported 10 or less times). Numerous reasons were provided for this rule transgression, the most common being ‘only going for a quick drive’, ‘supervisor unavailable’ and ‘not a lot of traffic around’.

The average number of hours recorded in the logbook by the current-GDL Learners was 106.70 hours ($SD = 29.01$), however when only those persons required to submit a logbook were examined (41 novices with a logbook exemption were excluded), the average number of hours was 109.61 ($SD = 25.36$). The mode was 100 hours. The majority of Learners reported that their logbook entries were accurate. Only a handful of participants reported including hours in their logbook that they had not actually driven. Most participants continued to practise after they submitted their logbook and were waiting to have their practical driving test, driving for an average of 11.54 extra hours ($SD = 13.66$, range = 1 - 200 hours).
Most participants reported they were supervised by their parents or friends who provided an average of 89 hours of supervision (range = 0 - 800 hours, mode = 100 hours). Mothers provided most of the supervision, followed by fathers (34.9% of Learners) as the second most common principal supervisor. When asked if someone else helped them learn to drive apart from the principal supervisor, driving instructors (33.4% of Learners) and fathers (27.7% of Learners) were reported most frequently. Professional driving instructors were heavily involved in the learn-to-drive process, with 91.1% of the current-GDL participants receiving professional instruction for an average of 10 hours (range 0 to 177 hours, mode = 10 hours). In total, the Learners reported that they obtained 92.41 hours ($SD = 24.81$) of actual supervised driving practice. Most current-GDL Learners reported it was not difficult to obtain driving practice, with more females than males reporting difficulty. The most common reasons for this difficulty included having ‘no time to practice’, ‘can’t afford a lesson’, ‘no access to a supervisor’ and ‘no access to a vehicle’.

The current-GDL program participants reported that they had an average of 2.91 cars available to practice in, with a range of 1 to 26 cars (2 cars: 35.0%, 3 cars: 28.8%). Similar proportions of Learners predominantly used a manual or automatic vehicle to obtain their driving practice. More female novices practiced predominantly in an automatic vehicle (43.4%) than male novices (30.3%).

### 3.2.3 Gaining a Provisional Licence

Table 2 also reports the Learners’ experiences of gaining a Provisional licence in the current-GDL program. The majority of novices gained their Provisional licence on their first attempt, the remainder requiring between two (71.4%) and six (0.3%) attempts to pass. Most novices obtained a manual licence (62.4% of females, 82.6% of males). An automatic licence was gained by 89.6% of the novices who predominantly practiced in an automatic vehicle,
whilst 57.1% of those novices who predominantly practiced in a manual vehicle obtained a manual licence.

3.2.4 Driving Behaviour: Crashes and Offences

Self-reported crash and offence detection are summarised in Table 2. Twenty-five participants reported being involved in a crash whilst on their Learner licence (1.9% of male participants, 2.9% of female participants). Twenty-six participants (4.4% of males, 1.3% of females) reported being detected for a driving offence whilst on their Learner licence.

3.3 Part B: Comparing the Characteristics, Behaviours and Experiences of Current-GDL Learners and Former-GDL Learners

3.3.1 Sociodemographic Characteristics

As noted earlier a subsample of the current-GDL participants, who resided in North Brisbane and Townsville, was selected to compare with the former-GDL sample recruited by Bates et al. (2009; 2010a, 2010b). The sociodemographic characteristics of these two participant groups, including the significance level of the differences between these samples, are summarised in Table 3. There was no significant difference between the two GDL program samples for the sociodemographic characteristics of age, \( t(330) = 0.16, p = .88 \), and gender, \( \chi^2(1, N = 332) = 2.70, p = .10 \). There were however significant differences between the two GDL program samples regarding their marital status, \( \chi^2(1, N = 332) = 11.09, p < .01 \), level of education, \( \chi^2(1, N = 332) = 6.51, p < .05 \), study status, \( \chi^2(1, N = 329) = 7.34, p < .01 \), and employment status, \( \chi^2(1, N = 331) = 11.74, p < .01 \).

