



**MONASH** University  
Accident Research Centre

**EVALUATION OF AN INSIGHT DRIVER-  
TRAINING PROGRAM  
FOR YOUNG DRIVERS**

by

Teresa M Senserrick  
Georgina C Swinburne

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**Author(s):**

Senserrick, T.M.

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601 St. Kilda Road

MELBOURNE VIC 3004

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**Abstract:**

Traditional driver-training programs that aim to increase vehicle-handling and manoeuvring skills have previously been related, somewhat counterintuitively, to an actual increase in the crash rate of young drivers. This is believed primarily to be due to associated increases in confidence that result in greater risk taking while driving. MUARC was commissioned to evaluate a driver-training program that alternatively aimed to provide greater insight and awareness of potential risks when driving, thereby targetting issues of over-confidence rather than traditional advanced driving skills. The Skilled Drivers of Australia driver-training program was developed for 18-25 year-olds and results in reduced comprehensive insurance premiums for AAMI Insurance holders. Questionnaires on attitudes, behaviours, enforcement and crash risk were distributed to course participants during 2000, first, on enrolling in the course, second, just before or just after participation in the course (to form control and case groups), and finally, 8-9 weeks following completion of the course. Repeated measures analyses identified several positive changes in attitudes, behaviours and perceptions of crash risk following course participation. Qualitative analysis of open-ended responses on general feedback about the course complemented these findings. It was concluded that the insight training program conducted by AAMI / Skilled Drivers effected positive changes that were likely to reduce the risk of crash involvement of the young drivers. Several practical recommendations were provided to enhance these positive outcomes and more conclusively evaluate the potential reduction in crash risk.

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**Key Words:**

young drivers, driver training, insight training, attitudes, behaviours

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Monash University Accident Research Centre,  
PO Box 70A, MONASH UNIVERSITY,  
Victoria, 3800, Australia.  
Telephone: +61 3 9905 4371, Fax: +61 3 9905 4363

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## EXECUTIVE SUMMARY

Traditional driver-training programs that aim to improve vehicle-handling skills, including manoeuvring exercises and skid training, have tended to be relatively ineffective in reducing crashes. In fact, the introduction of skid training into driver-training programs has been found to increase certain crash types for young drivers. This has been attributed to associated increases in confidence that resulted in greater risk-taking.

Rather than focusing on physical skills, insight training focuses on attitudinal-motivational skills. The aim is to raise drivers' awareness of factors that contribute to crashes and potential risks when driving. An example of an insight-training program is provided by AAMI Insurance in their Skilled Drivers of Australia program for recently licensed drivers. The one-day program was developed for 18-25 year olds and is comprised of both theoretical and practical components. MUARC was commissioned to evaluate the program in relation to changes in road safety attitudes and behaviours, and perceptions of enforcement and crash risk factors.

Questionnaires were distributed to participants at the time of enrolment in the AAMI / Skilled Drivers program (Time 1). A second questionnaire was completed either just prior to course participation to form a control group, or just following course participation to form a case group (Time 2). This allowed relative short-term outcomes of the course to be evaluated. In order to evaluate more long-term effects, an additional questionnaire was distributed to all participants at approximately eight weeks following their completion of the driver-training program (Time 3).

A total of 220 young drivers (54 male, 166 female) responded at Time 1. The final sample, that is, those who completed all three questionnaires, was comprised of 149 of these participants (35 male, 114 female).

Repeated measures analyses identified several significant differences in the responses of cases and controls indicating positive changes in both the short term and long term. Overall, the findings indicated that after the Skilled Drivers driver-training program:

- overall confidence in personal driving ability did not increase, with male drivers reporting reduced confidence in their driving ability;
- participants reported greater discomfort driving close behind another vehicle;
- they were less likely to agree that driver-training was a waste of time;
- participants' belief that they were a better driver than others became stronger;
- they tended to report increased confidence in their ability to manage possible hazards when driving, mostly true for females;
- they reported low levels of dangerous driving behaviours, as measured by the Driving Behaviour Questionnaire, that did not increase over the survey period;
- the sensitivity of participants to the possibility of having a crash increased; and

- the tendency of the young males to drive over the speed limit was reduced, at least to the lower level reported by females.

Positive effects of being enrolled in the driver-training program and waiting to take part were also evident. Those waiting to take part in the course:

- tended to less strongly perceive themselves as better than other drivers;
- more strongly agreed they could use more training;
- reported reduced confidence in their driving ability; and
- tended to report greater awareness of the risk of having a crash or near miss, and of failing to see a hazard.

