The *P Drivers Project*: Past, Present and Future Directions

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Abstract

The overrepresentation of young novice drivers continues to be one of road safety's most intractable problems. This has brought with it the challenge of developing innovative and effective programs, which can complement other countermeasures in youth road safety, notably, graduated licensing. The *P Drivers Project* is one of the largest, comprehensive and ambitious projects of its type. It represents the collaborative efforts of experts and stakeholders in adult education, behavioural change theory and application, and youth road safety, and covers not only the development and delivery of a behavioural change program but its evaluation also. The Program focuses on several target behaviours (speed choice, hazard perception, car following, gap selection), and the factors which may mediate those behaviours (e.g., driver distraction). The Program's target audience is young drivers within the initial months of licensure, and includes two facilitated peer group discussions and an in-vehicle, on-road coaching session. Through shared experiences and self-reflection, the Program aims to raise awareness among young drivers of the risks associated with driving, and of their capabilities and limitations as drivers. To gauge Program effectiveness, data on infringements, self-reported crashes, the amount and type of driving, and driving behaviour are being collected at several points: pre-program, 1 and 12 months post-program. With the project due for completion in 2016, this paper provides an overview of, and timely update on, the project, and includes discussion of some of the key issues and future opportunities primarily from the perspective of the project's Technical Working Group.

Introduction

Young novice drivers are over-represented in the crash statistics. In 2013, 18% of drivers killed in Victoria were aged between 18 and 25 years. This age group, however, represents only approximately 13% of licence holders in Victoria (Transport Accident Commission (TAC), 2014). Analysis of Victorian crash data shows that, over the years 2009 to 2013, an average of 32 drivers aged 18 to 25 years died each year in Victoria. This represents a 9% decrease in the 2008 to 2012 yearly average of 35 deaths among 18 to 25 year old drivers. Thus, despite the decrease in young driver fatality rates over recent years, it is important to recognise that young novice drivers are still a high-risk group, and that road crashes continue to constitute one of the leading causes of death for drivers aged 18 to 25 years. This has brought with it the challenge of developing innovative and effective programs, which can complement other countermeasures in youth road safety.

In the Australian context at least, graduated licensing has emerged as perhaps the most successful young novice driver crash countermeasure to date. In their most general sense, graduated licensing systems phase in driving privileges over time. Key to this approach is the accumulation of driving experience over an extended time frame, and initially, under conditions of low risk; as the driver gains experience and maturity, restrictions on driving are gradually lifted. Johnson and Jones (2011) refer to graduated licensing as "a nearly ideal example of developmentally-informed intervention" (p. 53) as it seeks to address young novice drivers' inexperience as well as their young age.

Notwithstanding differences in the graduated licensing systems in place across jurisdictions, there is general acknowledgement and agreement among road safety researchers and policy-makers alike that the fundamental principles of graduated licensing are both theoretically and practically sound -

views which are supported through a growing and robust evidence-base (e.g., Steadman, Bush, Thygerson & Barnes, 2014). Yet, opportunities exist within the framework of graduated licensing for complementary initiatives, which, in parallel, seek to support the learning to drive process and, more broadly, promote and facilitate young driver safety (e.g., Kinnear, et al., 2013). The *P Drivers Project*, the subject of this paper, represents one such opportunity.

Much evidence has converged on the finding that driver training and education programs which focus exclusively on imparting competencies in certain technical skill areas, such as vehicle handling and avoidance manoeuvring, do not result in significant crash reductions post-licensing. Holding substantially more promise are those approaches which focus on developing certain higher-order competencies and in raising awareness among young drivers of the risks associated with driving, and that use methods which provide opportunity for self-reflection and evaluation (Beanland, Goode, Salmon & Lenné, 2013; Senserrick & Mitsopoulos-Rubens, 2013).

Against this background, the *P Drivers Project* constitutes the development, delivery and evaluation of a behavioural change program targeted at young drivers in their initial months of solo driving – when crash risk is at its highest. The *P Drivers Project* is one of the largest, comprehensive and ambitious projects of its type. It represents the collaborative efforts of experts and stakeholders in adult education, behavioural change theory and application, and youth road safety. With the project due for completion in 2016, the purpose of this paper is to provide an overview of the project, and a timely update on progress to date. We conclude with a discussion of the some of the key issues to have been experienced in the project and next steps.