Table 3

Summary of the former-GDL and current-GDL program measures, including comparative analyses, for novice drivers aged 17-19 years in a metropolitan and a regional area in Queensland
<table>
<thead>
<tr>
<th>Key</th>
<th>Former-GDL</th>
<th>Current-GDL</th>
<th>Signific. Level</th>
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<tbody>
<tr>
<td>Measure</td>
<td>$N = 149$</td>
<td>$N = 183$</td>
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**Sociodemographic Characteristics**

<p>| | | | |</p>
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<tr>
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<tbody>
<tr>
<td>Age ($M$ (SD)Years)$^1$</td>
<td>17.54 (.72)</td>
<td>17.52 (.72)</td>
<td>$p = .88$</td>
</tr>
<tr>
<td>Gender (Female)$^2$</td>
<td>51.7%</td>
<td>60.7%</td>
<td>$p = .10$</td>
</tr>
<tr>
<td>Marital Status (Single)$^2$</td>
<td>91.3%</td>
<td>98.9%</td>
<td>$p &lt; .01$</td>
</tr>
<tr>
<td>Education (Grade 12 or less)$^1$</td>
<td>97.3%</td>
<td>90.1%</td>
<td>$p &lt; .05$</td>
</tr>
<tr>
<td>Study Status (Studying)$^2$</td>
<td>69.2%</td>
<td>82.0%</td>
<td>$p &lt; .01$</td>
</tr>
<tr>
<td>Employment Status (Working)$^2$</td>
<td>89.2%</td>
<td>74.3%</td>
<td>$p &lt; .01$</td>
</tr>
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**Experiences as a Learner Driver**

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<tbody>
<tr>
<td>Learner Duration ($M$ (SD) Months)$^1$</td>
<td>12.44 (6.76)</td>
<td>16.52 (5.83)</td>
<td>$p &lt; .001$</td>
</tr>
<tr>
<td>Unsupervised Driving (Novices)$^2$</td>
<td>16.9%</td>
<td>10.1%</td>
<td>$p = .07$</td>
</tr>
<tr>
<td>Males</td>
<td>25.0%</td>
<td>14.7%</td>
<td>$p = .13$</td>
</tr>
<tr>
<td>Females</td>
<td>9.2%</td>
<td>9.2%</td>
<td>$p = .62$</td>
</tr>
<tr>
<td>Driving Practice ($M$ (SD) Hours)$^1,^3$</td>
<td>63.28 (48.00)</td>
<td>92.41 (24.81)</td>
<td>$p &lt; .001$</td>
</tr>
<tr>
<td>Parents/Friends Supervisor ($M$ (SD) Hours)$^1$</td>
<td>52.83 (45.80)</td>
<td>83.30 (25.58)</td>
<td>$p &lt; .001$</td>
</tr>
<tr>
<td>Mother Main Supervisor</td>
<td>42.6%</td>
<td>50.5%</td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>45.8%</td>
<td>36.5%</td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td>39.5%</td>
<td>58.9%</td>
<td></td>
</tr>
<tr>
<td>Instructor Main Supervisor</td>
<td>30.4%</td>
<td>5.1%</td>
<td></td>
</tr>
<tr>
<td>Instructor Supervisor ($M$ (SD) Hours)$^1$</td>
<td>11.49 (15.81)</td>
<td>9.80 (8.70)</td>
<td>$p = .24$</td>
</tr>
<tr>
<td>Difficulty Practising (Difficult)$^1$</td>
<td>35.3%</td>
<td>23.2%</td>
<td>$p = .14$</td>
</tr>
<tr>
<td>Males</td>
<td>19.8%</td>
<td>14.7%</td>
<td>$p = .82$</td>
</tr>
<tr>
<td>Females</td>
<td>50.0%</td>
<td>28.0%</td>
<td>$p &lt; .05$</td>
</tr>
</tbody>
</table>
Gaining a Provisional Licence

