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ROAD TRAUMA AWARENESS SEMINAR LITERATURE REVIEW

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Road Trauma Awareness Seminar Literature Review

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Abstract:

The Road Trauma Awareness Seminar (RTAS) is a short, non-treatment based offender program which aims to bring about attitude and behavioral change, and reduce recidivism and hence road trauma. The aim of this project was to explore the current best practice literature in the field of behavior change programs and evaluation methods considered comparable to the RTAS program in order to inform recommendations to enhance the current RTAS program.

Overall, the findings of the review showed that research exploring driving behaviour changes based on crash and/or re-offence rates following attendance at this type of program, typically has not identified significant positive effects. Limited relevant research and a number of methodological issues have contributed to this finding. However, when viewed as a program aimed at providing participants with insight into the risks associated with high risk driving behaviours, such as facing further sanctions or serious injury or fatal crash involvement, this type of program has been found to be a low-cost user-pays option.

More specifically, this report identified numerous key points pertaining to: methodological challenges associated with conducting representative evaluations, non-homogenous participant populations, development of key messages, and participant engagement. Furthermore, the importance of ongoing reviews into the program content and structure is highlighted to ensure that newly evolving behaviour change strategies are incorporated as well as adopting the most contemporary and engaging methods to present and deliver the program. The forms and evaluation surveys currently used for the RTAS have been reviewed and suggestions for improvement made.

This report provides information relevant to traffic offender and education programs that can be used to enhance the current program content and delivery mode of the RTAS as well as being a valuable reference for the development of a contemporary program to cater for “hoon” offenders.

Key Words:
Traffic offender program, hoons, recidivism, education program.

Disclaimer

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Preface

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Contributorship Statement

BC Wrote the proposal, managed the project, researched and wrote the report

JE Researched and wrote a chapter of the report

Ethics Statement

Ethics approval was not required for this project.

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REPORT SUMMARY

RTAS targets ‘Safe Road Users” in the Safe System approach to road safety in Victoria (Safer Road Users, Vehicles, Roads, and Speeds). The Road Users targeted are traffic offenders (serious, multiple, and/or re-offending), principally (but not solely) young males. Education programs similar to RTAS are widely used in Australian and internationally, but there is little consistent research evidence for their effectiveness.

However, lack of evidence of effectiveness does not necessarily equate to lack of effectiveness, as there are a number of important methodological constraints on obtaining evidence of effectiveness. These include:

(i) Lack of access to data and information held by road authorities and courts.
(ii) Defining outcome variables (e.g. any re-offending, high-risk re-offending, crash involvement, injury involvement, proportion of participants who re-offend, or time to re-offending, or number of re-offences).
(iii) The infrequency of road crash casualties (in the relatively small population sub-group of re-offenders).
(iv) Disaggregating the impact of an educational intervention, as other measures such as fines and other sanctions usually occur in tandem with the educational measure.
(v) Identifying sub-groups of participants for whom the program may be more (or less) effective. A program, overall, may not show a significant impact, but some individuals may change.

From a behaviour change theory perspective, knowledge, skills, beliefs and attitudes (the focus of education interventions) are one domain of influence on behaviour (others comprise biological, psychological, social, cultural, environmental and policy/regulatory domains). The domains are interactive and difficult to disentangle.

The popularity of educational programs (even in the absence of direct evidence of effectiveness) reflects an acknowledgement that while education alone does not necessarily change behaviour (due to a wide range of other influences on behaviour), it does reduce the possibility of people behaving in a risky manner due to ignorance (i.e. lack of appropriate awareness [of risks and consequences], knowledge or skills).

RTAS is a low-cost road safety measure which focuses on road user education, and uses volunteers and operates on a user-pays basis.

For the reasons outlined above, decisions about conducting RTAS type educational interventions should not be based on limited and inadequate evidence effectiveness alone, but on (i) the desirability of complementing enforcement sanctions for driving offences with the education, skills and motivation to assist drivers to drive safety and legally; and ii) the relatively low cost of educational measures compared with other sanctions.

It is important to ensure that educational interventions are of the highest possible quality. They should be based on current behaviourally-orientated educational and communication theory, employ continuous quality improvement measures, and conduct regular monitoring and evaluation.

(Summary prepared by Dr Jan Garrard)

EXECUTIVE SUMMARY

The Road Trauma Awareness Seminar (RTAS) is a short, non-treatment based offender program which aims to bring about attitude and behavioral change, and reduce recidivism and hence road trauma. MUARC was contracted to conduct a literature review of the RTAS program. The aims of this review were to:

- explore the literature to identify current 'best-practice' behavior change programs and evaluation methods considered comparable to the RTAS program; and,

- provide a suite of recommendations regarding potential enhancement to the existing program as well as future options relevant to the development of a program to target "hoon" offenders.

Background

The Road Trauma Support Services Victoria established the RTAS program in 2004-05. The RTAS is built on restorative justice principles and employs a cognitive behavioural approach using both volunteer speakers with personal experiences of trauma as well as presenters from the Emergency Services. It is a traffic offender program which aims to:

- Confront and evaluate participant belief systems
- Bring about a shift from blame to choice
- Assist participants in identifying and managing precursors to offending
- Provide peer discussion and problem solving
- Provide reality based learning using volunteer/paramedic presentations

This 2.5 hour program is conducted in conjunction with the Victorian Magistrates Court and targets first time or recidivist traffic offenders who are referred via the Magistrates Court, solicitors, or through self-referral. RTAS is a fee-for-service program which costs $350 for first offenders and $500 for repeat offenders. Seminars are conducted on a regular basis across the Melbourne metropolitan area as well as several regional and rural centres across Victoria. Currently approximately 1,200 participants attend the program per year with around 15 participants per program. The common attendee profile is a young male, tradesperson aged 20-25 years who has been convicted of a 'hoon' type offence.

This report begins by providing background information about the Road Trauma Awareness Seminar (RTAS). This includes an overview of the original cognitive behavioural theoretical foundations which underlie its initial design and development of the program aims. Demographic information about the participant population is then presented followed by an outline of the current program's content and schedule.

Program evaluations

The literature indicates that traffic offender and education programs have typically failed to identify significant long-term behaviour change when outcome measures such as crash and re-offence rates are analysed. However, the challenges in finding supportive empirical evidence are also apparent for other interventions; for example, enforcement and sanctions targeting illegal driving behaviour such as unlicensed driving. While the debate continues surrounding the identification of valid methodologies and outcome measures to evaluate education/offender type programs, what has been identified is that the assessment of program effectiveness is hindered by the application of these programs in a one-size-fits-all manner. Program effectiveness for first offenders may be considerably different to that of chronic recidivist attendees; however current evaluations typically analyse all offender attendees as a homogenous group. This has resulted in generalised programs being delivered to participant groups with vastly different demographic and psycho-social characteristics who have committed offences ranging from first offence "hooning" to recidivist alcohol/drug related driving behaviour. The following key points were identified within the literature pertaining to program evaluations.

- Traffic offender program evaluations, based on crash or re-offence rates outcomes typically fail to identify significant long-term behaviour change.
- Other sanction options (e.g. license disqualification) report a similar lack of significant effect.
- Lack of empirical support for education programs is partly attributed to methodological challenges, data access limitations, and insufficient program and evaluation funding.
- Non-homogenous samples and identification of valid outcome variables are key evaluation challenges.
- Utilisation of multiple outcome measures has been proposed to improve reliability of results.
- Universal operational definitions of key terms such as recidivism are necessary to support comparisons across evaluations.
- Self-report attitude surveys report greater effect sizes; however, critics question the low correlation between attitude and behaviour change.
- Education programs comparable to the RTAS have been found to play a role when combined with other sanctions in motivating driving behaviour change.
- Program effect size is related to the level of intervention, with the longer 6-8 week treatment based programs reporting a larger effect than interventions such as warning letters.
- There is growing support for implementing a combination of sanctions which include an education program component.

- User pays education programs are a low cost addition to other sanction regimes.

- Education programs have typically been delivered in a one size fits all approach to heterogeneous participant groups.

- Education programs are evolving to accommodate specific offender groups; however, ongoing research is needed to guide the development of successful targeted programs.

Behaviour change

Positive driving behaviour change is a chief aim behind traffic offender programs, however achieving this is a major challenge facing both the program facilitators and participants. The three most commonly applied behaviour change theories: motivation models, behavioural enaction models, and multi-stage models, have been presented. It was identified that appropriate theoretical frameworks have important implications for behaviour change programs and that successful behaviour change is more likely to be achieved when:

- Participants are fully aware of the costs of engaging in the non-desired behaviour; these include potential physical threats, legal threats and social threats.

- Participants' self-identity and group identity (peers) is consistent with performing the desired behaviour.

- Participants agree that the non-desired behaviour is a problem for them, and that they wish to change their behaviour.

- Participants perceive that they have control over the behaviour (there are no external barriers to them performing the behaviour, and they believe they are capable of performing it).

- Participants are assessed prior to the course to determine what barriers (including ignorance or disbelief of costs, perceptions that the costs of changing outweigh the benefits, self or group identity, perceived lack of control over the behaviour, etc) may be preventing them from changing, and information/activities are targeted towards overcoming these barriers to change. This implies the use of small groups and/or matching participants with similar needs.

- Participants commit to specific action plans (when, where, how) to perform the behaviour.

- Participants receive support to maintain changes in behaviour over the longer term (months) while establishing new habits.

Recommendations and summary of Program content

Participant characteristics

- Mandatory program attendance can reduce participant engagement and/or commitment to change.
- Programs need to employ strategies to progress participants into an active readiness to change phase.
- Ongoing development of specialized programs, targeting more homogenous participant samples are necessary to increase program effectiveness.
- The majority of participants are young males, partly due to their offence rates but also reflecting magistrate referral patterns.
- While the majority of programs cater for the novice driving age, further research is required to explore the appropriateness of current offender programs for older participant groups outside the young 18-25 year old bracket.
- Shorter programs may be suitable for first offences with recidivist offenders being referred to longer or more treatment based programs.
- Valid definitions of recidivism and/or repeat offender need to be developed to support both the appropriate allocation of clients to programs, as well as to improve empirical evaluations.
- Specialized programs are being developed based on offence categories i.e. low level speeding.
- A diverse range of driving offences fall under the 'hoon' legislation.
- Programs aimed at 'hoon' drivers need to consider referring more complex participant groups (e.g. repeat drink/drug drivers) to long-term treatment based programs.
- Networking and cooperation between program providers could assist with allocating the client into the most appropriate program and reduce the risk of long waiting lists across programs.

Program content and delivery

Program content is an integral part of developing an effective program. Priority should be given to the following aspects during the development phase as well as undertaking regular content reviews: identification of clear goals/aims; development of key messages; maximising participant engagement; optimal program content; and the appropriate duration of the program. The following key points were identified in relation to program content and delivery:

- Key messages are often confused with re-stating of goals, whereas their role is to support the attainment of goals.
- Key messages should be directed from insight into the target audience belief system, not prescribed ideals of the organisation.
- Key messages should align with audience beliefs to reduce resistance.
- Key messages need to be judged as credible by the young audiences who in current times are typically well versed in filtering messages.
- One key program message may result in more success than attempts to convey many.
- A key message can be utilised like a logo or brand.
- Lecturing the audience should be avoided; rather the interactive educational model should be developed.
- Actively listening should be adopted to gain insight into the obstacles to change that participants face.
- Goals need to be realistic, obtainable and broken down into small achievable steps.
- Explore novel approaches to target challenging audiences e.g. playback theatre.
- E-learning may be more engaging for young clients; can increase capacity of program through homework; and can assist with remote attendance and costs associated with venue hire.
- Program delivery flexibility can accommodate participant group variations; for example, active or reluctant participants.
- More structured programs increase inter-facilitator reliability and support empirical evaluations.
- Input from stakeholder groups (including offenders) should be incorporated into program development.

- Programs should undergo regular updates and audits.
- Short courses may be practical and low cost for prevention or low level offending.
- Scheduling programs over two sessions allows for the assignment of homework and can therefore extend the course content.
- Longer programs are required for treatment-type goals; for example,addictions.
- Course content can be extended through the use of pre and post surveys or information distribution.
- Minimal training requirements for course facilitators should be identified.
- Facilitators and presenters should undergo initial training (and regular updates) that incorporates the promotion of adult learning styles.
- The formation of state or nationally based programs will support: the delivery of a consistent approach across various offender groups, the development of specialised programs to target the various offender profiles, and the ability to conduct empirical evaluations.

Conclusion

The RTAS is a short, non-treatment based offender program which aims to bring about attitude and behavioral change, and reduce recidivism and hence road trauma. Research exploring positive driving behaviour changes based on crash and/or re-offence rates following attendance at this type of program has typically not identified significant effects. However, when viewed as a program aimed at providing participants with insight into the risks associated with these high risk driving behaviours, such as facing further sanctions or being involved in a serious injury or fatal crash, this type of program has been found to be a low cost user pays option. RTSSV would benefit from reviewing the key points outlined in the final section of this report, for their relevance to the RTAS program and the feasibility of incorporating changes into the existing program. They can also provide a useful guide in the development of a longer program to target the broader range of driving behaviours incorporated within the “hoon” offender population. The young driver population, which comprises the majority of attendees at the RTAS program, is well-known for the challenges associated with their attitudes towards their illegal driving behaviour and the associated risks, as well as their reluctance to actively engage in programs and to make the necessary commitment to achieve positive behaviour change. Therefore, it is important that the program content and structure is regularly evaluated to ensure that newly evolving behaviour change strategies are incorporated as well as adopting the most contemporary and engaging methods to present and deliver the program.

1 INTRODUCTION

1.1. BACKGROUND

Road Trauma Support Services Victoria (RTSSV) is a not-for-profit organisation founded in 1994 to provide specialist services for people whose lives have been directly affected by road trauma. To support their endeavours to reduce the incidence of crashes and trauma across the community RTSSV offer educational programs such as the Road Trauma Awareness Seminar (RTAS).

