

Driver education and training courses for newly licensed drivers: who participates and for what reasons? Findings from the New Zealand Drivers Study

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Purpose In New Zealand little is known about participation in driver education/ training courses, especially those that qualify drivers for a “time discount” on their restricted licence. The purpose of this investigation was: to determine participation in courses; compare the characteristics of those who did and did not take part in a course; examine the main reasons for course participation.

Method As part of the New Zealand Drivers Study, a multistage prospective cohort study of 3992 newly licensed drivers, data were sought on driving experiences during the graduated licence stages (learner, restricted and full) at which time NZDS interviews were undertaken. This investigation focused on courses at the restricted licence stage, when a time discount could be attained. Questions included: knowledge of, participation in, and reason for participation in each course.

Results 94% (n=1665) had heard of, and 49% (n=868) attended a Defensive Driving Course (DDC). Very few (7%) knew of, or participated (1%) in other courses. The remaining analysis focused on the DDC. Compared with others, the DDC participants were: younger, non-Māori, low deprivation, relatively law abiding, low risk-takers, less likely to crash on learner or restricted licence. For 87% the main reason for doing the DDC was to pass the full licence test/get a full licence sooner.

Conclusion Those who attended a DDC were relatively safe young drivers keen to get a full licence. The “time discount” was the main incentive for doing a DDC. The safety implications of a “time discount” require further investigation.

Introduction

Young novice drivers have the highest crash risk of all drivers on the road, and the period of highest risk is the first months of unsupervised driving (Lewis-Evans, 2010; Mayhew, Simpson, & Pak, 2003). To try to help alleviate this situation in New Zealand (NZ) a comprehensive graduated driver licensing system (GDLS) was introduced in 1987. Before the GDLS a young person could obtain a full privilege car driver’s licence on their 15th birthday by passing an eyesight test, answering a few questions, and passing a relatively straight-forward driving test. The 1987 GDLS introduced a three stage licensing system that applied to all new drivers aged 15-24 years. At the first stage, the learner licence, the learner driver had to be supervised at all times by an experienced driver. The minimum age for a learner licence was 15 years, and it could be obtained by passing a pen and paper multi-choice test. This licence applied for a period of six months, although a time-discount of three

months applied by taking an approved driving course (e.g. an AA driving course). A blood alcohol limit of 0.03mg% (from 0.08mg %) was also introduced as part of the original GDLS¹. The second licence stage, called the restricted licence, could be attained by passing a practical driving test. The restricted licence allowed unsupervised driving except at night-time from 10pm to 5am, and with passengers less than 20 years of age. The restricted licence period was 18 months, but a time discount of nine months applied by completing either a Defensive Driving or an Advanced Driving Course. After completing the restricted licence stage, a full licence could be obtained without further testing. Therefore, under the original 1987 GDLS, a young person could commence licensing at 15 years of age and if they reduced the learner licence period to three months and the restricted licence to nine months, they could be fully licensed shortly after their 16th birthday.

Around 2000, several changes were made to the GDLS. The main changes were: it now applied to all novice drivers, irrespective of age; the minimum learner licence period remained at 6 months, but the time discount was discontinued; the restricted licence stage time-discount remained with drivers aged 15-24 years able to reduce the restricted licence period from 18 months to 12 months, and drivers 25 years or older from 6 months to 3 months (by completing an approved course, either a Defensive Driving Course or a Street Talk course.) A new full licence driving test, based on driving skills and hazard recognition, was introduced. Other minor changes introduced at this time have been described elsewhere (Begg & Stephenson, 2003). This 2000 version of the NZ GDLS was in place when the research described in this paper began.

In 2010, the NZ Government launched “Safer Journeys”, their Road Safety Strategy till 2020 (Ministry of Transport, 2010). This identified young drivers as a priority area and signalled further changes to the GDLS. As of July 2014, the changes that have been implemented include an increase in the minimum learner licence age to 16 years, a more difficult restricted licence driving test designed to encourage 120 hours of supervised driving practice on the learner licence, and the full licence test was modified to a similar format to the restricted licence test. A zero BAC for drivers under 20 years has also been introduced.

With the changes that have been implemented since 1987, in 2014 a young person can obtain a learner licence at 16 years, and at 16½ years they can pass the restricted licence test which allows them to drive unsupervised, except between 10pm-5am, or with passengers. Then, if they attend an approved course, they can become fully licensed drivers at 17½ years of age, or 18 years if they do not attend a course.