Gained Provisional (1st attempt) \(^2\)  
\(61.5\% \quad 68.2\% \quad p = .21\)

Number of Attempts (\(M (SD)\)) \(^1\)  
\(1.47 (.68) \quad 1.34 (.68) \quad p = .09\)

Learner Driver Behaviour: Crashes and Offences

Crashes \(^2\)  
\(6.2\% \quad 1.9\% \quad p = .06\)

Males  
\(5.7\% \quad 5.2\% \quad p = .89\)

Females  
\(6.6\% \quad 0.0\% \quad p < .05\)

Offences \(^2\)  
\(4.7\% \quad 0.6\% \quad p < .05\)

Males  
\(8.3\% \quad 0.0\% \quad p < .05\)

Females  
\(1.3\% \quad 1.0\% \quad p = .87\)

\(^1\text{Analyses utilised t-tests.}\)

\(^2\text{Analyses utilised Chi-square tests.}\)

\(^3\text{Please note the calculation of the mean and standard deviation of the current-GDL hours of driving practice utilised the number of hours of supervised practice by parents/friends and professional instructors, rather than the number of hours recorded in the logbook.}\)

3.3.2 Experiences as a Learner Driver

Table 3 also summarises the current-GDL and former-GDL experiences as a Learner driver, including the significance level for comparative analyses. For a range of experiences for the subset of the current-GDL participants, there was no significant difference between the two GDL program samples, including the proportion of Learners reporting driving without a supervisor \(\chi^2 (1, N = 327) = 3.32, p = .07\). Separate gender analyses revealed however that the rate of unsupervised driving reduced considerably for male novices in particular. There were also no significant differences between the participants in the two GDL programs for the duration of professional driving instruction during the Learner period,
Similarly, there was no difference in the difficulty obtaining supervised driving practice reported by participants, \( t (283.31) = -1.49, p = .14 \), notwithstanding that a greater proportion of Learners in the former-GDL program reported experiencing difficulty obtaining supervised driving practice. Separate gender analyses also found no significant difference in difficulty for male participants, \( t (136.61) = -0.23, p = .82 \); however there was a significant difference in difficulty experienced for female participants, \( t (138.55) = -2.26, p < .05 \). There were significant differences between the two GDL program samples regarding the duration of the Learner period, \( t (279.65) = -5.70, p < .001 \); the amount of supervised driving practice, \( t (219.02) = -6.31, p < .001 \); and the amount of driving practice supervised by the parents and friends of the participants, \( t (229.85) = -7.13, p < .001 \).

### 3.3.3 Gaining a Provisional Licence

Table 3 also reports the Learners’ experiences of gaining a Provisional licence in both the current- and former-GDL programs. There was no difference between the two GDL programs in the proportion of novices obtaining their Provisional driver’s licence after one attempt at the practical driving assessment, \( \chi^2 (1, N = 327) = 1.59, p = .21 \); nor the number of attempts needed to pass the practical driving assessment, \( t (313) = 1.73, p = .09 \).

### 3.3.4 Driving Behaviour: Crashes and Offences

Self-reported crash involvement and offences detected are summarised in Table 3. As can be seen, the difference in the proportion of Learners reporting they had been involved in a crash approached significance, \( \chi^2 (1, N = 300) = 3.47, p = .06 \). None of the female participants in the current-GDL program however reported being involved in a crash, and this was a significantly smaller proportion of participants than in the former-GDL program, \( \chi^2 (1, N = 172) = 6.51, p < .05 \). In general for the participants there was a significant reduction in the rate of offence detection between the two GDL programs, \( \chi^2 (1, N = 302) = 4.87, p < .05 \). Separate gender analyses revealed that the proportion of male current-GDL participants who
reported an offence was detected was significantly less compared to the former-GDL novices
\( \chi^2 (1, N = 130) = 5.07, p < .05. \)