It is likely that knowing their peers were receiving training effected some of these changes, at least in part.

Qualitative feedback on the course included in responses to open-ended questions clearly indicated several positive outcomes:

- all but two participants reported positive changes in their driving behaviour, including the adoption of safer speeds, headways, and stopping distances;
- greater awareness of the driving environment was also reported by approximately one-third of respondents;
- the key messages of the day were well retained and were considered important;
- practical exercises, the most popular component, were considered to reinforce the messages raised in theoretical sessions; and
- overall participants enjoyed the course and believed it should be recommended to other road-user groups.

Overall therefore, the Skilled Drivers program did not inflate the confidence of the young drivers, as found to be true of other driver-training programs. Awareness of risks when driving increased and dangerous driving behaviours were minimised. In particular, male drivers reported reduced confidence in their driving ability and a tendency to reduce their speeds. Qualitative findings complemented the quantitative findings clearly supporting the contention that the driver-training program effected positive changes in driving attitudes and behaviours. Together these findings suggested insight training, as provided by the Skilled Drivers program, provides a promising road safety countermeasure. Given the reduction in behaviours that are generally associated with crashes by drivers in this age group, it was concluded that AAMI / Skilled Drivers driver-training program, was likely to result in reduced crash involvement for young drivers.

To further the effectiveness of the course, the following recommendations were made:

- the use of a variety of teaching mediums and the heightening of emotions should continue;

- opportunities to enhance personal relevance and social influences during the course should be maximised, including the introduction of a group discussion or focus group;
- when possible, one or more practical exercises should be repeated on a sand or fine gravel surface for comparative experience;
- given the positive outcomes of the evaluation, a survival analysis of time to first claim by insurance holders who do and do not chose to undertake training would provide information on the relationship between these positive changes and actual reductions in crashes.

Overall, the insight-training program resulted in important road safety messages being relayed and adopted in a relatively short time period. Researchers and others involved in the field of road safety should consider the potential benefits of insight training, such as that provided by the AAMI / Skilled Drivers program, for future driver-training research and development.

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# 1. INTRODUCTION

## 1.1 BACKGROUND

Skilled Drivers of Australia conducts a one-day driver-training program for relatively inexperienced young drivers that targets greater insight and awareness of potential risks when driving. It is provided free to AAMI insurance holders and completion of the program results in a discounted comprehensive insurance premium. MUARC was commissioned to evaluate the program in terms of changes in perceived driver attitudes, dangerous driving behaviours, and perceptions of enforcement and crash risk, with particular attention to sex differences. Sections of the report, including the literature overview, the results and discussion, are grouped into these three areas. Open-ended questions were included in the evaluation and, therefore, both quantitative and qualitative analyses were conducted.

## 1.2 DRIVER-TRAINING PROGRAMS

Driver-training programs have traditionally aimed to increase awareness of hazards and to improve vehicle-handling skills, with manoeuvring exercises and skid training a particular focus. Katila, Keskinen, and Hatakka (1996) have explained that, at least for programs in Nordic countries, skid training is primarily included to promote anticipatory skills in order to prevent risky driving. The manoeuvring skills taught are intended to be included in emergency circumstances only. Research has shown however, that after driver-training programs were extended to include skid training, accidents occurring on slippery roads increased for young drivers (Glad, 1988; Keskinen, Hatakka, Katila, & Laapotti, 1992). It appears that this training increased the confidence of the young drivers and as a result, they tended not to avoid difficult conditions or to take on more demanding tasks, including driving at higher speeds (Glad, 1988; Gregersen, 1996; Katila et al, 1996; Keskinen et al, 1992; Moe, 1984). Therefore, traditional driver-training programs have been found to be relatively ineffective in reducing crashes (see also review by Struckman-Johnson, Lund, Williams, & Osborne, 1989).

### 1.2.1 The AAMI / Skilled Drivers driver-training program

#### 1.2.1.1 *Philosophy and objectives*

The AAMI / Skilled Drivers driver-training program departs considerably from traditional driver-training programs. Rather than teaching skid-training and manoeuvring skills, the program focuses on self-calibration or over-confidence amongst inexperienced drivers. The course philosophy and objectives (July 1998) emphasise the following:

*Our intention has never been to teach [trainees] ...to be expert drivers but rather to provide some insight and a greater awareness of the dangers they face on our roads...*

The focus of the program is not to *train* young drivers to *master* a particular *skill* or *successfully* complete an exercise but rather to allow them the opportunity to *discover for themselves* how *difficult* the driving task can be by

letting them experience some loss of control or discomfort while attempting each exercise. [emphasis in original]

Therefore, the aim is to reduce the confidence of young drivers and increase their insight and awareness of the potential risks they can encounter in everyday driving. Cavallo and Triggs (1996) have included these issues as key components of interventions that can improve the safety of young drivers.