The NZ GDLS in 2014 now meets nearly all of the recommendations for a “good” graduated driver licensing system, as defined by Williams and Mayhew (Williams & Mayhew, 2004). The one exception, however, is the “time discount” (i.e. the time reduction) at the restricted licence stage. A number of comprehensive literature reviews of studies of driver education and training programmes have all concluded that participation in such courses has shown little or no on-road safety benefit (Christie, 2001; Mayhew, Simpson, Williams et al., 1998; Roberts, Kwan, & Cochrane Injuries Group Driver Education Reviewers, 2001). Moreover, it has been shown that “time discounts” can result in safety “dis-benefits” (e.g. increased crash risk) if earlier access to unrestricted driving is allowed (Mayhew & Simpson, 1996).

¹ In 1992 the 0.03mg% BAC was applied to all drivers under 20 years of age irrespective of licence status. The limit for older drivers has remained at 0.08mg%

Research based on NZ crash data has shown that in the first months of fully licensed driving, young drivers (<25 years) who gained a full licence before completing 18 months on their restricted licence, had a crash rate three times higher than those who completed the 18 months (Lewis-Evans, 2010). In that study it could not be established what course the drivers had done to earn a “time discount”. In fact, very little is known about who participates in the Defensive Driving or Street Talk courses. There are likely to be a number of reasons why a young driver might attend such a course (Deery, 1999; Harré, Foster, & O'Neill, 2005). For example, it may be that young drivers who are very cautious, and lacking in confidence, may wish to take part in a course to help improve their knowledge and driving skills, and enhance their self-belief. These drivers are not likely to be deliberate risk-takers so should have a relatively low crash risk. Conversely, confident young drivers, and especially males, consider themselves to have much higher driving skills than their peers and believe that because of this they have a lower risk of being in a crash (crash-risk optimism). They, therefore may not consider that they need to take part in any course. However, when a “time discount” is offered as an incentive to attend a course, it is very likely that other factors may influence course attendance. It is important, therefore, that the characteristics of course participants are known, and accounted for in an analysis that examines the effect of course participation on safety outcomes.

The aims of the present study were to:

1. Determine participation in driver education/training courses at the restricted licence stage of GDL which is when a time discount can be given
2. Examine and compare the characteristics of those who did and did not take part in each course
3. Examine their reasons for taking part in each course

Method

The NZDS is a prospective cohort study of 3,992 newly licensed car drivers in New Zealand. Details of the recruitment (Feb 2006 - Jan 2008) and follow-up procedures have been reported previously (Begg, Sullman, & Samaranayaka, 2012; Begg, Langley, Brookland et al., 2009; Langley, Begg, Brookland et al., 2012). Briefly, face-to-face recruitment of the cohort took place very soon after the learner licence theory test had been passed. At this stage signed consent was obtained from each participant who then completed the baseline (learner licence) questionnaire. The first follow-up (restricted licence stage) and the second follow-up (full licence stage) telephone interviews took place very soon after the study participants had passed the respective licence tests. The present study was based on the drivers who, as of 1 May 2013, had passed their full licence test and completed the NZDS full licence interview (n=1763 or 44% of full cohort). They had all completed the restricted licence stage so therefore had the opportunity to attend the driver education or training courses at the restricted licence stage of the GDLS.

As part of an investigation of driving experiences during the GDLS information was sought on participation in driver education/ training courses at the restricted licence stage. When data collection for the NZDS began in 2006, the courses known to be available at a national level were: Practice, Prodrive, Street Talk, Alchemy, and the Defensive Driving Course. To accommodate any new or unknown courses, a free text field was included in the questionnaire so that the interviewer could record information on additional courses. At the full licence interview, each participant was asked if they had “heard of” and whether they had

“taken part” in each of the courses. For each course attended, further details were obtained including their reasons for taking part in the course.

A time-discount was determined by examining the date of issue for the restricted and full licences using data obtained from the NZ driver licence register (DLR). For a driver <25 years at full licence less than 18 months on the restricted licence indicated a “time discount”. For drivers 25 years or older at full licence, less than 6 months on the restricted licence indicated a time discount. Overall, 786 (45%) of the 1763 fully licensed drivers received a time discount.

Questions on professional driving lessons (i.e. lessons paid for with a driving instructor) at the learner licence stage were included in the restricted licence interview. The number of lessons ranged from 0 – 50 and were recoded as 0 (45%), 1-5 (37%), 6-10 (12%), >10 (5%).