4.1 Discussion

The Queensland Learner drivers progressing through the current-GDL program reported on average holding their Learner driver’s licence for 4 months more than the 12 month period required. Whilst the modal logbook completion was 100 hours – the legislated minimum requirement – the average number of hours reported to have been recorded in the logbook was 110 hours. However, it should be noted that the average number of hours actually spent driving under supervision was 92 hours since Learners are able to claim three logbook hours for each one hour of professional driving supervision (for the first 10 hours of professional instruction only). The findings also support the possibility raised by Bates et al. (2010b) that mandating a set number of hours may restrict the practice obtained by novices to just above the mandated requirement. While a lower average amount of practice was recorded in the former-GDL program (63 hours) the distribution of practice was bimodal, with 11.1% of Learners reporting a total amount of practice in excess of 100 hours. As such, while the 100 hour requirement appears to have increased the average amount of practice obtained overall, it may have reduced the proportion of learner drivers who might have otherwise undertaken longer periods of practice. Learners, their parents, and other driving supervisors should be encouraged to accrue as many hours of supervised practice in as many different driving circumstances as possible to maximise the benefits of the Learner period, even though these hours may not contribute to meeting their logbook requirement once the minimum 100 hours have been recorded. Licensing authorities and insurance providers may wish to consider incentives which encourage the novice to gain more driving practice – over the minimum requirement – particularly as legislating a minimum practice requirement may
inadvertently send the message to parents and novices that this is the only driving practice needed to be a safe unsupervised driver (Foss, 2007).

It is noteworthy too that in the current-GDL program these hours must include a minimum of 10 hours driving at night, a particularly hazardous driving circumstance discussed earlier. A key positive indicator of the experiences of Learners within the current-GDL program is their compliance with logbook requirements. Only a small percentage of novices reported rounding logbook hours up (12.8%) or including extra hours in their logbook (4%), in contrast to media speculation that such practices were common in Queensland (Richardson, 2010) and the neighbouring Australian state New South Wales where 120 hours are required to be logged (Haynes, 2010).

The current-GDL program doubled the minimum duration of the Learner licence from 6 months to 12 months. Consequently, Learners in the current-GDL were found to hold their licence for a significantly longer period of time; however it was not possible to determine if the participants were actively learning to drive for a similarly longer period of time. When Learners were asked when they actually practiced driving, only one third said ‘throughout this time’, whilst more than half of the participants said they practiced mainly ‘at the end’. It therefore appears that the duration of the Learner period may have limited influence upon the amount of supervised hours the novice completes (Bates et al., 2010b). If it can be assumed that it is more beneficial to spread learning across the period, then Learners, their parents and their supervisors should be encouraged to start driving practice from the beginning of the 12 month period, rather than concentrating their practice just before they submit their logbook and undertake their practical driving assessment. Parents and Learners alike could be encouraged to aim for 10 hours of driving practice each month, starting from when they receive their Learner licence, to encourage supervised driving over the entire Learner period.
It is concerning that approximately 5% of the current-GDL participants did not do any driving practice in the period (of at least two weeks duration) between when they submitted their logbook and when they completed their practical driving assessment. Learners, their parents, and other driving supervisors should be encouraged to continue supervised practice in as many different driving circumstances as possible to maximise the benefits of the Learner period, even though again these hours do \textit{not} contribute to their logbook requirement.

Importantly, compared with the former-GDL participants, a smaller proportion of Learners in the enhanced GDL program reported difficulty obtaining supervised practice, contrary to concerns raised about this difficulty (e.g., as cited in Hinchcliff et al., 2010). Female participants in the current-GDL program, in particular, reported significantly less difficulty obtaining practice. There was also a statistically significant reduction in the proportion of male participants reporting driving while unsupervised within the current-GDL. The number of times they did so and were not detected by the police may also be influential in their risky driving behaviour as the Learner period provides the foundation for independent driving behaviour. This phenomenon will be further explored in the subsequent longitudinal research.