RTSSV established the Road Trauma Awareness Seminar (RTAS) in 2006. This 2.5 hour program is conducted in conjunction with the Victorian Magistrates Court and targets first time or recidivist traffic offenders who are referred via the Magistrates Court, solicitors, or through self-referral.

The objectives of the Road Trauma Awareness Seminar are to:

- Reduce road trauma through education
- Reduce recidivism rates
- Raise awareness in offenders about the impact of their behavior
- Bring about attitude and behaviour changes
- Encourage legal and community acceptable standards of behaviour

The ultimate goal of the program is to bring about attitude and behavioral change, and reduce recidivism, crash involvement and hence road trauma.

Program attendance continues to increase, with over 4000 participants having attended the program; however, the program has yet to be formally evaluated. In 2009, MUARC was contacted by RTSSV with a request to design an evaluation study for the RTAS Program. MUARC conducted an initial exploration into data availability both within the RTSSV and VicRoads, with the aim of conducting a case-control comparison evaluation study. Unfortunately data acquisition barriers and associated costs were deemed to be prohibitive for conducting a scientifically rigorous evaluation.

RTSSV have remained committed to exploring options for evaluating the RTAS program especially to support their current aim to bid for the pending VicRoads tender to facilitate a ‘hoon’ offender program. At a recent RTSSV and stakeholder meeting it was decided that the first phase of the evaluation should commence as soon as possible in the form of a literature review. This comprehensive literature review can then inform the next phases of an RTAS evaluation as well as make recommendations regarding the program in relation to current national and international ‘best-practice’ approaches.

This project has been commissioned by the Road Trauma Support Services Victoria (RTSSV) for MUARC to conduct a literature review of traffic offender programs in relation to the RTSSV Road Trauma Awareness Seminar program.

1.2. RESEARCH AIMS AND OBJECTIVES

The aims of this research project are to:

- Undertake a comprehensive literature review into traffic offender behaviour change programs for first time and recidivist offenders;
- Compare the current RTAS program components and key messages with other 'best-practice' programs and to make recommendations to support the current RTAS program in achieving 'best-practice' outcomes; and
- Make recommendations for potential enhancements to the existing RTAS program to address offenders who have committed 'hoon' type offences and to support the RTSSV application to VicRoads to conduct the 'hoon' offender program.

1.3. PROJECT OUTLINE

This report begins by providing background information about the Road Trauma Awareness Seminar (RTAS). This includes an overview of the original theoretical foundations underlying its initial design and program aims. Demographic information about the participant population is then presented followed by an outline of the current program's content and schedule.

The next section presents a literature review of empirical evaluations conducted on traffic offender and education programs that were deemed relevant to the RTAS. Following this is an exploration of the methodological issues surrounding the development of a representative evaluation for offender programs. The third section presents major behaviour change theories and models, relevant to reducing risky driving behaviour.

The implications of these theories in relation to enhancing programs attempting to address risky driving behaviour are discussed. The subsequent chapter explores factors warranting consideration in offender program design, from the homogeneity of target participant groups to specific program content and delivery suggestions.

The concluding section presents key point summaries from each of the previous sections as well as a review of the forms and survey tools currently employed by the RTAS program. A final RTAS specific recommendation section concludes the report.

2 ROAD TRAUMA AWARENESS SEMINAR

2.1 COURSE DESIGN

The RTAS is built on restorative justice principles and employs a cognitive behavioural approach using both volunteer speakers with personal experiences of trauma as well as presenters from the Emergency Services sector. The seminar has been designed to encourage participants to change their driving behaviour through a process of education, reflection and prevention (RTSSV, 2010a), as outlined in Table 1 below.

Table 1: RTAS process components

Education	Being informed about the impact of road trauma and about safe driving
Reflection	Listening to personal accounts of trained volunteers who have been impacted by road trauma Evaluating attitudes and behaviours during and post workshops
Prevention	Identifying strategies that may assist drivers in coping with driving challenges, such as impatience, lack of concentration, peer pressure, aggression and lifestyle issues

(Sourced from RTSSV, 2004)

The program is based on three psychological models: Narrative Discourse, Experiential Learning, and Cognitive Behavioural Intervention. These are summarised below.

Narrative discourse

Narrative Discourse, as outlined by Anderson (2011) refers to a psychological model that uses accounts of events, usually in the past, and employs the concept of an individual re-telling their account as part of therapy. It is seen as particularly useful in helping individuals to make sense of events or trauma. Volunteer speakers at the 2 hour RTAS Program traffic offender program have offered to tell their specific accounts of road trauma as a way of using a painful experience to help others to avoid injuries or worse. At best the justification for this is that it helps the volunteer speaker to 'make sense' of the impact of road trauma to them and that it aids in the understanding of the consequences of trauma involvement and overall education process for offenders.

Experiential Learning

Experiential Learning, as outlined by Kolb (1971) takes the premise that learning happens, 'when a person is involved in an activity, looks back at it critically, determines what is useful or important to remember, and uses this information to perform another activity'. During the Road Trauma Awareness workshop the

participants (the offenders) are guided through a process of examining their own actions that led to their collision or infringement. Through small group work they are asked to consider three questions:

- What did you do?
- How could things have been different for you?
- What will you do differently next time?

As a further reflection on this exercise, and as an overall reflection on what has been learned at the whole workshop (see **Program and Teaching Content**), a final question is then posed:

- What have we learned from this workshop?
- How would I avoid another offence in the future?

Cognitive-Behavioural Intervention

Cognitive-Behavioural Intervention, as outlined by Goldfried (1994), is a useful approach in helping participants to learn to express what they believe, need and feel. In the context of a 2.5-hour workshop, participants can be encouraged to move from being 'passive and helpless victims of their life circumstances' to viewing themselves as agents of change capable of being, 'confident, strong, centred and empowered, with the ability to make decisions and change their attitudes and behaviours'. Goldfried suggests that "the enduring effects of cognitive-behavioural intervention are particularly appropriate in prevention programs with persons at risk (as an example, 18-25 age group drivers), over and above other singly used therapies." (RTSSV, 2004, p.4)

2.2 RTAS AIMS

The specific aims of the Seminar are to:

- Confront and evaluate participant belief systems
- Bring about a shift from blame to choice
- Assist participants in identifying and managing precursors to offending
- Provide peer discussion and problem solving
- Provide reality based learning using volunteer/paramedic presentations

(Harrison, 2011)

The RTAS runs for 2.5 hours with a maximum of 15 participants per course. It is a Victorian-based program and courses are run in metropolitan Melbourne and country areas on a regular basis. Locations include Box Hill, Werribee, Melton, Sunshine, Broadmeadows, Frankston, Mildura, Ballarat, Geelong, Bendigo, Traralgon, Warnambool and Wangaratta. Locations are altered from time to time to according to demand. The RTAS is a fee-for-service program which costs $350 for first offenders, $500 for repeat offenders, and is paid for by the participant.

2.3 RTAS PARTICIPANTS

Since its commencement there has been a steady increase in the number of participants referred to the RTAS; from 291 participants in 2005 to 1,250 completing the program during 2010/11.

Some demographic characteristics of participants are recorded, including age group, gender, place of residence, employment status, etc. Figure 1 shows the age group distribution of participants in both metropolitan and regional areas and shows that the majority of participants are aged between 20 and 25 years of age in both areas. Participants aged between 15 and 19 years old constitute approximately 25 percent of all participants. In addition, the majority of participants are male (88% in 2008-09), and a high proportion are employed as tradespersons (37% metropolitan, 43% regional). Students make up 16% (metropolitan) and 12% (regional) of all participants, and a smaller proportion are unemployed (12% metropolitan, 13% regional).

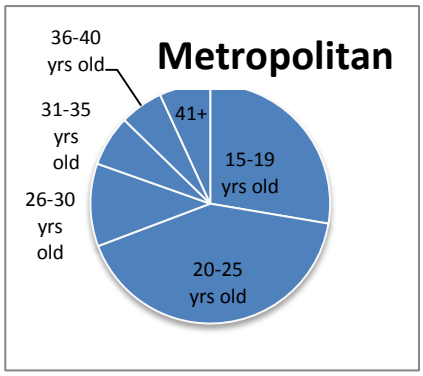

Figure 1 RTAS participant age distribution for metropolitan and regional programs (2005-2010) ***(Sourced from Harrison, 2010b)***

While the program is open to all traffic offence categories including "hoon" and drink/drug driving, recidivist drink/drug drivers are typically referred to a specialised offender program. Traffic offenders are referred as part of their sentencing, the programme is also available to all traffic offenders (non-court referred) and those at risk of offending.

2.4 RTAS PROGRAM SCHEDULE AND CONTENT

Registration and general information (10 min)

Participants are welcomed and introduced to the facilitator, volunteer and emergency services presenters. The two requirements of the RTAS (active participation and completion of the evaluation form) are explained, as is the necessity of fulfilling these requirements in order to receive a certificate of attendance at the conclusion of the seminar. Group rules such as respect for others and confidentiality are also explained; participants are then required to complete a consent form and registration form (see Appendices B & C). The facilitator provides background information about RTSSV and the RTAS, and highlights their neutrality from the official Justice Department and reassures participants that the RTAS environment aims to foster learning, not judgement.

Activity 1: Participant introductions (10 min)

Each participant is asked to outline the driving offence that led to their attendance at the seminar. The facilitator then asks more probing questions relating to why they engaged in this behaviour, any past offences, and the associated penalties and costs (financial and non-financial).This information is recorded on the whiteboard by the facilitator. During this exercise the facilitator plays a key role through focussing on factual accounts of the offences and thus reducing any attempts by the participant to down play their illegal driving behaviour and the resulting costs. After every participant has listed their offence and penalty information the facilitator calculates the total financial costs for the group and highlights the associated non-financial costs.

Activity 2: Where do I stand? (10 min)

In this activity participants are instructed to stand in a group in the central part of the room. One corner of the room is then identified as the 'true' corner and the other as the 'false' corner. The facilitator then reads out a road safety statistic and participants are instructed to walk to the corner which corresponds with whether they view the statement as 'true' or 'false'. Participants are then asked to elaborate on the reason behind their answer and/or comment on any statistics that were surprising to them. This activity allows the group to explore myths and fallacies about road safety risks as well as encouraging the participants to play a more active role in the seminar.

Activity 3: Choices (10 min)

Participants are seated for group discussion and asked to identify the events and decisions that led to their offence. All responses are recorded on a whiteboard by the facilitator recording. A key focus of this discussion is on poor choices they had made in the past that led them to committing an offence and also on how these choices have impacted not only on themselves but parents, siblings, peers, employment etc.

Volunteer presentation (20 min)

The Volunteer presenter is then introduced and shares their personal story with the group. The volunteer presenters have all experienced road trauma either personally, through a family member, or as a witness; and many have received counselling through RTSSV in the past. When the volunteer has finished speaking the participants are encouraged to ask questions.

Short break (5 min)

As well as a chance to get a drink and use the bathroom this time provides some additional (non-formal) time for the participants to reflect on the volunteer's story.

Emergency Services presentation (20 min)

The volunteer Emergency Services presenter is then introduced and provides an account of a road crash they have attended and the impact on them. Again participants are encouraged to ask questions.

Activity 4: Traffic light exercise (15 min)

Participants are then divided into two groups. The facilitator uses a traffic light analogy indentifying the 'Red light' as the incident that led to their attendance at the seminar, and which has already been discussed in Activity 3 – Choices. For this activity, participants are instructed to focus on the 'Amber light' – events that could have happened, and the 'Green light' – what they intend to do differently in the future. Participants are encouraged to provide specific details within their groups. The facilitator then summarises the key points on the white board to stimulate further discussion. Examples of information presented in this section include the possibility that they had not been detected by the police but instead could have been involved in a fatal crash (themselves and/or others). The changed atmosphere of this discussion often provides insight into the impact that the volunteer and/or Emergency Services presentations had on participants. In comparison to the earlier Red light discussion in which participants tend to focus on themselves as being unlucky getting caught and having to suffer the penalties, the sentiments usually shift to a sensitivity to others such as: they were lucky to have been stopped before they killed someone, and how their behaviour affects significant others in their lives.

Contract (10 min)

Participants are then required to complete individual contracts (see Appendix D). The aim of the written contract is to formalise the changes they outlined in the Green light discussion and takes the form of a pledge toward changes they intend to make in their future driving behaviour. The participant then seals the contract in a self-addressed envelope to be mailed to them by RTSSV in one month, to act as re-enforcement for their commitment to change their risky driving behaviour.

Evaluation (5 min)

Participants then complete the mandatory evaluation form (see Appendix E).

Summary and Conclusion (10 min)

The facilitator then summaries the seminar such as: the road trauma statistics, the key messages of the presenters, the importance of making informed driving choices and taking responsibility for their actions on the road.

Every participant is then asked to state one thing they intend to do differently. The facilitator then reads out a poem "Treasure every moment". Participants who complied with the rules of the seminar are then provided with a certificate of attendance.

2.5 FACILITATOR TRAINING

The Educators, of which there are currently 25, are paid employees of RTSSV. They are typically from a social science/counselling background although some have previously been volunteer presenters. The Educator training includes 2 x one-on-one sessions facilitated by the Education Services Manager, as well as supervised on the job experience. A Sessional Educator Induction Manual outlining their roles and the RTSSV policies and procedures, and a Community

Educators Manual which is a detailed program guide for the conduct of the RTAS, are provided to all new employees. Educators undergo an initial 3-month probation period. “All employees are expected to contribute towards quality and continuous improvement, programme monitoring and review, and to demonstrate commitment to ensure quality programmes are delivered. It is expected that all employees and volunteers will uphold the organisation’s mission values and high quality of service.” (RTSSV, 2010a, p.4). In addition to their annual performance appraisal, where Educators are encouraged to actively provide feedback about the program, the Educators attend regular team meetings. To promote uniformity in the program delivery, it is the responsibility of the Education Services Manager to ensure program modifications and updates are presented to and adopted by the Educators.