The learner licence interview included a question about driving on a public road before passing their learner licence (pre-licence driving). The restricted licence questionnaire included a question on driving unsupervised at the learner licence stage. The full licence questionnaire included questions on breaches of the restricted licence conditions; driving at night (10pm - 5am) without a supervisor, and driving with passengers without a supervisor. All were coded yes/no.

Motor vehicle traffic crashes as a car driver were obtained from the official New Zealand traffic crash reports (TCR) recorded by the New Zealand Police. The police only record crashes involving injury, so to provide more complete crash coverage we also included self-reported crashes that were defined as a crash that occurred on a public road where someone was injured and/or there was vehicle or property damage. Crashes that occurred during the learner licence stage were self-reported at the restricted licence interview and restricted licence stage crashes were reported at the full licence interview. The combined (TCR and self-report) crash file was checked and duplicates removed. There were 54 crashes at the learner licence stage and 401 at the restricted licence stage. For the analysis the crashes were coded yes/no.

Age at restricted licence was calculated from date of birth and date passed the restricted licence test on the NZ driver licence register. The age categories created for this investigation were 15½ to <16½ years (it was permissible to pass the restricted licence test at 15½ years when the NZDS began), 16½ to <17½ years (16½ is now the youngest age for sitting the restricted licence test), 17½ to <18½ years (if no time discount was allowed, 17½ would now be the youngest age at which a full licence test could be taken), 25+ years is the age when the restricted licence stage time limit is reduced. Ethnicity was self-identified and to simplify interpretation of the results, anyone who self-identified as Māori (i.e. the indigenous people of New Zealand) was classified as Māori and the remainder as non-Māori. Residential location was determined using the “urban/rural profile” used by Statistics New Zealand (Statistics New Zealand, 2009). Deprivation was measured using the NZDep2006 score which combines nine variables: 2 income variables, home ownership, support (e.g. single parent family), employment, qualifications, living space, communication (e.g. access to telephone), and transport (access to a car) (Salmond et al., 2007). The residential address of each participant was used to assign a deprivation score ranging from 1 to 10, which for the analysis were collapsed to create three levels of deprivation: low, medium and high (Adolescent Health Research Group, 2008).

Alcohol use was measured using the first three questions of the AUDIT (the Audit-C) (Babor et al., 1989) which were scored following the convention established by alcohol researchers (e.g. Bradley et al., 2007). High alcohol use was a score of ≥ 4 for males and ≥ 3 for females. Cannabis use and herbal high use was measured by asking how often you use cannabis (or herbal highs). The responses were categorised as yes (have used) or no (never).

Personality was measured using the Zuckerman IMP-SS scale (Zuckerman et al., 1993). This gave a measure of impulsivity (8 items), sensation seeking (11 items), and aggression-hostility (17 items). Gender specific cut-off points were selected to classify each of the scales into three categories: low, middle, or high. The low group had scores in the lowest quartile, the high group had scores in the highest quartile, and the remainder were in the middle quartiles (approximately 50%).

All statistical analyses were undertaken using SAS version 9.3 (SAS Institute Inc., 2010). The analysis stages were:

1. A descriptive statistical analysis was used to determine knowledge of, and attendance at, driver education/training courses at the restricted licence stage
2. For the courses where the number of participants was sufficient, univariate Poisson regression models with robust error variance (Zou, 2004) were run to examine the association between course attendance and the other variables.
3. A descriptive statistical analysis was used to examine the reasons given for attending a course.

Results

Knowledge of, and participation in, a driver education/training course

Table 1 summarises knowledge of, and participation in, the driver education/training courses at the restricted licence stage. It shows that the Defensive Driving Course (DDC) was the only course that the majority (94%) had heard of, and the only course that more than 1% had participated in. Five percent had not heard of any course and 50% did not take part in any course. Due to the very small numbers attending any of the courses other than DDC, the following analysis is based solely on the DDC.

Table 1: Knowledge of and participation in driver education/training courses at the restricted licence stage

	Had heard of course		Took part in course	
Defensive Driving	1665	94%	868	49%
Practice	29	2%	4	0%
Prodrive	124	7%	23	1%
StreetTalk	36	2%	17	1%
Alchemy	9	1%	0	0%
Other	24	1%	4	0%

No Course	87	5%	875	50%
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NB: % may not equal 100 as more than one course can be heard of, or participated in.