Research by Gregersen (1996) has reported promising outcomes of a program developed for a Swedish study that follows a similar philosophy. The program also aimed to reduce young drivers' over-estimation of their personal driving skills. The study contrasted two groups. Both groups were briefed on basic theory of driving on icy roads, and on braking and avoidance manoeuvring. In addition, one group received skid training on a closed driving practice area – the “skill” group. The other group drove on the same circuit but did not receive any skill guidance in order to demonstrate that even if they knew the basic theory, they could not rely on this in a critical situation – the “insight” group. Surveys and course participation one week after training showed that the skill group estimated their skills to be at a higher level than the insight group even though they did not differ on actual skills. While no control group was included in the study, these results lend support to the contention that insight-training program may lead to reductions in crashes by raising awareness of risks and reducing the over-confidence generally reported by young drivers.

Further support is provided by research in Finland. Keskinen, Hatakka, Katila, Laapotti and Peraaho (1999) reported on the crash effects of a compulsory training program that was introduced in 1990 for novice drivers during their first two years post-licensing. The program involved a four-hour training session with an instructor, which included driver feedback and focused on risk avoidance and speed control. The aim was to develop “skills for control of personal state as well as self-evaluative skills” (p. 79). From their preliminary evaluation of the program, the researchers concluded that the training contributed to a reduction in crashes for young drivers, with a stronger effect for males than females (and that the effect was over and above that of the downward trend in crashes in Finland during the analysis period).

These research studies provide examples of insight training, that is, training that aims to raise awareness or improve insight into factors that contribute to road trauma. There is greater focus on attitudinal or motivational factors than on physical, vehicle-handling skills. The AAMI / Skilled Drivers driver-training program provides a further example. The results of the above two studies suggest that the Skilled Drivers program has the potential to provide an important road safety countermeasure.

### ***1.2.1.2 Structure***

The AAMI / Skilled Drivers driver-training program combines features of both the Gregersen (1996) and Keskinen et al (1999) programs. It is conducted at a purpose-built facility over a one-day period. The facility includes a classroom and driving track to accommodate both theoretical and practical components of the program.

Theory sessions include discussions of crash factors, including human and defensive factors, with a focus on the role of the driver. A variety of teaching mediums is used, including video, audio, whiteboard and overhead use, complemented by small group discussions and plenary sessions.

Participants take part in the practical exercises using the vehicle that they usually drive (their own or parents' car, for example), with an instructor in the front passenger seat and other participants in the rear seats. Through repetition of exercises at different speeds and allowing for different stopping distances on courses marked by cones, the exercises allow the participants to experience some loss of control while driving and tend to arouse mild anxiety levels. The result is a personal learning experience of distances needed to stop safely and speeds required to avoid sudden hazards.

At the end of the day, the key messages and lessons of the day are reviewed in a plenary session. The session is completed with the distribution of evaluation surveys and certificates verifying participation.

Overall therefore, the program is structured to reduce the over-confidence of young drivers and increase their awareness of risks when driving by providing practical exercises that reinforce messages introduced in theory sessions.

### **1.3 DRIVER ATTITUDES AND BEHAVIOURS**

Young drivers are known to have a high risk of road injury throughout the Western world (e.g. Evans, 1991), with research suggesting this is due to both their poorly developed skills and a tendency to underestimate their personal risk when drink-driving (e.g. Evans, 1987; Greening & Stoppelbein, 2000; Summala, 1987; Williams, 1994). Many studies have shown that young people engage in unsafe driving behaviours, including drink-driving, speeding behaviour, and close following of other vehicles (e.g. Evans & Wasielewski, 1983; Greening & Stoppelbein, 2000; Jonah & Dawson, 1987). Several patterns of differences between male and female drivers on these road safety attitudes and behaviours have been identified in the literature.