2.6 VOLUNTEER PRESENTER TRAINING

Two volunteer RTAS presenters attend each RTAS session; one is an Emergency Services worker and the other is a community volunteer who has personally experienced road trauma (themselves or family members). The community presenters have typically been clients of trauma counselling at the RTSSV; however, it is recommended that they wait at least 2 years post trauma before taking on this role. These presenters are required to attend a training program consisting of 2 x 3-hour sessions facilitated by the RTSSV. The volunteer presenters’ role is to give a 15-20 minute presentation based on their personal experience of road trauma; they do not play a role in facilitating the seminar. Their training program provides information and guidance in the development of their personal stories addressing topics such as: clear identification of the message they want to portray, engaging the audience, voice projection, and regularly updating any factual information they present. The group training format provides an environment for the volunteer to practice and refine their stories and to develop debriefing sources and strategies. Initial supervision and a follow-up session are also included in the training.

3 PROGRAM EVALUATION

This section presents the review of evaluations of other identified sanction programs and interventions. It is a difficult task to evaluate the effectiveness of behavioural-based programs, and of the few evaluations undertaken, many studies lack a sound study design and evidence-base. Nevertheless, it is important to gain an appreciation of the difficulties in evaluating programs as well as some of the findings.

3.1 SANCTION EFFECTIVENESS

While many of the evaluations into the effectiveness of traffic offender and/or education programs fail to identity a significant positive effect, it is noteworthy that these courses continue to be funded and conducted world-wide. This continued application despite a lack of empirical support into its effectiveness is a frequent criticism; however, a similar situation can be found across many other sanctions within the field of road safety and criminology. When evaluated on their own merits very few sanction options including fines, mandatory traffic offender programs, license suspension, disqualification or even a prison sentence, report a strong positive effect. This lack of empirical support for available sanctions is frustrating efforts to identify the most effective sanction (or combination of sanctions) to apply. The challenges associated with empirical cause and effect rigor are well recognised for their key role in this challenge. The variation amongst input factors such as participant demographics, presence of alcohol/drug addictions, offence types, program content, and program delivery by individual facilitators, hinder methodological designs for evaluations. There are also many challenges associated with the representativeness of various outcome measures such as program content recall, crash rates, recidivism, and identification of appropriate control groups. Data access from within the relevant government agencies is another common obstacle to designing robust evaluations.

Education programs are often confused with treatment programs and this is often reflected in evaluation outcomes. Typically, evaluations into the effectiveness of education programs using crash rates as an outcome measure produce non-significant outcomes ranging from small to no effect (af Wåhlberg, 2011; Gandolfi, 2009). While more favourable results come from evaluations based on program content recall, these outcomes are often criticised based on the argument that recall is not necessarily indicative of actual behaviour change. However, while achieving results such as participant driving behaviour change is an outcome facilitators aspire to, it is worth bearing in mind that these programs are designed to inform participants and provide insight into the risks associated with illegal driving behaviour to encourage behaviour change - they are not treatment programs.

Past research has found that offender intervention programs result in a reduction in subsequent traffic offences for between 6 months to 2 years (Masten & Peck, 2004). The longer and more comprehensive the intervention the greater the effect, ranging from warning letters to license disqualification, with the later resulting in the greatest effect. A review of emerging research on drink driver education in Victoria found that insight, education type programs do play a role in shifting participants' motivation to change (Sheehan, Watson, Schonfeld, Wallace, &

Partridge, 2005). While debate continues about the effectiveness of education programs this typically revolves around evaluating a program as a stand-alone mechanism. Although there is limited empirical evidence available, there isgrowing support for the effectiveness of combining education programs with other penalties within sanction regimes (af Wåhlberg, 2011; Sheehan, et al., 2005). In their best practice literature review into driver improvement programs, Wundersitz and Hutchinson (2006) conclude that these short traffic offender education type programs are a cost-effective, often user-pays, option which can play a productive role in complementing other forms of sanctions, such as fines.

In her review of current driver education, Gandolfi (2009) refers to the three "E"s; namely, engineering, enforcement, and education. She highlights the fact that a much greater portion of road safety resources are contributed to both engineering and enforcement, with limited resources funding driver education initiatives. This bias is also reflected in the delivery of the safe systems approach, where "safer road users" are often given a lower priority than the other factors such as "safe roads and roadsides" and "safe vehicles". Gandolfi suggests that, used effectively, 'Education' can play a key role in linking other intervention components together.

While acknowledging the ongoing dualist debate surrounding whether education programs are effective or not, Gandolfi proposes that this debate should be more productively focused on ascertaining which aspects of programs are effective, and which driving populations should be targeted, etc. She proposed the following questions as a way forward in the development of effective education programs:

- "Do some types of driver education programs lead to better educational and safety outcomes than others?
- Can we identify which component of driver education programs work?"
- How can driver education programs be improved?" (Gandolfi, 2009, p.11)

An additional challenge associated with quantifying program effectiveness is to acknowledge that education programs are still in the early development stage. Up until recently there has been a trend to deliver a 'one size fits all' offender program, incorporating multiple driver groups, as well as various offence categories (including those involving addictions). The provision of funding to evaluate newly evolving programs during their early stages of development will provide a sound empirical foundation for the ongoing improvement and applicability of these programs to support their long-term effectiveness (Gandolfi, 2009).

From her review of driver education programs, Gandolfi identified the following successful program components and key things to avoid (Table 1).

Table 1. Education programs- Components of successful programs and key things to avoid (adapted from Gandolfi, 2009)

Components of successful education programs
Identification of target audience and tailoring of educational component to match the audiences' requirements
Based on educational framework
Ensuring suitability of educational content and delivery method
Continuous feedback loop between ongoing evaluation results and program content and delivery
Key things to avoid
Targeting of diverse, heterogeneous group
Aiming to fit with existing policies and resources at expense of a well developed, tailored program
Linking participation with sanction reductions

3.2 EMPIRICAL EVALUATIONS

3.2.1 META-ANALYSIS (MASTEN AND PECK, 2004)

The most recent, extensive study into the effectiveness of driver improvement interventions was conducted by Masten and Peck (2004) who conducted a meta-analysis on what they identified as 106 methodologically sound studies conducted in the last 60 years. Methodologically sound was defined using the following four criteria originally proposed by Lund & Williams (cited in Masten & Peck, 2004):

- Samples based on drivers who had committed offences (not just belonging to a high-risk group) and excluded those who had received treatment based solely on drink driving offences.
- A control group who received no or minimal treatment (i.e. brochure) were used as a comparison.
- The outcome measures included both crash and subsequent traffic offences.
- Used a randomised experimental design.

The majority of the 106 studies used had previously been selected and analysed by Struckman-Johnson, Lund, Williams and Osbourne (1989) based on the above four criteria.

The defined treatment categories were: warning letters, information brochures, group education meetings, individual counselling, license suspensions/disqualification, and demerit points. Masten and Peck (2004) found that driver improvement interventions were associated with a reduction in crash

and traffic offences, for which the effect size was related to the degree and type of intervention. For example, license disqualification alone was reported to result in the greatest reduction of crash and traffic offences, while provision of educational material alone resulted in minimal crash reduction and no traffic offence reduction effect.

3.2.2 THE BLACKTOWN TRAFFIC OFFENDERS PROGRAM (TOP)

The Blacktown Traffic Offenders Program (TOP) is a pre-sentencing program, accredited under the NSW Criminal Procedure Regulation 2005, which has been operating in NSW since 1992 (Bamford, Symes, Tynan, & Faulks, 2011; Faulks, Tynan, & Letunika, 2011). This seven-session program is conducted in seven-week cycles across 49 weeks of the year, and participants can commence the program at any time during the 7-week cycle. The program is serviced by 48 courts in and around Sydney. The TOP program is one of several community run programs offered in Blacktown LGA which has a committed focus on young drivers. It relies on local emergency service workers and police officers as volunteer presenters, with some past offender attendees also returning as volunteers. Only court referred participants may attend the program which is provided free of charge based on the original philosophy of making it accessible to participants from all income brackets. In addition to attending the entire 7 weeks of the program, participants have to complete a weekly assignment, the information from which forms part of the repertoire of information magistrates use to question participants during their sentencing hearing. The program has adapted the common adage from 'Having a licence is a privilege', to "You have a right to expect to get a drivers licence, but it will be a privilege for you to continue to hold it" (Faulks, et al., 2011, p.3). The program aims to build young drivers' resilience for resisting the urge to engage in high risk driving behaviour (Faulks, et al., 2011).

Bamford et al., (2011) identify the following issues faced by TOP programs in NSW:

- the challenge for individual program service providers to sustain funding, which often results in charging fees to attend the programs;
- a lack of Government guidelines for TOP programs; and,
- a shortage of program availability especially in the inner city area.

An evaluation of the Blacktown TOP was conducted in 1999 which compared the recidivism rates of offenders not referred to a TOP (29.1%) with those of TOP attendees (19.6%). While these results were encouraging, no further evaluations have been undertaken on this program. The Blacktown TOP program organisers have approached the NSW Roads Minister with the aim of establishing a prevention program, similar to the TOP, which would be linked with license testing and renewal (Bamford, et al., 2011).

3.2.3 THE DRIVER INTERVENTION PROGRAM (DIP)

The Driver Intervention Program (DIP), operating in South Australia is probably the most comparable program to the RTAS within Australia. This program is mandated for any young learner or probationary driver (under the age of 25) who has had

their licence disqualified for any offence, including first offences. The aim of the program is to reduce the risk of crash involvement of the young driver participants (Wundersitz & Hutchinson, 2006). This program has been operating for approximately 10 years and is attended by approximately 3,500 participants annually (Styles, Imberger, & Cairney, 2009). Since its introduction the program has undergone two evaluations, the first in 1996 (Drummond, 1996) and the second by Wundersitz and Hutchinson in 2006.

Participants are required to attend the program within 6 months of receiving the order, at a cost of $33. Drivers who fail to attend within the designated time period face a $74 expiation fee, plus a $30 reminder notice fee and ensuing court costs. However, following this process they are then no longer required to attend the program. In the 2003/04 financial year 27.2% of court referred participants received an expiation fee for non-attendance. The program is a once only option; participants are not permitted to attend for subsequent licence disqualifications. Each 1.5 hour program is delivered by one of about eleven available facilitators, from various backgrounds including individuals with disabilities resulting from crash involvement (Wundersitz & Hutchinson, 2006). Each program session aims to have up to 10 participants.

The program is designed to encourage participants to draw their own conclusions about their driving behaviour and the associated risks. The aim of this is to increase their sense of control over their own behaviour, thus increasing their motivation to change as well as increasing their self-efficacy (confidence) in their ability to achieve their desired change. The program is made up of five sections identified for their relationship with young driver crash involvement as summarised in Table 2.

Table 2. Components of the Driver Intervention Program

Program components	Issues discussed	Approx. timing
Risk taking behaviour	Young driver crash statistics Causes of young driver crashes	10 mins
Social norms and behaviour rationalisations	Specific driving behaviours (i.e. speeding, inexperience, fatigue) in relation to social context and peer pressure	20 mins
Lifestyle issues	Alcohol and drug driving 'Rocket' video Choices and potential strategies to avoid drink/drug driving	35 mins
Consequences of crashing	Monetary loss and personal consequences of crashing Own crash experiences	20 mins
Reinforcement of vulnerability	Self assessment of driving ability	5 mins

Source: (Wundersitz & Hutchinson, 2006, p.4)

From their evaluation Wundersitz and Hutchinson (2006) concluded that no existing evaluations were identified that could be compared to the DIP based on the following reasons: they were conducted on different participant offender groups, non-Australian samples, and using questionable methodology. While acknowledging that this lack of comparable programs to the DIP has hindered their ability to establish best practice recommendations, they do conclude that:

- "No program is likely to have a large effect on crashes
- A program of low effectiveness might nevertheless be worthwhile in cost-benefit terms
- Several ideas have been proposed in recent years that offer some hope for better programs in the future." (Wundersitz & Hutchinson, 2006, p.19)

Wundersitz and Hutchinson (2006) suggest that at a conservative estimate a DIP type program would report a 5% crash reduction. Based on this crash reduction estimate and the low costs associated with delivering these programs, compared with the high costs associated with crash involvement for young drivers, they propose that the costs of delivering these programs are justified.

3.3 EVALUATION METHODOLOGY

While, as mentioned previously, traffic offender programs are widely used both nationally and internationally to complement other sanctions options such as fines, penalties and license disqualification, there is mixed opinion within the road safety field about their effectiveness due to the lack of empirical support in identifying positive long-term effects. However, even the researchers conducting these evaluations frequently acknowledge limitations arising from methodological design issues. Commonly recognised methodological issues pertaining to these evaluations are: identification of valid outcome measures, universal definitions of recidivism, homo/heterogeneity of samples, identification and access to control groups, and data access from government agencies.

Af Wåhlberg (2011) emphasizes the importance of recognising that driving education program evaluations generally utilize a control group population who have received some form of treatment such as fines, demerit point loss, or even just the experience of being detected. Therefore, what is actually being measured in these evaluations is not whether the education program resulted in a reduction in risky driving behaviours, but rather a comparison between this form of sanction with the above listed alternatives.