Comparison of those who did, and did not attend a Defensive Driving Course (DDC)

To determine if those who had attended a DDC (DDC group) differed from those who did not attend a DDC (others) a comparison was undertaken using univariate Poisson Regression analysis. The results of this comparison (with 95% confidence intervals and p-values) are presented in Table 2.

Table 2. Comparison of the fully licensed drivers who did and did not attend a Defensive Driving Course at the restricted licence stage of the GDLS

Socio-demographic factors:		Mean Estimate	95% Confidence Limits		p-value
Gender	Female	Reference			
	Male	1.1	1.0	1.2	0.21
Age at Restricted Licence	15.5 < 16.5	Reference			
	16.5 < 17.5	0.6	0.6	0.6	<.01
	17.5 < 18.5	0.5	0.4	0.5	<.01
	18.5 < 25	0.3	0.3	0.4	<.01
	25+	0.2	0.1	0.3	<.01
Ethnicity	Non-Māori	Reference			
	Māori	0.6	0.5	0.8	<.01
Residential Location	Main urban	Reference			
	Other	1.4	1.2	1.5	<.01
NZ Deprivation	Low	Reference			
	Medium	0.8	0.8	0.9	<.01
	High	0.5	0.4	0.6	<.01
Driving-related behaviours:					
Time-discount on restricted licence	No	Reference			
	Yes	8.0	6.7	9.4	<.00
Professional lessons on learner licence (number)	0	Reference			
	1 - 5	1.5	1.3	1.6	<.01
	6 - 10	1.4	1.2	1.6	<.01
	>10	1.2	0.9	1.5	0.21
Pre-licence on-road driver					
	No	Reference			
	Yes	1.1	0.9	1.1	0.35
Unsupervised driving on Learner Licence					

	No	Reference			
	Yes	0.7	0.7	0.9	<.01
Table 2 continued					
Breached Restricted Licence conditions:					
Night-time condition					
	No	Reference			
	Yes	0.9	0.8	1.0	0.02
Passenger condition					
	No	Reference			
	Yes	1.2	1.1	1.3	0.01
Crash as a driver on a:					
Learner Licence					
	No	Reference			
	Yes	0.6	0.4	0.9	0.02
Restricted Licence					
	No	Reference			
	Yes	0.9	0.8	1.0	0.03
Personality measures:					
Impulsivity					
	Low	Reference			
	Medium	0.9	0.8	1.0	0.18
	High	1.0	0.9	1.1	0.81
Sensation seeking					
	Low	Reference			
	Medium	1.1	1.0	1.2	0.15
	High	1.1	1.0	1.3	0.14
Aggression					
	Low	Reference			
	Medium	1.0	0.9	1.1	0.85
	High	0.9	0.8	1.1	0.44
Alcohol and drugs use at learner licence:					
Alcohol use					
	Not high	Reference			
	High	0.9	0.8	1.0	0.14
Cannabis use					
	No	Reference			
	Yes	0.7	0.5	0.9	0.01
Herbal high use					
	No	Reference			
	Yes	0.9	0.6	1.2	0.30

Compared with the others, the DDC group was more likely than the others to be younger (aged less than 16½ years at restricted licence) with RRs ranging from 0.2 for the 25+ age group to 0.6 for the 16½ < 17½ year age group. They were less likely to be of Māori ethnicity (RR=0.6), less likely to come from an area of high deprivation (medium deprivation RR =0.8 and low deprivation RR = 0.5) and more likely to live outside a main urban centre (RR=1.4). They did not differ by gender.

The DDC group were much more likely than the others to have received a time discount (RR=8.0), were more likely to have had up to 10 professional driving lessons (1-5 lessons RR 1.5; 6-10 RR 1.4). They were less likely to have driven unsupervised on their learner licence (RR 0.8) or driven unsupervised at night on their restricted licence (RR 0.9) but were more likely to have driven unsupervised with passengers on their restricted licence (RR 1.2). They were less likely than the others to have been the driver in a crash at both the learner licence (RR 0.6) and restricted licence (RR 0.9) stages. The two groups did not differ on personality, alcohol or herbal high use but the DDC group were less likely than the others to have used cannabis (RR=0.7).

Reasons for doing a DDC

When asked why they had taken part in a DDC, the main reasons given were “to get my full licence sooner” 85% (n=737), “to improve knowledge/skills” 4% (n=36), “my parents wanted me to” 3% (n=28), “to help me pass my full licence test” 2% (n=22), “to make me a safer driver” 2% (n=20), and other various reasons 4%.