Project overview and progress to date

Project and program objectives

The *P Drivers Project* seeks to explore the effectiveness of a behaviour change program for young, newly-licensed drivers. The objectives of the Program are: to increase awareness among young novice drivers of the factors which contribute to their elevated crash risk; to improve safe driving behaviour among young novice drivers; and ultimately, to reduce the number and severity of crashes involving young novice drivers. That is, the expectation is that increased awareness of contributing factors will encourage novice drivers to make safer decisions about their exposure to, and management of, risk. More appropriate decisions will lead to an increase in safe, and a decrease in potentially unsafe, driving behaviours and, in turn, a reduction in crash risk.

Governance and activity streams

Several Australian organisations and road safety agencies have contributed funding to the project. Project partners include, the Australian Federal Government, Victorian (VicRoads and TAC) and NSW (Transport for NSW) Governments, the Royal Automobile Club of Victoria (RACV), the Insurance Australia Group, and the Federal Chamber of Automotive Industries. Overall strategic governance of the project is provided through the Project Steering Committee, which comprises representatives from VicRoads, TAC, Transport for NSW, and RACV. Also comprising representatives from these same four project partners, the Technical Working Group (TWG) provides day-to-day guidance and advice on all project technical matters, as well as providing an important role in issue and risk management. VicRoads manages the project on behalf of the project partners.

Project work packages are managed and executed by individual activity streams, who must work collaboratively. The principal streams are: Program curriculum development (Dynamic Outcomes); Program management and delivery (Centre of Adult Education, CAE); evaluation (Monash University with University of NSW); participant recruitment (Roy Morgan Research); participant

management system, including website, development and support (Internet Business Solutions Australia, IBSA); participant rewards distribution (Edge Loyalty); and project marketing and communications. Streams are responsible to project management for the delivery of their work, and to the TWG for the technical quality of their work.

Program development and theoretical framework

A theoretical framework was used to guide development of the Program's curriculum, with development of the framework informed through a workshop with behaviour change experts and a review of relevant behaviour change literature. Much of the literature was drawn from the health promotion and injury prevention domains, given the paucity of directly relevant work in road safety specifically. Drawing on a range of models, mainly those with a social-cognitive basis (e.g., Theory of Planned Behaviour, Health Action Process Approach), a list of common elements or "key ingredients" was consolidated to underpin the Program. This list included several constructs which had been shown previously to predict or moderate behaviour change in certain domains, namely: empathy; self-efficacy; outcome expectancies; subjective norms; risk perception; intention (or readiness) to change; implementation ability; and maintenance/relapse prevention ability.

The Program's focus is on target behaviours associated with the key crash types of young novice drivers (e.g., rear-end crashes, single-vehicle off-path crashes). The target behaviours comprise: speed choice; hazard perception; car following; and gap selection. In addition, a number of key influences and barriers to behaviour change are considered in the Program. These include: peer influence; emotional control; distraction; other drivers and vehicles; and driving at high-risk times.

Program structure

The Program comprises several components, which are completed in the following order:

1. *Driver self-assessment survey (DSAS).* An online survey, which Program participants complete in their own time. The purpose of the DSAS is to collect information about participants' exposure to high-risk situations and behaviours to create a risk profile. Participants receive some immediate feedback on what constitute the key risky driving behaviours of newly-licensed drivers, communicating to participants that they are at increased risk of crash involvement.

2. *Group session 1 (GS1).* Intended to be completed about 60 to 90 days post-licensing, GS1 is a three-hour discussion with a trained Program facilitator and about ten young drivers. A primary purpose of this session is to assist participants to make links between typical young driver behaviours and increased crash risk. The sharing of personal experiences as a solo driver is a critical element of the session.

3. *On-road coaching session (CS).* Intended to be completed about one to two weeks after GS1, the CS involves two to three participants taking it in turn to drive their own vehicle while being coached by a trained Program facilitator. When not driving their own vehicle, participants observe as passengers. In the CS, participants learn about and practice low-risk driving behaviours ("the bubble").

4. *Group session 2 (GS2).* Intended to be completed about two to four weeks after the CS, GS2 is a three-hour discussion with a trained Program facilitator and about ten young drivers. In GS2, the DSAS is revisited and participants reflect on the CS. Participants also develop an individual action plan. As well as setting specific individual behavioural goals for future driving, the plan acknowledges identified barriers to change and states personalised strategies for dealing with these potential barriers.

5. *Maintenance messages.* To encourage maintenance of safe driving behaviours and to facilitate relapse prevention, participants are sent regular messages via SMS and email over a 12 month period following completion of GS2. Messages are of two types: those drawing directly from the participant's individual action plan, and those which remind participants to use "the bubble".