When designing an education program evaluation, thorough consideration needs to be given to identifying the most appropriate outcome variables to be utilised in terms of both definition and reliability. Typically these outcome measures fall into two categories: attitudinal and behavioural (af Wåhlberg, 2011). Both attitudinal and behavioural data is commonly obtained using self-report questionnaires; however, the validity of self-report data is often questioned regarding subjective biases such as social desirability bias. Additionally, the relationship between attitude and actual behaviour change remains poorly understood and reported correlations between positive attitude change and positive driving behaviour change are low (af Wåhlberg, 2011). Post-program crash and/or traffic offence rates have come to be recognised as a more empirically reliable measure of

behaviour change. However, care is warranted when selecting a valid and reliable outcome measure for the various target driving populations. For example, a reduction in crash rates post education program may be interpreted as a positive outcome of the program, whereas crash rates for younger drivers typically reduce over time irrespective of an intervention due to increases in driving experience and skills for this group (af Wåhlberg, 2011). Due to what he identifies as inherent problems with all data used in these types of evaluations, af Wåhlberg claims that a singular approach is inadequate.

Af Wåhlberg (2011) provides an informative analysis of the various outcome measures typically employed in traffic offender program evaluations; namely, traffic offences, demerit points, and self-reported crash history. Firstly, he suggests that the reported findings that a low crash and traffic offence effect correlation may not be indicative of the common interpretation of low statistical power for crashes, but rather a reflection that these two measurements do not measure the same driving behaviours. He then explored the three offence measures by percentage of offending drivers, average demerit point loss, and average number of offences, and their associated challenges which he identified as a failure to account for multiple offences, non-demerit point sanctions (i.e. disqualification), and offence severity, respectively. Following this exploration, his decision was to use both average demerit point loss, and number of offences. In conclusion, to address outcome measure validity challenges in driver improvement program evaluations af Wåhlberg suggests using multiple outcome variables, proposing that positive results from several measures would increase the reliability of results.

Examples of multiple factors which may be of relevance when designing an offender program evaluation is provided by Moore, Harrison, Young and Ochshorn (2008) under the following headings:

- **Treatment factors**: length of treatment, treatment compliance
- **Criminal Justice factors**: criminal and traffic offence history, recidivism rates
- **Risk factors**: alcohol and drug use, criminal thinking
- **Protective factors**: motivation to change, self-esteem, self efficacy (Moore, et al., 2008)

In their examination of predictive factors for high range speeding offenders Watson, Watson, Siskind and Fleiter (2009) obtained 11 years of licensing data (TRAILS data) from Queensland Transport, pertaining to two speeding offender cohorts (n=84,468). This data provided both pre and post traffic offence histories for these drivers. Driver demographics (age, gender, license level and class) as well as offender histories were analysed. While this project utilised offence history to explore driver characteristics associated with high level speeding, not education programs, it does provide an example methodology for the analysis of registration and licensing data to explore offender profiles.

Evaluations of education programs to address illegal driving behaviour typically focus on assessing the effectiveness of *specific deterrence* by analysing the ongoing driving behaviours of individuals, detected for an offence, who have attended an offender program. The outcome measure is generally post-program recidivism measured by traffic offence or crash rates. In their examination of recidivist speeding Watson, Siskind, Fleiter and Watson (2010) highlight the importance of: developing uniform definitions and sound methodologies with which

to assess recidivism; and, recognising that variations within these will produce differential evaluation outcomes. To emphasise the diversity of drivers and behaviours encompassed within the term repeat offender or recidivism, they provide the example of an individual who commits two unintentional low level speeding offences being compared to a chronic repeat high level speeding offender. However, both are termed repeat offenders and education programs are delivered in a manner that treats these participants as a homogeneous group, failing to recognise and address the potential differences in the characteristics and motivations within these driving populations. When offence history (recidivism) is used as an evaluation measure the data from both of the above cases would represent a failure to achieve positive driving behaviour change, failing to acknowledge that the chronic high level offender poses a greater road safety risk. Additionally should it be a given, that an individual who attends an offender program for a drink driving offence, whose only offence in the following two years is a low level speeding offence, be considered as a recidivist and resultant failure against the program they attended?

Watson et al. (2010) propose four measures to assess the degree of effectiveness of sanctions. Firstly, *absolute specific deterrence effect,* referring to the proportion of offenders who re-offend within a designated time frame, and secondly, *net absolute and marginal specific deterrent effect* referring to the total frequency of re-offences in a designated time frame. Two measures are then proposed for what they refer to as *marginal specific deterrence effect,* either the time lapse before any re-offence or calculating an average number of re-offences. Data reporting a reduction in the proportion of re-offenders over a defined time frame (absolute specific deterrence effect) would be the most desirable and beneficial outcome in support of a sanction. However, if the proportional decrease is identified, further exploration of the other measures may still provide a valuable indication of any changes that have resulted. Exploration into the length of time before committing another offence *(marginal specific deterrence effect)* provides valuable information about the effective duration of an intervention. Although the final measure focuses on re-offenders, who within evaluations are typically viewed as failures, reductions in their re-offence rates may be indicative of marginal successes (Watson, et al., 2010).

While the Watson et al, (2010) research investigated the effectiveness of speeding sanctions (not including education programs) it does expose how applying simplistic, absolute measures of effect can fail to take into account both the heterogeneity of a sample as well as underestimate any marginal effects of an intervention. They stress the importance of further research to explore effective ways to define recidivism/repeat offenders and then to identify the most effective ways of measuring it. The results obtained from the Watson et al., (2010) evaluation into the NSW speeding sanction changes provide an example of how more comprehensive information can be obtained by exploring the degree of effect rather than just the absolute effect. They found an overall absolute effect in the sample (fewer speeding offences, fewer re-offenders) but for drivers who do re-offend that the increased sanctions had no impact (marginal deterrence) on reducing their number of re-offences. Watson et al., (2010) recommend that further research into the level of the severity of the repeat offences is warranted to enhance program effectiveness evaluations and to inform a more representative definition of recidivism.

4 BEHAVIOUR CHANGE

4.1 MAJOR THEORIES FROM HEALTH PSYCHOLOGY

In the field of health behaviour, many theories have concentrated on the 'social cognitive' variables that affect behaviour, that is, people's beliefs and thoughts about particular behaviours. Armitage and Conner (2000) reviewed such models and divided them into three broad types: motivational models, behavioural enaction models, and multi-stage models.

4.2 MOTIVATIONAL MODELS: THE THEORY OF PLANNED BEHAVIOUR, AND OTHERS

Motivational models are those that concentrate on the motivations behind behaviour; they generally assume that behaviour is determined via a considered, rational process, and do not consider longer-term processes such as habit or addiction. Experiments in behavioural economics also use the rational choice framework and cover many of the same variables. The models discussed below were all developed from the perspective of psychology and/or health promotion, and originally covered behaviours relating to protecting the self from some physical risk or threat. The form of these models is fairly similar and many include overlapping concepts, so only three of the main theoretical families are summarised below.

Protection Motivation Theory (PMT) (Rogers, 1975) proposes that response to information about a threat will be determined by a person's evaluation of the severity of the threat, the probability of the threat eventuating, and the efficacy of a proposed response to the threat. Similarly, the *Health Belief Model* (Rosenstock, 1966) posits that health behaviours are determined by the person's perceived susceptibility to, and perceived severity of, a health threat, along with their evaluations of costs and benefits of various behaviours related to the threat, and cues to action. The *Theory of Reasoned Action*, later developed into the *Theory of Planned Behaviour* (Ajzen, 1991), holds that behaviour is determined by attitudes towards the behaviour (positive or negative – including an assessment of the consequences of the behaviour), social norms surrounding that behaviour, (together making up intentions toward performing a behaviour) and the person's perceived control over the behaviour.

Campaigns based on these types of models will try to change people's attitudes surrounding a given behaviour (such as speeding) by informing them of highly negative consequences (e.g., a severe injury crash) that could happen to them (i.e., high susceptibility if they perform the undesired behaviour). Messages typically end by informing people of actions they can take to avert the threat (e.g. slow down). This form of messaging is known as a 'fear appeal' or 'threat appeal' because it raises a threat and attempts to create fear of the threat in order to change behaviour.

There are potential negative effects of campaigns that evoke fear as their primary mechanism for behavioural change. 'Parallel process' theorists (Leventhal, 1970; Witte, 1992) working outside the rational choice framework have noted that fear not only motivates people to control the danger they face (by changing behaviour in the desired manner), it may also motivate people to control the fear they experience. This tendency is hinted at in the PMT, if not in the other models; Rogers noted that if there is no perceived effective response to a threat, the person will not be motivated to protect themselves from the actual threat. The parallel process model goes further, and assumes that people will be motivated to protect themselves from experiencing fear; this may lead to maladaptive behaviours. Fear control mechanisms may involve ignoring the message containing information about danger, or even increasing the undesired behaviour (in cases where the undesired behaviour is a coping response to anxiety, such as smoking). Witte (1992) suggests that perceived efficacy will determine whether adaptive danger control behaviours or maladaptive fear control behaviours are initiated, while perceived threat will determine the magnitude of the response in either direction – thus in the absence of a perceived effective response, increasing the perceived severity of a threat will only serve to increase maladaptive behaviour.

In a recent review, Hastings and colleagues (2004) noted that among the most vulnerable groups, fear appeals may actually lower the probability of changing behaviour. If a person does not believe they are capable of performing the desired behaviour, they may assume that the message applies to others, or reject the message as false, or potentially reject any further messages from the same source. These effects can be particularly pronounced when the fear/threat used is that of death (Henley & Donovan, 1999).

Alternative campaign strategies may use more positive themes, such as hope, empathy, or humour. These may work particularly well for young people who have grown up in an environment of 'post-modern' advertising (Hastings, et al., 2004).

It should be noted that fear campaigns may reference physical threats (injury or death due to a crash), legal threats (loss of licence, jail time), or social threats (what will parents/peers think if you drive dangerously, lose your licence or injure someone). Non-physical threats may be more effective than physical threats in some demographic groups. For example young males may be unlikely to respond to a message that implies a physical threat, but show more concern for a social threat such as losing their driver's licence (Rotfeld, 1999, cited in Lewis, Watson, & Tay, 2007). Lewis and colleagues (2007) examined responses to two road safety advertisements concentrating on physical threats. The found that males were more likely to see such messages as having more influence on others than on themselves, while females thought they would be more affected than others. Further research into the effectiveness of threat/fear messages is needed, especially in relation to young males, to determine whether these type of messages are ineffective or that the effect is not being identified using existing measures.

There has been a large amount of research on the *Theory of Planned Behaviour* (TPB) in particular. For example, a 2001 meta-analysis of 161 studies (Armitage & Conner, 2001) found that TPB variables explained 39% of the variance in behavioural intentions, while intentions accounted for 22% of variance in behaviour. Perceived behavioural control accounted for 13% of variance in behaviour (2% of which was independent of its contribution to intentions). The strength of the correlation depended on the measure of behaviour used: TPB variables correlate more highly with self-reported behaviour than with observed behaviour.

The TPB is intended as a parsimonious yet complete model of behaviour. However there are many factors that researchers have suggested could be added to increase the amount of behavioural variance explained. Azjen (1991) himself noted that personal morals and past behaviour had an independent contribution to future behaviour that was not accounted for in the TPB variables. A review by Conner and Armitage (1998) found independent effects for moral/personal norms or values, past behaviour/habit, and self-identity on intentions and/or future behaviour. While not as well researched, it may be fruitful to include efforts to modify these variables in programs designed to change behaviour.

4.2.1 BEHAVIOURAL ENACTION/IMPLEMENTATION INTENTION MODELS

While intentions predict a large amount of variance in behaviour, there is still a large amount of variance unexplained. In addition, a recent meta-analysis (Webb & Sheeran, 2006) found that changing behavioural intentions results in a smaller change in actual behaviour. Research has therefore been undertaken into this gap between what a person intends to do, and what they actually do. Gollwitzer (1999) suggests that a general intention to perform a behaviour is not sufficient to ensure the behaviour will be performed; what is needed is a specific plan for a specific situation (when and where the behaviour will be performed), so that when the situation is encountered the plan is activated without the need for further deliberation. His research suggests that implementation intentions are particularly useful when the goal behaviour is difficult to initiate. Implementation intentions have also been found to reduce the effect of habit (Orbell, Hodgkins, & Sheeran, 1997).

In the field of changing traffic behaviour, Delhomme and colleagues found that asking traffic offenders at a course to publicly commit to complying with speed limits increased (self-reported) compliance (Delhomme, Kreel, & Ragot, 2008); this effect was increased when participants were asked to specify actions they would take to comply, with better compliance among those who specified more actions (Delhomme, Grenier, & Kreel, 2008).

4.2.2 MULTI-STAGE MODELS OF CHANGE

Another factor that can affect the amount of behavioural change is a person's readiness to change. Multi-stage models of change recognise that there are several phases to changing a habitual or addictive behaviour. Several multi-stage models have been proposed (see Christopher J. Armitage & Conner, 2000, for a review), however the most popular is Prochaska and DiClemente's *Transtheoretical Model* or TTM (Prochaska, DiClemente, & Norcross, 1992).

In the Transtheoretical Model, there are five stages of change: *precontemplation* (no intent to change in next 6 months), *contemplation* (thinking about changing in next 6 months, but no plans), *preparation* (intend to change in next month, may be already reducing negative behaviour or have recently tried to), *action* (modify behaviour, experiences or environment), *maintenance* (after six months of action - stabilise behaviour, avoid relapse). Based on studies of addictive behaviours, three revolutions through these stages are common before stability is achieved (i.e. the person has successfully changed to new behaviours, and there is no further change). Those who relapse may become demoralised and revert to precontemplation, however most return to the contemplation or preparation stages and use lessons learnt from the previous attempt to prepare for their next attempt at change (Prochaska, et al., 1992).