Discussion

This investigation focused on the Defensive Driving Course because very few members of the NZDS cohort had heard of any of the other driver education/training courses that may have been available for them to participate in during the restricted licence stage of the graduated licensing process. It is understandable that the Defensive Driving Course is widely known because it is run by the NZ Automobile Association (NZAA) which operates nationwide with AA centres (licensing centres/shops) in many towns throughout NZ, and has several centres in most cities. It was expected, however, that Street Talk would have been more widely known, being the only other course that is approved for a time discount at the restricted licence stage. However, few of the NZDS cohort had heard of, let alone taken part in, a Street Talk course. From this it has to be assumed that those who were given a time-discount on their restricted licence will almost all have taken part in a DDC. Of the other listed courses, it was not unexpected that few had taken part in “Practice” as it is targeted at learner licensed drivers. Two of the other courses, Pro-drive and Alchemy, have ceased to operate since the NZDS began.

These results were based on fully licensed drivers, and compared with those who did not attend a DDC, the DDC group tended to be younger, non-Maori, but they did not differ by gender. They came from a non-urban area, where alternative means of transport may be limited so having driver’s licence may be seen as essential. Compared with the others, they were not more impulsive, sensation-seeking, or aggressive. They did not use drugs or drink large amounts of alcohol. Furthermore, their driving behaviour as a learner and restricted licensed driver suggested they were relatively law abiding and had lower crash involvement. The latter may be because they spent less time on the learner and restricted licenses and therefore did less driving at these licence stages, and thus had less exposure to a crash. It may be, however, that as the results in this study suggest, they were relatively low-risk, safe young drivers who could be expected to be relatively safe once fully licensed.

An earlier NZDS study of licensing found that the main reason many young people wanted to get their car driver’s licence was to be independent and have the freedom to go where they wanted, when they wanted (Begg, Langley, Brookland et al., 2009). The present investigation found that for the vast majority, the main reason why they attended a DDC was

so that they could fast-track the licensing process, and presumably gain their freedom as soon as possible. It is not surprising, therefore, that nearly all (86%) of those who attended a DDC got a time-discount on their restricted licence.

There are some possible methodological strengths and limitations of this study which should be noted. Firstly, the NZ Drivers Study is not a randomly selected representative sample of all newly licensed drivers in New Zealand. Therefore, the descriptive results presented here are not intended to provide prevalence estimates and may not apply to all newly licensed drivers in New Zealand, or elsewhere. Some of the behavioural variables examined were obtained by self-report and therefore have the potential to be biased, particularly in the form of social desirability bias. However, it has been shown that social desirability on self-reported risky behaviours is not necessarily substantial (Lajunen & Özkan, 2011; Lajunen & Summala, 2003; Sullman & Taylor, 2010).

An important strength of this study is the multistage prospective cohort study design including a wide range of measures specifically designed to address this topic. Also, data collection interviews took place very soon after each licence test was passed, which ensured that the participants were reporting on behaviours related to the recently completed driver licence stage. However, being a prospective study, it takes time following the interviews for sufficient outcomes, such as crashes, to occur to provide the numbers required for an outcomes analysis. To ensure temporality, that is that the crash occurred after the behaviour, in this case attendance at a driver education/training course (eg DDC), full licence crashes are required for this analysis. Crashes that occurred at the learner licence stage would have occurred before attendance at a DDC, and it cannot be determined if the restricted licence stages crashes occurred before or after the DDC course. These crashes, however, contribute to the risk profile of these young drivers and show that the DDC-group were relatively low risk before they undertook the course and before they became fully licensed. At the time of this investigation the number of crashes as a fully licensed driver were too few for a meaningful multivariate analysis of the effect of course participation on crash risk.

The profiles of the predominantly young drivers who attended a DDC suggests that, as a fully licensed driver, they should have a relatively low risk of being the driver in a traffic crash. However, as was shown in an earlier study of traffic crashes in NZ, drivers who had a time-discount on their restricted licence had three times the crash rate in the first months as a fully licensed driver, compared with those who completed at least 18 months on their restricted licence (Lewis-Evans, 2010). The DDC group were 8 times more likely to get a time discount than the others. It will be of much interest to follow-up the NZDS young drivers to examine their traffic records as fully licensed drivers, and especially for those who had taken advantage of the “time discount” to shorten the time on their restricted licence.

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