Evaluation

Following stages of Program curriculum development, evaluation planning and piloting, among others (e.g., participant management system development and testing), data collection for the evaluation commenced in October 2011. The evaluation of the Program comprises two components: a process evaluation and an outcome evaluation. Data for the process evaluation were collected mainly from participants who took part in the *P Drivers Project* in NSW, while data for the outcome evaluation are being collected from participants in Victoria. Each component of the evaluation is described briefly in turn.

Process evaluation

The overarching objectives of the process evaluation were: to evaluate processes related to Program delivery; and to identify possible barriers to potential future, widespread implementation of the Program. Participants were 17 to 21 year old, newly-licensed drivers in NSW, who elected to register for the Program following receipt of a letter of invitation. All eligible participants in four location "hubs", three country (Dubbo, Tamworth, Lismore) and one metropolitan (Western Sydney) were invited to participate. These four hubs corresponded with the areas in which the Program would be delivered. Recruitment continued until approximately 1,600 participants had consented.

Data from participants were collected at several time-points during Program delivery. Key data collection mechanisms included:

- *Sign-up survey.* Completed at the time of consent, this survey provided a range of demographic and background information about participants.

- *Post-session feedback questionnaires.* Following completion of each of GS1, CS and GS2, participants were asked to complete a questionnaire asking about their experiences and perceptions of given aspects of the Program and Program components.

- *In-depth interviews*. Following completion of each of GS1 and GS2, a sub-set of participants (n=40 post-GS1; n=40 post-GS2) were invited to complete a telephone interview to provide more in-depth information about Program components than could be obtained through the feedback questionnaires.

- *In-depth interviews with potentially disadvantaged participants.* Following completion of key Program components, a sub-set of participants (n=25) who were identified as potentially disadvantaged (e.g., CALD, low literacy) were invited to complete a telephone interview to provide detailed information about their experiences with the Program and to discuss potential barriers to Program participation and completion.

- *Dropout survey.* Where possible, participants who dropped out of the Program were asked, at the time of dropout, to nominate their reasons for wanting to discontinue with the project.

In addition, a series of interviews and focus groups were held with key project and Program staff (e.g., Program facilitators) to collect data on process-related matters from the perspective of those involved in the delivery and management of the project and/or the Program specifically.

To supplement the NSW evaluation, and to allow some comparisons to be made across jurisdictions where the Program had been implemented, additional process evaluation data were collected from a sub-set of participants who were taking part in the Victorian-based outcome evaluation (see below). Key data to have been collected derived mainly from the following sources:

- *In-depth interviews*. As in NSW, following completion of each of GS1 and GS2, a sub-set of participants (n=20 post-GS1; n=20 post-GS2) were invited to complete a telephone interview to provide in-depth information about their experiences with, and perceptions of, the Program. The same interview guides were used as in NSW.

- *Maintenance interviews.* Several months following completion of GS2, a sub-set of participants (n=10) were invited to complete a telephone interview to gauge participants' perceptions on the utility of the maintenance messages. This activity was unique to Victoria.

- *Dropout survey.* As in NSW.

Delivery of the Program in NSW concluded in April 2014, with data collection for the NSW process evaluation being completed shortly thereafter. Similarly, data collection for the process evaluation in Victoria ended mid-2014. In total, 380 participants completed the Program in NSW. At the time of writing (August 2014), members of the evaluation stream were in the final stages of data analysis and reporting, with the final report due for completion late 2014.

Outcome evaluation

The overarching objective of the outcome evaluation is to: assess the effect of Program participation on young novice driver crash involvement (namely self-reported crashes) and receipt of traffic offences. Additional, secondary objectives of the evaluation are to gauge the impact of the Program on the self-reported driving behaviour and driving style of young novice drivers, and on young novice drivers' awareness of factors which influence their crash risk.

To address these objectives, 18 to 21 year old newly-licensed drivers in Victoria are being recruited to take part in the research. The recruitment stream is responsible for contacting (via telephone) eligible participants directly and for inviting them to participate in the study. Eligible participants are drawn from those locations where the Program is being delivered: Greater Metropolitan Melbourne, Bendigo, Ballarat, and Geelong.

Potential participants also complete the Sign-up survey (the same as that used in NSW) at the time of recruitment. Individuals who, in turn, consent to participate in the study are allocated randomly to one of two groups: the treatment ("Program") group, and the control ("Survey") group. Participants who are allocated to the Program group are required to complete the P Drivers Program and a series of surveys, with each survey administered at a pre-defined time point. Participants who are allocated to the Survey group are asked to complete the surveys only.