The TTM has been integrated with the rational choice framework (see motivational models, above) by research finding that across twelve different behaviours, people in the early stages report more cons than pros to changing their behaviour, while people in later stages report more pros than cons (Prochaska et al., 1994). The most important implication of the TTM and other multi-stage models is that people at different stages will require different assistance to move on to the next stage. Prochaska et al. (1992) note that (for addictive behaviours at least), most of the target population are in the precontemplation stage and do not believe their behaviour is a problem; a further third or more are still contemplating action but not yet prepared for change, while only 10-15% are ready to initiate change. However, treatment programs designed to help people move from one early stage to another can double the chances of them taking action by themselves in the following months.

This has led to the development of measures of readiness to change that assess where a person sits in the change process. These can be as simple as a four or five item questionnaire with one item for each stage of change. For example, in the field of traffic offences, such a questionnaire could look something like:

- 'Do you currently drink-drive/speed/(other problem driving behaviour)?' (when ticked alone, indicates pre-contemplation stage)
- 'Do you intend to change your driving behaviour in the next 6 months?' (indicates contemplation stage)
- 'Do you intend to change your behaviour in the next month, or have you started making some changes already?' (indicates preparation stage)

- ‘Are you actively trying to change your driving behaviour now, and have successfully avoided [problem driving behaviour] for one month?’ (indicates action stage)
- ‘Have you avoided [problem driving behaviour] for more than one month?’ (indicates maintenance stage).

Stage of change scores (either discrete categories, or subscale scores for each stage on a continuous measure, depending on the measurement instrument) are good predictors of outcomes. In one study exploring smoking behaviour, they were found to be better predictors than age, socio-economic status, problem severity, self-efficacy, and social support (Prochaska, et al., 1992). The only better predictors were the processes of change used. These are general processes that assist people move between stages. The most useful processes may vary depending on the problem/change being made, however across different problems, matching process to stage is important for successful outcomes. Prochaska et al. (1992) suggest that processes involving thinking about the costs of the problem and how it affects oneself and one’s (physical, social) environment, along with expressing feelings about the problem and potential solutions, are useful when moving from precontemplation to contemplation. To move through contemplation and preparation to action, people need to evaluate their values surrounding the problem, increase their belief in their ability to change, and make a commitment. To maintain the change, the most useful strategies include avoiding stimuli/situations that trigger the problem behaviour, finding alternatives for problem behaviours, rewarding oneself for making changes, and supportive relationships (with family, friends, therapists or self-help groups).

DiClemente et al. (2004) suggest that two main factors affect success of any treatment or behavioural change program: readiness to change, and readiness for treatment. While these are highly correlated, about 20% of participants in one large study showed inconsistencies between the two. However, readiness to change is the more important factor for outcomes. Regardless of measurement instrument, many studies in the addiction field have found that readiness to change scores predict successful change (DiClemente et al., 2004). A variety of measures of readiness to change have been developed. Carey and colleagues (1999) review twelve different measures used in the field of addiction alone. Some measures are general and designed to be used for any problem behaviour, for example the 32-item University of Rhode Island Change Assessment (URICA; see Appendix A). Measures developed for one behaviour can also be used for others. The 12-item Readiness to Change Questionnaire (Rollnick & Miller, 1995) was originally developed for problem drinking; however Ouimet et al., (2010) adapted it for speeding and found the adapted measure successfully predicted lower driving speed.

In their report from the Driver Intervention Program evaluation, Wundersitz and Hutchinson (2006) list three conditions commonly identified as necessary for behaviour change: “a strong intention, no barriers making the behaviour impossible and the person has the necessary skills” (Wundersitz & Hutchinson, 2006, p.13). The strong intention can be surmised by the ‘stages of change” (Prochaska et al., 1992) and ‘readiness to change’ theories outlined above, as can any motivational barriers to making the behaviour possible. However, they then dismiss the need to explore the third condition based on the logic, for example with

speeding behaviour that drivers who have the skills to drive at 75km/h would also have the skills to drive at 60km/h. What they have focused on is physical skills and overlooked less tangible skills such as life skills. Many young drivers who attend these programs give convincing accounts of how they realise the dangers associated with their driving behaviours and they will drive differently from this moment on. However, as many of the evaluations into prevention programs based on crash and offence indicate, this intention does not necessarily evolve into behaviour change. Often it is assumed that once a person acknowledges the need for change that they will also possess the skills necessary to implement this change; however, this assumption can inadvertently lead to relapse and failure for the individual. The motivation to change is but the initial phase of change, the development and implementation of step by step strategies to achieve this change are paramount to its success. Examples of these skills include: recognising behavioural antecedents, goal setting, strategic planning, devising alternative behaviours, implementing alternative behaviours, identifying obstacles and the skills necessary to successfully overcome relapses. While short education type programs may not afford the time or resources to be able to adequately address these skill deficits, it is important that the issue is raised and access to further information, e.g., useful websites or courses is provided.

4.2.3 COMMONALITIES AMONGST BEHAVIOUR CHANGE MODELS

The following summarises what Fishbein (1995) proposes are the most commonly recognised elements amongst behaviour change models and of which one or more is necessary for behaviour change to occur:

1) *"The person forms a strong positive intention, or makes a commitment to perform the behaviour;*

2) *There are no environmental constraints that make it impossible for the behaviour to occur;*

3) *The person possesses the skills necessary to perform the behaviour;*

4) *The person believes that the advantages (benefits, anticipated positive outcomes) of performing the behaviour outweigh the disadvantages (costs, anticipated negative outcomes) – in other words, the person has a positive attitude towards performing the behaviour;*

5) *The person perceives more normative pressure to perform the behaviour than to not perform the behaviour;*

6) *The person perceives that performance of the behaviour is more consistent than inconsistent with his or her self-image or that it does not violate personal standards;*

7) *The person's emotional reaction to performing the behaviour is more positive than negative; or*

8) *The person perceives that he or she has the capabilities to perform the behaviour under a number of different circumstances; in other words, the person has self-efficacy with respect to executing the behaviour in question." (Fishbein,1995, p. 249-250,cited in Styles, et al., 2009, pp., p.44)*

Within the program, attempts should be directed at guiding participants to satisfy one or more of these criteria.

4.3 THE ROLE OF EMOTION IN DECISION MAKING

One of the major contributions of Restorative Justice to the criminal justice system is its incorporation of emotional dimensions into the understanding of offender behaviour. Evolving research from within this field by Harris, Walgrave and Braithwaite (2004) questions the common reliance on, and effectiveness of, promoting disapproval and inducing the emotion of shame for offenders in attempts to encourage positive behavioural changes. To the contrary they highlight the importance of treating offenders in a respectful manner to promote their development of empathy. The development of empathy is recognised for its role in promoting remorse and reconciliation which they view as the key to achieving successful, positive, law-abiding behaviour change (Harris et al., 2004).

5 PARTICIPANT CHARACTERISTICS AND PROGRAM DESIGN

5.1 MANDATORY VS VOLUNTRARY ATTENDANCE

For many participants their attendance at these types of programs is mandated by a court order or on advice from a solicitor, with very few attending voluntarily and/or due to self-recognition of a need to change. It stands to reason that any reluctance on a participant's behalf can reduce the effectiveness of the program. A major challenge, therefore, associated with mandatory attendance is the degree of engagement and/or commitment by attendees. The engagement issue is partly addressed with a program requirement of active participation in order to be issued with a certificate of attendance. Even when participants do make a concerted effort to participate, there is no guarantee that they have made a commitment to changing their behaviour.

Attitude surveys are commonly used to evaluate the effectiveness of these types of programs; however, even when confirmed by measures such as surveys of program content recall or positive attitude changes, the correlation between attitude change and behaviour change is often weak. Moore, Harrison, Young and Ochshorn (2008) found that while education programs resulted in increased knowledge and attitude changes for both first and repeat offenders this was not reflected in positive behavioural changes. They stress the importance of adopting a multifaceted approach especially when dealing with recidivists and alcohol and drug addicted clients. Attempts to maximise participation and positive driving behaviour change outcomes for participants who perceive their attendance as mandatory (court order, solicitor advised for reduced sentencing) need to include strategies to address this potential reluctance such as exploring participants' readiness to change (eg. URICA, see Appendix A) and employing strategies designed to progress participants into a readiness to change phase.

5.2 HOMOGENEITY OF THE SAMPLE

The initial tendency to administer a 'one size fits all' education program has been re-addressed in recent times but a paucity of evaluative research into these newly evolving specialised programs hinders the progress of effective methods to define and sub-categorise illegal driving populations while still being able to accommodate group settings. Further research is required to explore the heterogeneity within participant groups and the most effective education program components to target various populations. Specialist education/rehabilitation programs are now appearing based on the following offender characteristics: age, licence status (full licence, probationary, and learner); degree of offending (1^{st} offence, recidivist, multiple offences); type of offence (e.g. speeding, drink driving).

5.2.1 AGE

A plethora of education programs are available targeting the younger age groups including school based (pre-driving populations), novice drivers (learner and probationary) and young driver (under 25 yrs). School based programs are common place, typically having a preventative objective of educating young soon-

to–be-drivers about the dangers associated with various 'risky' driving behaviours. These programs are often funded and delivered at a local government level. Even Traffic Offender programs such as the RTAS, which does not have an upper age limit, service a client group predominantly aged between 15-25 years (68% in 2011/12). Aside from the overrepresentation of young drivers in high risk driving behaviour, this predominately younger client base is anecdotally attributed to magistrate referral patterns. There is a perception of a greater likelihood of success with younger drivers whose high risk driving behaviours may be due to immaturity or a lack of insight, compared to older drivers whose driving behaviours may be more habitual and entrenched. Further research is required to explore the accuracy of this perception, but will need to take into account the reduction in crash rates for this younger age group associated with driving skill maturation. The appropriateness of programs to address older participant groups warrants further investigation.

5.2.2 LICENSE STATUS

One method of classification proposed by Sheehan et al., (2005) is the use of "license status". Although license status alone would not produce an homogeneous participant group, they suggest that it does identify a driving population (P or L drivers) that remain overrepresented in crashes, and other high risk driving behaviours such as drink and drug driving, and excessive speeding.

5.2.3 FIRST OFFENCE OR RECIDIVIST

Within Australia, offender programs have typically been ordered for high risk repeat offenders. There is growing recognition of the advantages in adopting a preventative approach such as driver education programs that target young people as they approach licensing age or programs for first time offenders. Rather than a one-size-fits-all approach, where resources permit, participant groups should be matched in as many demographic variables as is feasible. Participant groups should also be matched with the capacity of the program (eg. length of program). Shorter 1-3 hours programs are more suited to addressing the issues associated with first time offenders, with the longer more treatment based programs accommodating more complex recidivist driving behaviours. This is especially pertinent when dealing with recidivist offenders with alcohol/drug addiction issues who require more extensive specialised treatment programs.

It is also important to acknowledge the challenges associated with defining recidivism, or repeat offender (Styles, et al., 2009; Watson, et al., 2010). Typically within the road safety field the term recidivist has come to denote a 'chronic' offender who poses greater challenges in terms of achieving positive driving behaviour change. However, the definition of recidivist can range from a driver who has committed a low level speeding offence followed by a red light camera offence, through to a driver convicted of multiple high level speeding or drink driving offences. It is important that a clear definition be adopted when attempting to identify recidivism. In their report into speeding offenders (Styles et al., 2009) propose that for a recidivist speeding program a driver should have committed at least two speeding offences within a three year period and one of these for a high level speeding offence.

5.2.4 OFFENCE TYPES

Internationally, offender programs were initially developed to address drink driving behaviour, and drink driving programs are widely available in Australia. Following on from these, traffic offender programs were developed to address a more diverse range of illegal or high risk driving behaviours and currently cater for driving offences such as drug driving, disqualified driving and the various "hoon" offences.

Based on their preference for re-education rather than punishment, the UK is leading the way in offender program development; now offering national courses for drivers detected for low level speeding offences. Evaluations of the UK Speed Awareness Scheme (SAS) courses indicate a significant reduction in re-offence rates for low level speeders following course attendance (Fylan et. al., 2006 cited in Styles et al., 2009). However, the representativeness of these evaluations has been questioned regarding sample bias, with samples consisting of voluntary attendees more likely to display a greater commitment to change.

While the importance of tailoring courses to target various offence profiles has been recognised for some time, funding for the development and evaluation of such courses has been sporadic. This is often attributed to a dichotomy of opinion surrounding the contribution of these types of programs to crash reduction outcomes. Within the Australian road safety field this dichotomy is represented by those who favour traffic offender programs while acknowledging the challenges associated with empirical measurement of their outcomes, and those who are not optimistic about long-term driving behaviour change and favour the development of in-vehicle technology to over-ride the ability to engage in these behaviours e.g. alcohol interlocks, Intelligent Speed Adaptation (ISA). In Australia, courses are now available that target more specific driver groups such as: young drivers, recidivists, and more recently "hoon" drivers. However, as mentioned previously, few evaluations have yet to be been undertaken into these more specific offence based programs.

The importance of exploring offence type becomes very relevant when devising programs for "hoon" offenders due to the heterogeneity of offences incorporated under this legislation. The following is a list of the current offences that come under the Vehicle Impoundment ("hoon") Legislation.

- "Speeding offences where a vehicle is driven at 45 kilometres per hour or more over the applicable speed limit (or 145 kilometres per hour or more if the speed limit is 110 kilometres per hour)
- Loss of traction offences
- Street racing offences
- Deliberately or recklessly entering a level crossing when a train is approaching
- Carrying more passengers than there are seatbelts
- Refusing to stop when directed by police
- Driving while disqualified (for a second or subsequent time)
- Repeat offences of unlicensed driving
- Repeat drink driving where the Blood Alcohol Content is 0.1 or more
- Repeat drug driving. " (VicRoads, 2012)

Offence type may not be an important factor to include when comparing relatively similar offences such as street racing and burnouts. However, the last four (or even 5) offences from the above list are not necessarily associated with typical "hoon" driving and may involve a different offender sample warranting further exploration, especially as these are high crash risk driving behaviours recognised as challenging to address. It is also important to identify driving offences potentially involving addictive behaviours, such as drink and drug driving. These factors play a key role in program design and evaluation outcome measures (Sheehan, et al., 2005).