#### **1.3.1 Driver attitudes**

Studies of road safety attitudes consistently report a tendency for drivers to rate themselves as more safe, more skillful and less risky than other drivers (e.g. Delhomme, 1991; Glendon, Dorn, Davies, Matthews, & Taylor, 1996; Näätänen & Summala, 1975; Svenson, 1981; Walton & Bathurst, 1998). This seemingly universal self-enhancement bias has been found to be especially true of males, and of young males in particular (Gregersen, 1996; Matthews & Moran, 1986; Williams, Paek, & Lund, 1995)

Researchers have found that young men are more confident about their driving skills than young women (DeJoy, 1992; Rothe, 1987a; Stoddart, 1987). Compared to female drivers, male drivers have been shown to be more anti-authority, more conforming to perceived unsafe driving norms, believe they are more invulnerable to crashes, and believe that they have superior driving skills (Harré, Field & Kirkwood, 1996). Young males have also rated dangerous driving behaviours as less serious than females and older males (Brown & Copeman, 1975; DeJoy, 1992; Harré, Brandt, & Dawe, 2000; Rothe, 1987b; Tränkle, Gelau, & Metker, 1990). However, while males have reported being less anxious about

crashes compared to female peers (Barjonet, 1988), males and females do not necessarily differ in the degree to which they feel angry and frustrated while driving (Harré et al, 1996).

Overall, this research shows a tendency for the young male driver to report less positive attitudes towards road safety than young female drivers. However, more recently, Harré (Harré et al, 1996; Harré et al, 2000) has questioned these findings, reporting an increasing trend in the rate of young women involved in drink-driving road deaths and in other crash fatalities (e.g. Finken, Jacobs, & Laguna, 1998; Moore, 1994; Popkin, 1991; Shapiro, Siegel, Scovill, & Hays, 1998). In a recently published US study that examined traffic offences that led to convictions (Elliott, Waller, Raghunathan, Shope, & Little, 2000), only the most serious violations were non-normative among females. These studies imply that the relationship between driver attitudes and driver behaviours may be a more important indicator of sex differences on road safety than driver attitudes alone.

### **1.3.2 Driver behaviours**

Like attitudes, profiles of road safety behaviours have been found to be more negative for young males than young females. In comparison to females, males have more often been found to report violations of traffic laws, including previous occasions and future likelihood of drink-driving and speeding (Greening & Stoppelbein, 2000; Harré et al, 1996; Rothe, 1987b). Males were also more likely to have driven after smoking marijuana than females in one study of this behaviour (Harré et al, 1996)

For other road safety behaviours however, the pattern is not as clear. Two studies by Harré (Harré et al, 1996; Harré et al, 2000) found that males reported having driven significantly faster than females on 100 km/h roads, but there was no reported difference for 50 km/h roads. Further, more females than males reported that they had been a passenger of a drinking driver, and would be likely to get a lift home with a friend who had been drinking. For drivers on restricted licences, males were more likely than females to break the 10 pm curfew, but there were no significant differences for violating restrictions on drinking before or while driving, or for carrying passengers.

In addition, it is important to recognise that sex differences in driving behaviours may be a function of the greater amounts of driving exposure of males compared to females, rather than a greater tendency of males to take risks (Chipman, MacGregor, Smiley, & Lee-Gosselin, 1993; Harré et al, 1996). As Irwin (1993) has suggested, it is likely that increased opportunity to participate in risky behaviour leads to under-estimation of the risks involved.

In summary, while young male drivers generally report more dangerous driving behaviours than young female drivers, recent research suggests that females also engage in unsafe behaviours. Therefore, while it is important to target the young male driver in road safety education campaigns, attention must also be given to the young female driver.

#### ***1.3.2.1 The Driver Behaviour Questionnaire***

A well researched measure of dangerous driving behaviours, the Driver Behaviour Questionnaire (DBQ; Reason, Manstead, Stradling, Baxter & Campbell, 1990) was included in the present research. The instrument originated as scale to measure three behavioural factors: *violations*, *errors* and *lapses*. While various adaptations of the DBQ have since been published (e.g. Åberg & Rimmö, 1998; Lawton, Parker, Stradling &

Manstead, 1997; Parker, Reason, Manstead & Stradling, 1995a), these three factors have remained prominent.

Violations refer to deliberate infringements of safe driving practices that pose a definite risk to the driver and other road users. Deliberate disregard of the speed limit or deliberately driving too close to the vehicle in front are examples of violations. Errors are typically misjudgments and failures of observation that may also be hazardous, such as misjudging the speed or distance of an oncoming vehicle. Westerman and Haigney (2000) describe these as *errors of intention*. In contrast, lapses are described as *errors of action* and represent absent-minded behaviours that pose minimal threat to other road users, with consequences mainly for the driver. Missing an exit from the freeway or forgetting where one's car is parked are examples of lapses. Therefore, while errors and lapses result from limitations in human information processing or knowledge inaccuracies, violations have a motivational component (Westerman & Haigney, 2000).