Parents were pivotal in accruing logbook hours, with mothers in particular providing substantially more hours of driving supervision. It was apparent that there had been a shift in the responsibility for driving instruction within families, with mothers providing considerably more supervision for their daughters and less supervision for their sons within the current-GDL program compared to the former-GDL program. Further research is required to explore the nature of this phenomenon. In addition, children not only learn from their parents through direct instruction, they are also likely to imitate the driving behaviour of their parents (Taubman-Ben-Ari et al., 2005) after they pass their practical driving test and are able to drive unsupervised. Therefore parents are pivotal influences on the driving experiences and
behaviours of their children and should be encouraged to be good role models not only for their Learner child, but for their pre-licensed child. The differential influence of parents and friends on the risky behaviour of young novice drivers, including imitation of driving behaviour, will be examined within the longitudinal research utilising provisional surveys and measurement tools such as the Behaviour of Young Novice Drivers Scale (Scott-Parker et al., 2010).

Given the requirement for 100 hours supervised practice, and the fact that Learners can claim 10 hours of professional instruction as 30 hours of supervised practice in their logbooks, it is unsurprising that most of the current-GDL participants were taught by an instructor at some point during their Learner period, and that 10 hours of instruction was most commonly reported. Learners are required to record 100 hours of supervised driving practice in their logbook (it is important to note that the minimum hours of driving required of Learners reduces to only 80 hours of supervised driving practice if 10 hours of paid instruction are recorded in the logbook).

Driving behaviours are another indicator of on-road experiences of the Learner driver, and the crash and offence involvement of the Learners in the two GDL programs were examined. Rates of self-reported offence detection have reduced significantly among the current-GDL sample. It may be that offence involvement is influenced by variables such as driving and hazard perception ability, and the characteristics of the supervisor and the nature of the supervision itself, particularly for male novices. Small sample sizes may have precluded reliable analyses, however, and further exploration of the factors contributing to this outcome is required. Rates of crash involvement were also lower among the current-GDL participants, suggesting that increasing the hours of supervised practice may have broader benefits for Learner drivers in general, and female Learners in particular. Again this reduction may be attributed to the improved driving and hazard perception skills of the
novices arising from the mandated Learner supervised driving hours’ requirement, even within the driving environment of significantly greater exposure to potentially risky driving circumstances. Once again, however, small sample sizes preclude definitive conclusions, and similarly further investigation of this phenomenon is also required.

Besides the small sample sizes, a range of other limitations of this research need to be addressed. The sociodemographic characteristics of the current- and former-GDL participants did not differ significantly on the key measures of age and gender. Some sociodemographic characteristics of the current-GDL sample did however differ significantly from the former-GDL sample, with the current-GDL novices more likely to be studying, single, less educated, and not engaged in employment. It is noteworthy that the differences in the sociodemographic profile of the participants may relate to the variation in the sampling methodology used between the two GDL programs. The sampling methodology of Bates et al. (2009, 2010a, 2010b) was changed for the current-GDL study to obtain a larger, more diverse sample of novices which is more representative of Learner drivers in Queensland. However, methodological similarities are apparent.

It is also noteworthy that novices in the former-GDL may have experienced more difficulty recalling the number of hours of driving practice as they were not required to record their practice in a logbook, and they may have experienced difficulty in remembering the duration of their Learner period. Therefore caution should be exercised in the interpretation of the practical significance of the associated differences found between the current- and the former-GDL programs for these measures.

Further limitations include the reliance of both studies on self-report data, however anonymity supported by a telephone interview (former-GDL novices) and an online or paper survey returned by post (current-GDL novices) is likely to have minimised self-report concerns (Zhao et al., 2006). The generalisability of the findings for both GDL surveys is
further limited by the representativeness of the samples. As noted earlier, the former-GDL Learners comprised only two larger licensing regions in Queensland. While the overall current-GDL sample was drawn from across the entire state, the sub-group used to compare with the former-GDL was narrower in scope to facilitate a valid comparison. Accordingly, whilst there is confidence in the outcome of the comparative analyses, these results may be generalisable only to the regions of the state of Queensland in which the sampling, and subsequent comparison, were undertaken. As noted above, however, in an attempt to recruit a more representative sample, the entire state was sampled for the current-GDL research. The representativeness of the comparative sample, and therefore the validity of the comparative analyses, is further supported by the comparable characteristics, behaviours and experiences reported in both the entire and the subsample participants of the current-GDL Learners.