"When developing an offender program to target "hoon" offences consideration should be given as to how to address these higher risk participants, through either further enhancement of the program design to address the related issues for these drivers or through setting up a colleague agency who specialises in these behaviours to whom participants can be referred." (Sheehan, et al., 2005)

5.2.5 SCREENING OF PARTICIPANTS

In order to assign participants to the appropriate education or treatment program one of the most important initial factors to screen for is addictions. It is imperative that participants with alcohol and/drug addiction problems are identified and delegated to an appropriate program that includes both a treatment component as well as longer-term follow-ups (Sheehan, et al., 2005). However, questions have been raised about the lack of financial incentive for private program delivery agencies to refer clients, identified as having drug and alcohol problems, to other services. Even when agencies responsibly refer clients, the clients often face long waiting periods to access these services due to the disproportionate demand for and limited availability of these types of programs (Sheehan, et al., 2005). This difficulty of access to addiction focussed programs creates a dilemma for existing service providers regarding whether to accept these clients into their program, in order to provide them with at least some access to a program, or to refer them onto potentially infinite waiting lists.

The development of formal networks between service providers could enhance access between services or set up priority lists based on client/road safety risk assessments. Where resources are limited, service providers who specialise in the short term, education type programs could undertake the initial road safety orientated part of a program, with clients completing the more treatment based component at an affiliated addiction specialised program when vacancies arise.

In their review into the management of drink drivers Voas and Stewart (2011) provide insight into the early development of drink driving education programs in the US, namely the Alcohol Safety Action Projects (ASAP). These programs were originally developed to target social drinkers (not 'heavy' drinkers). This was based on a philosophy that attributed social drink driver behaviour to a lack of insight, which therefore promoted optimism about the ability to successfully educate these drivers regarding their high risk behaviour and alternative driving behaviour strategies. They found that the associated user pay requirement to attend these programs also made them a low cost option. Voas and Stewart cite research by Nichols et al. (1978) which found these education programs for social drinkers resulted in a 10% reduction in recidivism. Heavy drinkers (including binge drinkers)

were referred to longer-term programs, the evaluations of which did not indicate the same favourable results. Their research also highlighted the challenges of identifying a suitable screening process through which to classify problem drinkers, providing an example of the DSMIV alcohol disorder criteria commonly used in the US which fails to identify binge drinkers.

Moore et al. (2008) propose the following participant self-report screening routine: instruments measuring alcohol problems, readiness to change, self-esteem/efficacy, and criminal thinking patterns. It is important to ensure that whatever measures are chosen to screen participants that they are valid, reviewed on a regular basis and updated when emerging research identifies improved methods (Sheehan et al., 2005).

5.3 PROGRAM CONTENT/DELIVERY

"Good communication cuts through the clutter, it doesn't add to it. It does this by getting the right message, in the right medium, delivered by the right messengers, to the right audience." (Wolf, 2001, p.2)

Program content is an integral part of a program's success and encompasses the following aspects: identification of clear goals/aims; development of key messages; maximising participant engagement; designing optimal program content; and the duration of the program. In addition to a predictable reluctance to attend due to mandatory attendance requirements (see Section 5.1) the dominant participant group (i.e. young male, tradespersons) will commonly present with other personal impediments that may affect their ability to engage in, and therefore benefit from, the program. Participants may experience: pre-disposed negative attitudes to learning environments, participation anxiety, fears about speaking in group settings, literacy deficits, group social desirability biases, and other specific cultural sensitivities.

5.3.1 KEY MESSAGES

When exploring how to successfully convey a message, marketing literature provides a wealth of information and practical advice. Below is a summary of the findings from Wolf (2001) who explored effective campaigns presented by non-profit organisations across the US and identified the common characteristics associated with their success.

It is important to clearly identify the target audience and then gain insight into their belief system. Messages should be tailored to support the facilitator audience connection and thus maximise persuasiveness for promoting the desired audience behaviour change (Wolf, 2001). "The target audience is your most important critic of your message and approach" (Wolf, 2001, p.10). Rather than being formulated by the prescribed ideals of the organisation, it is vital that an organisation's message remains flexible to accommodate the most effective means of reaching clients.

Key messages are commonly confused with the re-stating of goals, goals which are not necessarily shared by the target audience to the same degree as the organisation promoting them. The role of key messages are to support the

attainment of the goals (Wolf, 2001). A common mistake is to assume that if the target audience realised the 'truth' they would automatically change their behaviour to 'doing the right thing'. This is a simplistic view of audience engagement and behaviour change and often creates a setting where the facilitator lectures the audience. Alternatively, an important aspect of successful behaviour change is to actively listen to the audience and hear firsthand what obstacles to change they are faced with.

Young people are constantly exposed to messages from various media and have thus become effective critiques of a poorly presented message. Key messages need to be of good quality to increase their credibility with the audience.

A primary role of a key message is to build rapport with, and engage the support of, the audience. "Making an emotional connection that touches a pre-existing belief turns passive support into action" (Wolf, 2001). It is important that messages are designed to align with a person's current belief system as attempts to force a change in beliefs will typically meet with resistance and therefore failure.

Goals need to be well defined and obtainable; participants may need guidance to break goals down into smaller achievable steps that will lead them toward their overall goal.

The number of key messages should be appropriate and limited. There is evidence that successful conveyance of one crucial key message may have a greater impact than partial conveyance of several messages for some difficult or resistant client groups. A strong and effective key message can be what distinguishes one organisation from other competing organisations. An effective key message can become an organisation's brand. An organisation can maximise their long-term influence by capitalising on their key message, e.g., through regular promotion and reminders to their client base (email, SMS). While developing and delivering a key message within an offender program may not directly influence the achievement of positive road user behaviour change, its role in highlighting/summarising the key aim(s) of the program to reluctant or inattentive participants warrants further exploration.

5.3.2 PARTICIPANT ENGAGEMENT

As a result of a growing recognition of the ability to maximise an educative effect through maximising participant engagement, there has been a shift from the traditional lecture type education model to a more client interactive model. This interaction has been facilitated through the incorporation of a range of learning mediums such as interactive whiteboards, powerpoint presentations, and online resources.

The Under the Radar (UTR) program is a road safety education program operated through the Blacktown Council and developed in conjunction with the Auburn Council, NSW Police, the Psychology of Driving Group, and Macquarie University (Faulks, et al., 2011). It is a preventative school based program targeting young people entering their novice driver years. The UTR has taken an innovative approach for engaging participants by including Playback Theatre into their education based program. Playback theatre has been incorporated into road safety education across Scotland and Wales by the Scottish Road Safety

Campaign (SRSC) and the Road Safety Council of Wales (RoSCoW) to complement other education programs and campaigns. Powney et al. (1995) conducted an evaluation into the playback theatre production *Too Much Punch for Judy* which was developed as a school based program to address drink driving with pre-driving aged (eg. 14-17 years) youth. This theatre program is designed to incorporate a novel learning environment which builds on the audience's existing experience and knowledge base to enhance their adoption of key messages. The aim of the evaluation was to identify "how viewing a play compared with other forms of teaching and learning about drink driving" (Powney, et al., 1995, p.14). The evaluation found that, as a road safety education tool, playback theatre provided an alternative medium for engaging students who may have lost interest in the media sources typically utilised in these programs. It stimulated discussion amongst students about sensitive topics such as drink driving and promoted student reflection on their own behaviour. The content of this type of theatre needs to be developed through input from various external agencies eg. road safety, emergency service, health educators (Powney, et al., 1995). Taking into account that their evaluation did not explore long-term behavioural outcomes, and that playback theatre can be quite costly to facilitate, Powney et al., (1995) suggest that playback theatre provides a novel learning strategy for promoting debate amongst a target group often reluctant to participate, that warrants further exploration for its applicability to road safety education.

PowerPoint presentations are a well utilised visual aid for presenters, to enhance participant engagement and provide a useful medium for presenting key points, images, and data graphs. In Western society, today's young people are technologically advanced and connected through web browsers such as Google and social network sites like Facebook. These interfaces are interactive and highly stimulating. Younger audiences often find humour in what they consider an outmoded reliance on PowerPoint by older generation facilitators. In order to engage these younger participant groups, it is vital that contemporary technology is incorporated into programs. Existing teaching materials, (i.e. DVD presentations) require regular reviews and updates (Sheehan, et al., 2005).

A potential new medium being explored for its applicability to education programs is on-line or e-learning. This can be facilitated through the provision of computer terminals at the program venue or for participants to access externally. af Wahlberg (2011) who explored the use of online driver education targeting young driving offenders, found a significant reduction in self-reported offence rates for the e-learning group compared to both the "fine only" and "classroom based" program groups. This course commences with in-person attendance at a road safety discussion workshop; participants are then required to complete 5 online e-learning modules. All five modules are to be completed within 28 days, allowing a minimum of 4 days between modules. The following extract provides an outline of the program package: "The material is largely visual and inter-active, with the general set-up being an animated scenario where you are driving a car and end up in some sort of incident. This is re-played several times from different angles, with risk factors pointed out." (af Wåhlberg, 2010, p.337). Students can work through each module at their own pace and revise material where necessary. The students then respond to questions inquiring about the risks associated with each scenario, they must provide correct replies for 20 of the 25 questions to pass the current module and move onto the next one. To suit literacy levels of participants, modules can be presented in either spoken guidance or text. In addition to utilising

an engaging, interactive medium, e-learning removes the necessity to attend program venues enabling regional and remote access, and the 28-day completion limit permits flexibility to suit individual participant schedules. It also provides a less threatening environment for young drivers with prior negative experiences of classroom learning or who are distressed by the stigma of attending an offender program, and thus may enhance key message uptake.

In the NSW Stop Program Pilot course, on-line surveys were utilised to ask participants about the influence of peers, perceptions of detection and avoidance, sensation seeking, and anger issues. The results of these online surveys were then used to tailor course discussions to accommodate the current participant group (Styles, et al., 2009).

5.3.3 OPTIMAL PROGRAM CONTENT

The appropriate degree of structure within a program is somewhat difficult to define and measure. The main argument presented for permitting program flexibility is that it allows a facilitator to tailor sessions to suit individual client groups, however care must be taken that the overall aims and objectives of the program are not undermined. Advantages of developing a more structured program content include maintaining inter-facilitator consistency, ensuring the theoretical based objectives of the course content are maintained, and presenting a sterner atmosphere as participants have committed offences (Sheehan, et al., 2005). The more flexibility permitted within course content, the more challenging it is to conduct empirical evaluations.

Input from various stakeholder groups including road safety experts, counsellors, and offender group representatives, should be sought during the course development phase. Courses should be designed to develop a consistent approach, with initial and ongoing training for course facilitators to ensure this consistent standard. Training should be standardised including regular updates to introduce new content.

To ensure the ongoing quality of courses, Styles et al., (2009) recommend that driver improvement courses need to include regular audits, an audited complaints feedback system, randomly conducted spot checks, assessment of the course by participants, and that preferably these be undertaken by an external agency.

5.3.4 PROGRAM DURATION

Traffic offender program evaluations suggest that longer programs, e.g., 4-8 weeks have a greater success rate (Masten & Peck, 2004; Wundersitz & Hutchinson, 2006). This is generally because of the ability to incorporate more treatment based content into the program. However, the time span of a program is not necessarily negotiable as it is often defined in the associated legislation/policies or by funding availability. Typically a short course (1-2 hrs) will be delivered in a single session with consideration given to whether a short break is scheduled. When the option of delivering a longer program is available, consideration should be given to the benefits of extending the program over two or more sessions as well as the most advantageous time lapse between programs. Scheduling a program over two or more sessions allows time for participants to

process the information presented in a session and may enhance their focus at the next session. It can also extend the amount of content covered in programs by including homework, such as keeping a diary (Sheehan, et al., 2005). Another example of how programs can be extended beyond the group workshop component can be found in the NSW Stop Pilot Program designed to target recidivist speeding. Initial preparation was addressed through a telephone administered pre-course survey during the week prior to their attendance at the program. A post course evaluation survey was undertaken at the completion of the program session, with a follow-up post-course survey at one month. The follow-up post course survey provided "preliminary evidence of positive changes in speed related attitudes" (Styles et al., 2009, p.31); however, crash and traffic infringement outcomes were not included in the evaluation.

5.3.5 PROGRAM FACILITATORS AND PRESENTERS

Sheehan et al. (2005) highlight the importance of using professional facilitators, trained in counselling, who are well versed in identifying and accommodating valuable adult learning factors. The following qualifications were recommended for facilitators of driver education programs for recidivist speeding: 21years or older, adult education/social science qualification, hold a current drivers licence (3 yrs +), no licence suspensions/disqualifications, pass a police check (Styles et al., 2009).

5.4 NATIONAL BASED PROGRAMS

Driver education programs are widely used across the UK as an alternative or complementary sanction to fines or prosecution. The use of driver education courses within the UK is attributed to Dr Peter North as an outcome of his Road Traffic Review in 1988 (Aspinall, 2012). Dr North was an advocate for the use of the more preventive measure of retraining drivers who had committed low level offences rather than punishing them. The National Strategic Development Group (NSDG) is a specialist group of representatives from the road safety, behavioural change, and police enforcement fields. When directed, the NSDG develop new courses to address emerging driving behaviours and offender groups. They design the respective courses, train the facilitators and conduct pilot courses. The tailored courses are then distributed to the associated program delivery agents across the UK, ensuring a consistent national program approach. Examples of the programs which have been developed by the NSDG include: Speed Awareness, RDE (for motorcycle riders), Driver Alert (drivers involved in minor crashes), Driving for CHANGE (skill based training), What's Driving Us (driver attitudinal focus), Online Seat Belt Course (Cuncliffe, 2011). These programs are also supported by national publicity and media campaigns, and participants are recorded in a national attendee database (Aspinall, 2012).