To gauge Program effectiveness, web-based surveys are completed at three time points: pre-Program ("Survey 1"), one month post-GS2 ("Survey 2"), and 12 months post-GS2 ("Survey 3"). These three surveys comprise several parts to collect detailed self-report data from each participant on each of the following: crashes (including low speed and very minor); driving exposure (quantity and type); driving behaviour; driving style; awareness of crash risk factors; self-efficacy; outcome

expectancies; subjective norms; and intentions. Data on infringements are accessed from administrative data sources and are available for the entire study period.

In between Surveys 2 and 3, at intervals of approximately two months, participants are encouraged to "check-in" and complete just the survey section on crashes. This practice is to minimise the time over which participants must recall details relating to any crashes, which they may have had since completing their previous survey.

At the time of writing (August 2014), the study was nearing the end of its third year of data collection. As at end July 2014, approximately 32,000 young, newly-licensed drivers in Victoria had consented to take part in the study, with 557 participants in the Program group and almost 2,000 participants in the Survey group to have completed all study components, including Survey 3, as at end May 2014 (see Table 1). Data collection is expected to continue until mid-2016, with the final report on the outcome evaluation due for completion late 2016.

Table 1. Number of surveys completed in each of the Program and Survey groups as at end May 2014

	Survey		
Group	**1**	**2**	**3**
Program	1,595	1,858	557
Survey	7,673	5,350	1,970
Total	*9,298*	*7,208*	*2,527*

Key issues and next steps

Before embarking on a brief discussion of some of the key issues in the *P Drivers Project* to date, it is important to highlight that the description of the project which was just presented represents, at best, a high-level "snapshot" of the project. As the intention here was to present an overview of the project, much of the detail on day-to-day operations and matters has not been included. Thus it is important to acknowledge and appreciate that much effort is invested on a day-to-day basis to manage the project, to manage participants from the point of registration through to study completion, and to manage the great volume of data that is being generated. This is an enormous undertaking given the volume of participants involved; that each participant's involvement in the study spans about 18 months; that, across participants, progression through study components is staggered; and the forms and level of commitment required of each participant, particularly those in the Program group. Activity streams working collaboratively and efficiently, and communicating effectively is paramount in this process, as is maintaining a participant focus to ensure that ethical principles are not compromised.

Perhaps the greatest issue to have emerged in the project is the higher than anticipated rate of attrition, particularly among Program participants. (Although, in retrospect, this higher than expected rate of attrition is not unsurprising given practices and experiences in comparable studies.) Attrition rates show that, in the outcome evaluation, attrition is at its highest between Surveys 1 and 2 for the Program group (85%). This is considerably higher than the corresponding attrition rate for the Survey group (28%). By comparison, the attrition rates between Surveys 2 and 3 are about 35% and 50% for the Program and Survey groups, respectively. The particularly high attrition rate among Program participants between Surveys 1 and 2 implies that Program participants are mostly leaving the study prior to completion of GS1. Indeed, feedback from the program delivery and operations stream is that, once they have started attending Program sessions, participants are keen to continue, subject to the availability of suitable session times and within the time frames as prescribed through the study design and business rules.

An implication of the higher than anticipated attrition rate (particularly in the Program group) is that Project time lines have had to be extended. Commensurate with this has been the need to review outcome evaluation target sample sizes to ensure that the eventual sample size is still sufficiently large to enable detection of a Program effect (should one exist) in terms of self-reported crashes and/or infringements – the main project outcome measures. As a general rule, the nature of these type of data (i.e., dichotomous as opposed to continuous) means that a relatively larger sample size is required in order to detect an effect of given size between study groups. Further, to help address the growing imbalance in survey completions between the study groups that was brought about by the differential rate of dropout, a decision was made as part of the sample size review to adjust the ratio of participants allocated to the Program group relative to the Survey group. In August 2013, a new allocation ratio of 10 Program to 1 Survey participants was implemented. Prior to this, the ratio was 3 Program to 2 Survey participants.

In closing, it is important to acknowledge that, for the vast majority of participants who complete the Program, feedback on the Program's perceived value has been overwhelmingly positive. Participants have described the Program as, for example, "eye-opening", informative, and directly applicable. Similarly worthy of acknowledgment is the vast volume of data on young drivers' experiences in the initial months of licensure to have been generated through this project – data which will be extremely useful in informing future young driver programs and policy in Australia. Indeed, as the project draws to its conclusion, we look forward to, and "take stock" of, the continued opportunities and increased knowledge that has been brought about through the collective efforts of all who have worked, or are currently working on, the project.

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