Furthermore, the entire current-GDL sample has been checked for its representativeness. Whilst the response rate for the current-GDL research was only 14.4%, this rate is consistent with other recent Australian longitudinal research (e.g., 15.9% in New South Wales, the DRIVE study, Chen et al., 2009). Notwithstanding the response rate, the sampling of the current-GDL Learners reflects the proportion of Queensland population by remoteness area (ARIA), according to the 2006 Australian Bureau of Statistics census (Australian Bureau of Statistics, 2010). To ensure that the differences in licensing experiences explored within and between the two GDL programs are unlikely to be an artefact of the changes in the licensing laws, including that some current-GDL novices may have experienced both GDL programs, analyses were undertaken using only those novices aged 17 to 19 years within the two GDL programs. These investigations included separate gender analyses.

Queensland Transport (2006) announced the future GDL program in 2006, advising that these changes would be implemented in 2007. Such announcements typically result in an
influx of novices seeking and obtaining their Provisional licence prior to the introduction of
the new GDL program (e.g., Masten and Hagge, 2004). Newly-licensed novices in the
former-licensing program period consequently tend to be younger than typically they would
be within the enhanced GDL program. Contrary to these expectations, the participants in the
former-GDL program were of a similar age to the current-GDL program sample; therefore it
does not appear that the former-GDL participants comprised an unduly biased sample. In
addition, the enhanced GDL had been in place for nearly three years prior to current-GDL
recruitment and data collection, therefore it is unlikely that the current-GDL sample
experienced any rebound effects (such as reduced participation in licensing) after the more
stringent GDL system was introduced.

5.1 Conclusions

The majority of Learners appear to be complying with logbook requirements, and
only a small proportion of novices reported difficulty in obtaining supervised driving
practice, driving unsupervised, or falsifying their logbooks. Novices gained most of their
practice at the end of the Learner licence period, and the majority continued to practice
driving whilst they awaited their practical driving test, although they drove for only a small
number of hours. Significant differences were found between the Learner participants in the
current-GDL compared to those who obtained their licence under the former-GDL program
in Queensland, Australia after the enhancement of the state licensing program in July 2007.
Learners in the current-GDL held their licence for a longer period of time and gained more
driving practice, with mothers specifically providing most of the supervision. Female
participants reported considerably less difficulty in accruing supervised driving hours and
reported significantly less crash involvement, and young males in particular engaged in less
unsupervised driving and reported less offence detection. Parents and other driving
supervisors should be encouraged to provide novice drivers with as much supervised driving
practice as possible during the Learner period. To achieve this, they should aim to spread the practice over the period, rather than ‘cram’ it all in at the end, and continue to provide practice opportunities right up to the time of the intermediate licence test, even if the mandated hours have already been obtained. This supervision should include a variety of different driving circumstances, which progressively become more challenging in nature.

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References


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Footnote

1 It should be noted that this paper only focuses on the changes that were made to the GDL system in Queensland that impacted on drivers with a Learner licence. A range of other changes were made that impacted on drivers with a Provisional licence.

2 Chi-square and t-test analyses were undertaken to compare the sociodemographic characteristics, Learner experiences, and driving behaviours for the sub-sample of current-GDL participants \((n = 183)\) to the remainder of the current-GDL sample \((n = 849)\). No significant differences were found for any of the comparative measures (e.g., self-reported crash involvement, \(\chi^2(1, N = 1002) = 0.22, p = .64\)).

3 Please note that the number of hours recorded in the Learner logbook does not necessarily equate to the total hours of supervised driving practice obtained, as Learner licence holders in Queensland are able to claim three logbook hours for each one hour of supervised driving practice for the first 10 hours of professional instruction only. As such, the maximum additional hours than can be claimed is 20 hours.