The implementation of state or nationally based programs across Australia would promote the delivery of a consistent approach to traffic offender education programs. Comparable program delivery would further support the conduct of empirical evaluations and the development of specialised programs to target the various traffic offender profiles.

6 SUMMARY OF KEY POINTS AND RECOMMENDATIONS

6.1 PROGRAM EVALUATION SUMMARY

- Traffic offender program evaluations, based on crash or re-offence rates outcomes typically fail to identify significant long-term behaviour change.
- Other sanction options report a similar lack of significant effect, e.g., unlicensed driving.
- Lack of empirical support for education programs is attributed to methodological challenges, data access limitations, and insufficient program and evaluation funding.
- Non-homogenous samples and identification of valid outcome variables are key evaluation challenges.
- Utilisation of multiple outcome measures has been proposed to improve reliability of results.
- Universal operational definitions of key terms such as recidivism are necessary to support comparisons across evaluations.
- Self-report attitude surveys report greater effect sizes; however, critics question the low correlation between attitude and behaviour change.
- Education programs comparable to RTAS, have been found to play a role in motivating driving behaviour change.
- Program effect size is related to the level of intervention.
- There is growing support for implementing a combination of sanctions which include an education program component.
- User pays education programs are a cost effective addition to other sanction regimes.
- Education programs have typically been delivered in a one size fits all approach to heterogeneous participant groups.
- Education programs are evolving to accommodate specific offender groups; however; ongoing research is needed to guide the development of successful targeted programs.

6.2 BEHAVIOUR CHANGE SUMMARY

Appropriate theoretical frameworks have important implications for behaviour change programs. Successful change is more likely to be achieved when:

- Participants are fully aware of the costs of engaging in the non-desired behaviour; these include potential physical threats, legal threats and social threats.
- Participants' self-identity and group identity (peers) is consistent with performing the desired behaviour.
- Participants agree that the non-desired behaviour is a problem for them, and that they wish to change their behaviour.
- Participants perceive that they have control over the behaviour (there are no external barriers to them performing the behaviour, and they believe they are capable of performing it).
- Participants are assessed prior to the course to determine what barriers (including ignorance or disbelief of costs, perceptions that the costs of changing outweigh the benefits, self or group identity, perceived lack of control over the behaviour, etc) may be preventing them from changing, and information/activities are targeted towards overcoming these barriers to change. This implies the use of small groups and/or matching participants with similar needs.
- Participants commit to specific action plans (when, where, how) to perform the behaviour.
- Participants receive support to maintain changes in behaviour over the longer term (months) while establishing new habits.

6.3 PROGRAM CONTENT SUMMARY

Participant characteristics

- Mandatory program attendance can reduce participant engagement and/or commitment to change.
- Programs need to employ strategies to progress participants into an active readiness to change phase.
- Ongoing development of specialized programs, targeting more homogenous participant samples are necessary to increase program effectiveness.

- The majority of participants are young males, partly due to their offence rates, but also reflecting magistrate referral patterns.

- While the majority of programs cater for the novice driving age, further research is required to explore the appropriateness of current offender programs for older participant groups outside the young 18-25 year old bracket.

- Shorter programs may be suitable for first offences, with recidivist offenders being referred to longer or more treatment based programs.

- Valid definitions of recidivism and/or repeat offender need to be developed to support both the appropriate allocation of clients to program as well as empirical evaluations.

- Specialized programs are being developed based on offence categories i.e. low level speeding.

- A diverse range of driving offences fall under the 'hoon' legislation.

- Programs aimed at 'Hoon' drivers need to consider referring more complex participant groups (e.g. drink/drug drivers) to long-term treatment based programs.

- Networking and cooperation between program providers could assist with allocating the client into the most appropriate program and reduce risk of long waiting lists across programs.

Content and delivery

- Key messages are often confused with re-stating of goals, whereas their role is to support the attainment of goals.

- Key messages should be directed from insight into the audience belief system not the prescribed ideals of the organisation.

- Key messages should align with audience beliefs to reduce resistance.

- Key messages need to be credible to engage young audiences who are constantly exposed to messages.

- One key message may result in more success than attempts to convey many.

- A key message can be utilised like a logo or brand.

- Lecturing the audience should be avoided; rather, the interactive educational model should be developed.

- Active listening should be adopted to gain insight into the obstacles to change that participants face.
- Goals need to be realistic, obtainable and broken down into small achievable steps.
- Explore novel approaches to target challenging audiences eg. playback theatre.
- E-learning may be more engaging for young clients; can increase the capacity of the program through homework; and can assist with remote attendance and costs associated with venue hire.
- Program delivery flexibility can accommodate participant group variations.
- More structured programs increase inter-facilitator reliability and support empirical evaluations.
- Input from stakeholder groups (including offenders) should be incorporated into program development.
- Programs should undergo regular updates and audits.
- Short courses may be practical and cost effective for prevention or low level offending.
- Scheduling programs over two sessions allows for the assignment of homework and can therefore extend the course content.
- Longer programs are required for treatment type goals e.g. addictions.
- Course content can be extended through the use of pre and post surveys or information distribution.
- Minimal qualification requirements for course facilitators should be identified.
- Facilitators and presenters should undergo initial training (and regular updates) that incorporates the promotion of adult learning styles.
- The formation of state or nationally based programs will support: the delivery of a consistent approach across various offender groups, the development of specialised programs to target the various offender profiles, and the ability to conduct empirical evaluations.

6.4 CONCLUSION

The RTAS is a short, educational, non-treatment based offender program which aims to bring about attitude and behavioral change, and reduce recidivism and hence road trauma. Research exploring positive driving behaviour changes based on crash and/or re-offence rates following attendance at this type of program have typically not identified significant effects. However, when viewed as a program aimed at providing participants with insight into the risks associated with these high risk driving behaviours, such as facing further sanctions or being involved in a serious injury or fatal crash, this type of program has been found to be a low cost user pays option. The RTSSV would benefit from reviewing the key points outlined in Section 6.1 for their relevance to RTAS and the feasibility of incorporating changes into the existing program. They can also provide a useful guide in the development of a more specific program to target the driving behaviours incorporated within the “hoon” offender population. The young driver population, which comprises the majority of attendees at the RTAS program, are well-known for the challenges associated with their attitudes towards their illegal driving behaviour and the associated risks, as well as their reluctance to actively engage in programs and to make the necessary commitment to achieve positive behaviour change. Therefore, it is important that the program content and structure is regularly evaluated to ensure that newly evolving behaviour change strategies are incorporated, as well as adopting the most contemporary and engaging methods to present and deliver the program.

7 REFERENCES

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APPENDIX A – URICA (LONG FORM)

(UNIVERSITY OF RHODE ISLAND CHANGE ASSESSMENT)

This questionnaire is to help us improve services. Each statement describes how a person might feel when starting therapy or approaching problems in their lives. Please indicate the extent to which you tend to agree or disagree with each statement. In each case, make your choice in terms of how you feel right now, not what you have felt in the past or would like to feel. For all the statements that refer to your "problem", answer in terms of what you write on the "PROBLEM" line below. And "here" refers to the place of treatment or the program.

There are FIVE possible responses to each of the items in the questionnaire:

1 = Strongly Disagree 2 = Disagree
3 = Undecided 4 = Agree
5 = Strongly Agree

1. As far as I'm concerned, I don't have any problems that need changing. ❑

2. I think I might be ready for some self-improvement. ❑

3. I am doing something about the problems that had been bothering me. ❑

4. It might be worthwhile to work on my problem. ❑

5. I'm not the problem one. It doesn't make much sense for me to be here. ❑

6. It worries me that I might slip back on a problem I have already changed, so I am here to seek help. ❑

7. I am finally doing some work on my problem. ❑

8. I've been thinking that I might want to change something about myself. ❑

9. I have been successful in working on my problem but I'm not sure I can keep up the effort on my own. ❑

10. At times my problem is difficult, but I'm working on it. ❑

11. Being here is pretty much a waste of time for me because the problem doesn't have to do with me. ❑

12. I'm hoping this place will help me to better understand myself. ❑

13. I guess I have faults, but there's nothing that I really need to change. ❑

14. I am really working hard to change. ❑

15. I have a problem and I really think I should work at it. ❑

16. I'm not following through with what I had already changed as well as I had hoped, and I'm here to prevent a relapse of the problem. ❑

17. Even though I'm not always successful in changing, I am at least working on my problem. ❑

18. I thought once I had resolved my problem I would be free of it, but sometimes I still find myself struggling with it. ❑

19. I wish I had more ideas on how to solve the problem. ❑

20. I have started working on my problems but I would like help. ❑

21. Maybe this place will be able to help me. ❑

22. I may need a boost right now to help me maintain the changes I've already made. ❑

23. I may be part of the problem, but I don't really think I am. ❑

24. I hope that someone here will have some good advice for me. ❑

25. Anyone can talk about changing; I'm actually doing something about it. ❑

26. All this talk about psychology is boring. Why can't people just forget about their problems? ❑

27. I'm here to prevent myself from having a relapse of my problem. ❑

28. It is frustrating, but I feel I might be having a recurrence of a problem I thought I had resolved. ❑

29. I have worries but so does the next guy. Why spend time thinking about them? ❑

30. I am actively working on my problem. ❑

31. I would rather cope with my faults than try to change them. ❑

32. After all I had done to try to change my problem, every now and again it comes back to haunt me. ❑

Scoring

Precontemplation items	1, 5, 11, 13, 23, 26, 29, 31
Contemplation items	2, 4, 8, 12, 15, 19, 21, 24
Action items	3, 7, 10, 14, 17, 20, 25, 30
Maintenance items	6, 9, 16, 18, 22, 27, 28, 32

Description

The scale is designed to be a continuous measure. Thus, subjects can score high on more than one of the four stages.

Because the scale is still being validated, it is only available for research purposes. Therefore, to date there have been no cut-off norms established to determine what constitutes high, medium or low on a particular stage. And, again, the stages are considered to be continous and not discreet.

In one analysis, we have done cluster analyses which have yielded smaller, more homogenous groups of subjects. Stage scores (i.e., means on each set of 8 items for each subject) have been converted to standard score (i.e., T-scores: mean=50, standard deviation=10). The cluster analysis was run on the standard scores of all 155 subjects, producing nine cluster profiles. For your scoring purposes, you could determine subjects' stage score (means, T-scores) and compare those to our nine profiles. Or you could do a cluster analysis and find out what profiles emerge from your sample. If you need a discrete measure of the stages for you research, you would have to use a nominal scale for the particular problem you are assessing. An example of such a discrete measure is reported in our article "Stages and Processes of Self-Change of Smoking: Toward an Integrated Model of Change", Journal of Consulting and Clinical Psychology (1983), 51, 390-395.

We would appreciate feedback and would be interested in your findings. We are expecting to have more cut-off scores for each of the stages in the near future.

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APPENDIX B – PARTICIPANT CONSENT FORM

ROAD TRAUMA SUPPORT SERVICES
VICTORIA • COUNSELLING, SUPPORTING & EDUCATING

Road Trauma Awareness Seminar
Participant Consent Form

I, ……, give my consent for the Road Trauma Support Services Victoria Inc (RTSSV) to utilise the information I provide for the purpose of data collection and evaluation purposes.

- The Road Trauma Support Services Victoria Inc will not disclose any information that may intentionally identify you unless the information is required by any person or organisation with a lawful entitlement to obtain the information
- RTSSV will take reasonable steps to protect all personal information it holds from misuse, loss, unauthorised access, modification or disclosure. RTSSV will take reasonable steps to lawfully and responsibly destroy or permanently de-identify personal information when it is no longer needed for any purpose taking into consideration the Public Records Act and the Health Records Act.
- RTSSV will not use or disclose personal information for a purpose other than the primary purpose except for those conditions specified in the Act or where the use or disclosure is specifically authorised under an Act. RTSSV complies with the Victorian Government Information Privacy Act No. 98/2000 and the Health Records Act 2001.
- I also understand that I am consenting to the RTSSV being given future access (for statistical purposes) to my licensing details and driving offence records held by VicRoads.

Signature ..... Date .....

Name (please print) .....

Licence number .....

Would you be happy to participate in a follow-up phone interview, approximately six months after this workshop? Yes / No

Phone no: home _____

mobile: _____

APPENDIX C – PARTICIPANT REGISTRATION FORM

ROAD TRAUMA SUPPORT SERVICES
VICTORIA • COUNSELLING, SUPPORTING & EDUCATING

Road Trauma Awareness Seminar
Participant Registration Form

Please fill in the following registration form. You are **not** obliged to provide us with any personal information unless you consent to RTSSV collecting and storing this information. The purpose of this information is to assist RTSSV to provide informative and beneficial workshops for you and the community.

Name: .....

Date: .....

Suburb live in:.....

Has attending this workshop been court ordered yes ❑ No ❑

Is this a first offence yes ❑ No ❑

For the following questions please tick ✓ the box which best describes you:

1. **Gender**
   - Male ❑
   - Female ❑

2. **Age**
   - 15-19 yrs old ❑
   - 20-25 yrs old ❑
   - 26-30 yrs old ❑
   - 31-35 yrs old ❑
   - 36-40 yrs old ❑
   - 41+ ❑

3. **Driving experience**
   - Unlicensed / have lost licence ❑
   - Probationary licence ❑
   - Full licence: 1-5 yrs ❑
   - 6-10 yrs ❑
   - 11+ yrs ❑

4. **How many days per week do you drive, on average?**
   - Less than 3 days a week ❑
   - 3-5 days per week ❑
   - 6-7 days per week ❑

5. **Please tick the option that best describes your current employment:**
   - Student ❑
   - Unemployed ❑
   - Office work ❑
   - Tradesperson ❑
   - Other ❑

6. **Do you think your driving habits (please tick one only):**
   - Need improvement? ❑
   - Are satisfactory? ❑
   - Are better than average? ❑

7. **Which of the following apply to your driving style? (You may tick more than one)**
   - I have previously been charged with a traffic offence ❑
   - I get impatient or angry with other drivers ❑
   - I challenge my car to perform ❑
   - I frequently push the speed limit ❑
   - I enjoy intimidating other drivers ❑
   - I drive cautiously and with safety in mind ❑
   - I am often the designated driver ❑
   - I like to show off ❑
   - I have fun driving ❑

APPENDIX D - PERSONAL CONTRACT

ROAD TRAUMA SUPPORT SERVICES
VICTORIA • COUNSELLING, SUPPORTING & EDUCATING

Road Trauma Awareness Seminar
Personal Contract

1. In future when I am driving I am going to:

.....

.....

.....

.....

.....

.....

.....

2. How I will do this:

.....

.....

.....

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.....

.....

APPENDIX E – PARTICIPANT EVALUATION QUESTIONNAIRE

RTSSV Seminar Evaluation

Thank you for your interest in the Road Trauma Support Services Victoria (RTSSV) Seminar Evaluation. The aim of this survey is to collect information about the seminar to help improve the content and delivery.

For more information on the RTSSV, please feel free to visit http://www.rtssv.org.au

About you

Booking Reference Number:

_____

How many times have you been charged with a traffic offence?

___1 time
___2 times
___3 times
___4 times
___5 times
___6 times
___7 times
___8 times
___9 times
___10 or more times

Which offence has lead to your attendance at this seminar (most recent offence)?

___Speeding (0-24 km)
___Speeding (>45 km)
___Exceed the Prescribed Consumption of Alcohol (PCA) limit
___Disqualified / suspended driving
___Unlicensed driving
___Speed / manner dangerous
___Careless driving
___Other _____

What is your gender?

___Male
___Female

What is your age?

* This will appear as a drop-down list. The options below show the first and last option.

___ <18 years
___ 65+ years

What is your postcode?

_____

Which of the following best describes your current employment type?

___Clerical and Administrative Worker
___Community Service Worker
___Uncertified Labourer
___Machinery Operator/Driver
___Manager
___Professional
___Sales Worker
___Student
___Technician/Trade Worker
___Unemployed
___Other please specify _____

Your driving experience

Was your attendance at the workshop court ordered?

___Yes
___No

What is the current status of your driving licence?

___Unlicenced
___Licence has been suspended
___Learner Permit
___Probationary licence
___Full Licence: 1-5 years
___Full Licence: 6-10 years
___Full Licence: 11+ years

On average, how many days per week do you drive?

___Less than 3 days per week
___3-5 days per week
___6-7 days per week

Your driving habits

Compared to the **average driver** of *your* age and gender

How would you rate your chances of:

	Likelihood Scale (1= Very Unlikely, 5= Very Likely)					
	1	2	3	4	5	NA
Being fined for speeding						
Being injured in a road crash while you are speeding						
Being fined while drink driving						
Being injured in a road crash while driving within the next two years						
Being caught drink driving						
Being injured in a road crash while drink driving						
Being fined for not wearing a seatbelt						
Being injured in a road crash whilst not wearing a seatbelt						

When driving how often do you...

	Frequency Scale (1= Never, 5= All the time)					
	1	2	3	4	5	NA
Become angered by another driver						
Become impatient with other drivers						
Increase your speed through an intersection to avoid a red light						
Drive faster than the signed speed limit						
Fail to give way to pedestrians at pedestrian crossings						
Ignore stop or giveway signs						
Not wear your seatbelt						
Race away from traffic lights to beat another car						
Lose wheel traction when cornering						
Underestimate speed of oncoming vehicle when attempting to overtake						

Road Trauma Awareness Seminar

Which venue did you attend for your recent Road Trauma Awareness Seminar?

___ Ballarat
___ Bendigo
___ Box Hill
___ Broadmeadows
___ Frankston
___ Geelong
___ Melton
___ Mildura
___ Sunshine
___ Traralgon
___ Wangaratta
___ Warrnambool
___ Werribee
___ Wodonga
___ Other_____

Thinking about the Road Trauma Awareness Seminar, how informative did you find each of the following:

	Informativeness (1= Not at all Informative, 5= Extremely Informative)					
	1	2	3	4	5	NA
Educator led discussion on road safety and driving choices						
Volunteers' discussion of their experience with road trauma						
Paramedic presentation						
Traffic light exercise						

What do you think would improve how informative the Road Trauma Awareness Seminar is?

_____
_____
_____

Thinking about the Road Trauma Awareness Seminar, how much impact did each of the following have on you:

	Emotional Impact (1= No Impact, 5 = Large Impact)					
	1	2	3	4	5	NA
Educator led discussion on road safety and driving choices						
Volunteers' discussion of their experience with road trauma						
Paramedic presentation						
Traffic light exercise						

What do you think would increase the impact of the Road Trauma Awareness Seminar?

_____
_____
_____

APPENDIX F – PARTICIPANT 6 MONTH FOLLOW UP

Participant 6 month follow up

Date & Venue attended RTAS_____
Date of 6 month follow up_____
Name of interviewer_____

Interview questions

"Hello, my name is… and I'm calling from Road Trauma Support Services Victoria. I'm calling in regards to the road trauma seminar you attended in <month/year>. Is this a good time to answer a few questions?"

- If not, ask for a more convenient time to call them back
- If they do not want to answer any questions, thank them for their time and end the call

1. Do you recall your attendance at the RTAS?
   If **no**; provide brief summary of seminar, approximate date of attendance etc.
   If **yes**; continue with questions.

2. For you, what was a good stand out of the seminar?

3. What was a poor stand out of the seminar?

4. On a scale of **one** to **five** (one being not at all impactful, five being very impactful), what level of impact do you think the seminar has had on you?

   Can you help me to understand why you're providing a score of ___?

5. On a scale of **one** to **five** (one being not at all impactful, five being very impactful), what level of impact do you think the seminar has had on your driving behaviour?

   Can you help me to understand why you're providing a score of ___?

6. Have you made any conscious changes to your driving behaviour since attending the seminar?

   If **yes**, what has changed?
   If **no**, continue to Q.5.

7. Have you incurred any traffic offences since attending the RTAS?
   If **no**; why do you think that is?

   If **yes**; what type of offence was it? [Do not read responses, allocate based on response]
   - Speeding (0-24 km)
   - Speeding (>45 km)
   - Exceed PCA
   - Disqualified / Suspended Driving
   - Unlicensed driving
   - Speed / manner dangerous
   - Careless driving
   - Other _____

   Was this the same type of offence you were originally referred to the RTAS for?

8. Do you think the seminar is an effective way of educating people about the impact of road trauma?
   If **no**; why not?
   If **yes**; why is that?

9. Do you think the seminar is an effective way of reducing the incidence of road trauma?

   If **no**; why not?
   If **yes**; why is that?

10. One a scale of **one** to **five** (one being very unlikely, five being very likely) how likely are you recommend the programme to a friend or family member?

"That brings us to the end of the interview. Did you have any questions or any further comments? Thank you for taking the time to participate in this survey... enjoy the rest of your day"

APPENDIX G – DRIVER BEHAVIOUR QUESTIONNAIRE

Driver Behaviour Questionnaire

Each of the statements below is a situation in everyday driving. Please indicate, by ticking one of the boxes, how often the described situation has happened to you while you were driving.

The boxes give a scale from never on the left to very often on the right. Please tick one box per question.

(a) Deliberately disregard the speed limit to stay with the traffic flow

☐ Never ☐ Very seldom ☐ Rather seldom ☐ Sometimes ☐ Often ☐ Very often

(b) Overtake when the car in front is slowing down approaching an area with a lower speed limit

☐ Never ☐ Very seldom ☐ Rather seldom ☐ Sometimes ☐ Often ☐ Very often

(c) Fail to notice a green arrow at a traffic light allowing you to turn

☐ Never ☐ Very seldom ☐ Rather seldom ☐ Sometimes ☐ Often ☐ Very often

(d) Forget to loosen the park brake when driving off

☐ Never ☐ Very seldom ☐ Rather seldom ☐ Sometimes ☐ Often ☐ Very often

(e) Drive especially close to the car in front as a signal to its driver to go faster or to get out of the way

☐ Never ☐ Very seldom ☐ Rather seldom ☐ Sometimes ☐ Often ☐ Very often

(f) Forget to dip the lights when driving at night and are reminded to do so by other drivers flashing their lights

☐ Never ☐ Very seldom ☐ Rather seldom ☐ Sometimes ☐ Often ☐ Very often

(g) Speed up to get through traffic lights when the lights are yellow or green

☐ Never ☐ Very seldom ☐ Rather seldom ☐ Sometimes ☐ Often ☐ Very often

(h) Deliberately park your car illegally in order to run an errand

☐ Never ☐ Very seldom ☐ Rather seldom ☐ Sometimes ☐ Often ☐ Very often

(i) Break a traffic rule because you hadn't noticed the newly put up sign

☐ Never ☐ Very seldom ☐ Rather seldom ☐ Sometimes ☐ Often ☐ Very often

(j) Misread signs and find yourself lost

☐ Never ☐ Very seldom ☐ Rather seldom ☐ Sometimes ☐ Often ☐ Very often

(k) Fail to notice when a traffic light turns green

☐ Never ☐ Very seldom ☐ Rather seldom ☐ Sometimes ☐ Often ☐ Very often

(l) Deliberately exceed the speed limit on roads when there is little traffic

☐ Never ☐ Very seldom ☐ Rather seldom ☐ Sometimes ☐ Often ☐ Very often

(m) Find yourself driving in the second last gear even though you are driving fast enough to be in the highest gear (answer only if applicable)

☐ Never ☐ Very seldom ☐ Rather seldom ☐ Sometimes ☐ Often ☐ Very often

(n) Uncertain where you parked your car in a large car park

☐ Never ☐ Very seldom ☐ Rather seldom ☐ Sometimes ☐ Often ☐ Very often

(o) Intend to reverse but find that the car is moving forward because it is in the wrong gear (answer only if applicable)

☐ Never ☐ Very seldom ☐ Rather seldom ☐ Sometimes ☐ Often ☐ Very often

(p) Deliberately exceed the speed limit when overtaking

☐ Never ☐ Very seldom ☐ Rather seldom ☐ Sometimes ☐ Often ☐ Very often

(q) Fail to notice a traffic sign telling you that the road is temporarily closed

☐ Never ☐ Very seldom ☐ Rather seldom ☐ Sometimes ☐ Often ☐ Very often

(r) Intend to drive to destination A, only to suddenly find yourself on the road to destination B, perhaps because destination B is your more usual destination

☐ Never ☐ Very seldom ☐ Rather seldom ☐ Sometimes ☐ Often ☐ Very often

(s) Miss your exit on a freeway and have to make a lengthy detour

☐ Never ☐ Very seldom ☐ Rather seldom ☐ Sometimes ☐ Often ☐ Very often

(t) Misjudge the road surface and when braking find that the distance needed to stop is longer than you expected

☐ Never ☐ Very seldom ☐ Rather seldom ☐ Sometimes ☐ Often ☐ Very often

(u) Shift into the wrong gear while driving (answer only if applicable)

☐ Never ☐ Very seldom ☐ Rather seldom ☐ Sometimes ☐ Often ☐ Very often

(v) Switch on the wipers for example, when you meant to switch on something else, such as the head lights

☐ Never ☐ Very seldom ☐ Rather seldom ☐ Sometimes ☐ Often ☐ Very often

(w) Forget which gear you are currently in and have to check with your hand (answer only if applicable)

☐ Never ☐ Very seldom ☐ Rather seldom ☐ Sometimes ☐ Often ☐ Very often

(x) Deliberately turn onto a road just in front of an oncoming vehicle even though there is no other traffic behind the oncoming vehicle

☐ Never ☐ Very seldom ☐ Rather seldom ☐ Sometimes ☐ Often ☐ Very often

(y) Misjudge the gap to an oncoming vehicle (in the opposite lane) when overtaking and you are forced to just sweep in front of the vehicle you overtake

☐ Never ☐ Very seldom ☐ Rather seldom ☐ Sometimes ☐ Often ☐ Very often

(z) Turn right onto a road into the path of an oncoming vehicle that you hadn't seen, or whose speed you misjudged

☐ Never ☐ Very seldom ☐ Rather seldom ☐ Sometimes ☐ Often ☐ Very often

(aa) Try to shift into a higher gear even though you're already in the highest gear (answer only if applicable)

☐ Never ☐ Very seldom ☐ Rather seldom ☐ Sometimes ☐ Often ☐ Very often

(ab) Park against parking rules because you can't find a parking space

☐ Never ☐ Very seldom ☐ Rather seldom ☐ Sometimes ☐ Often ☐ Very often

(ac) Misjudge your speed when turning from a road and have to slam on the brakes

☐ Never ☐ Very seldom ☐ Rather seldom ☐ Sometimes ☐ Often ☐ Very often

(ad) Cut corners and occasionally cut into the opposing lane when driving around sharp bends in rural areas

☐ Never ☐ Very seldom ☐ Rather seldom ☐ Sometimes ☐ Often ☐ Very often

(ae) Misjudge the gap to an oncoming vehicle when you are turning right and force the oncoming vehicle to slam on the brakes

☐ Never ☐ Very seldom ☐ Rather seldom ☐ Sometimes ☐ Often ☐ Very often

(af) Underestimate the speed of an oncoming vehicle (in the opposite lane) when overtaking

☐ Never ☐ Very seldom ☐ Rather seldom ☐ Sometimes ☐ Often ☐ Very often