The DBQ has been shown to be a reliable instrument when measured on two occasions with the same sample (Parker et al, 1995a). Based on the scores of a large sample ( $n = 1600$ ), the test-retest reliability coefficient was 0.78. Factor score correlations over a twelve-month period were found to be 0.81 for the violations factor, 0.69 for errors, and 0.75 for lapses.

While at times modifications of the DBQ have produced factors that have represented somewhat different item combinations, several consistent patterns of findings have emerged from the literature. Factors of the DBQ have been shown to be associated with an individual's history of dangerous driving behaviour. Reported violations have been found to be positively correlated with a history of crash involvement (Lawton et al, 1997; Parker et al, 1995a; Parker, West, Stradling, & Manstead, 1995b) and this relationship has been shown to remain after controlling for exposure, age, and gender (Parker et al, 1995a). While one Australian study examining this relationship (Blockey & Hartley, 1995) did not find an association between violations and accident history, it did find that violations were positively correlated with speeding convictions. Other confirmatory evidence for these relationships was found by West and Hall (1997), who found that attitudes to driving violations were positively associated with both accident frequency and driving speed. Overall therefore, research confirms that violations represent the most risky driving behaviours of the DBQ.

Some patterns of age and sex differences have also been identified. It has consistently been found that young drivers and male drivers are more likely to report committing violations (Åberg & Rimmö, 1998; Blockey & Hartley, 1995; Lawton et al, 1997; Parker et al, 1995a; Reason et al, 1990; Westerman & Haigney, 2000). In contrast, lapses have been shown to be more commonly reported by females (Parker et al, 1995a; Reason et al, 1990; Westerman & Haigney, 2000). Research has also demonstrated that young drivers are more likely to report committing errors (Åberg & Rimmö, 1998; Blockey & Hartley, 1995; Dobson, Brown, Ball, Powers & McFadden, 1999). However, results regarding sex differences in errors have been inconsistent. While some researchers have found females report more errors than males (Blockey & Hartley, 1995), others have found no differences (Parker et al., 1995a), or that the reverse was true (Åberg & Rimmö, 1998).

The current study has used the modified version of the DBQ presented by Åberg and Rimmö (1998). In this version, four factors were identified: violations, mistakes, inattention lapses, and inexperience lapses. The previously identified factors of violations and errors correspond to the new factors of violations and mistakes. However, the third

original factor, lapses, was divided into *lapses due to inattention* (such as failing to notice a green arrow or missing one's exit on the freeway) and *lapses due to inexperience* (such as shifting into the wrong gear while driving or forgetting to release the handbrake). In relation to these two new factors, Åberg and Rimmö found that reporting of inattention lapses increased with age and that inexperience lapses were more commonly reported by females than males.

In summary, males, particularly young males, generally report more violations – the most serious category of dangerous driving behaviours, while females and older drivers are more likely to report less serious lapses. Differences in the incidence of errors or mistakes are less clear.

### **1.3.3 The relationship between attitudes and behaviours**

The relationship between attitudes and behaviours is a complex one. While several theories have been proposed, research has been inconsistent in establishing a clear or predictable relationship (for overview, see Millar & Tassar, 1992). A prominent example is the work of Snyder and colleagues. Snyder and Swann (1976) proposed that thinking carefully about an attitude would increase the availability of the attitude in memory and consequently, the likelihood that the attitude would predict behaviour. While some support for this theory was found in earlier correlational research (e.g. Snyder & Kendzierski, 1982; Snyder & Swann, 1976), including research of indirect attitudes, such as intentions (Fazio, Zanna, & Cooper, 1978), later studies did not find this relationship (e.g. Wilson, Lisle, & Schooler, 1989; Wilson & Schooler, 1990). More recently, Millar (Millar & Tassar, 1992; Millar & Millar, 1998) proposed and found some support for the theory that attitudes can be both affective or cognitive in nature and that recall can only improve if the nature of the attitude and the questions asked to report it are matched on this basis.

There is also some evidence in the road safety literature that when positive changes have been found in reported behaviours, no such change has been reported for related attitudes. McKnight and McPherson (1986) found that while participation in a peer intervention program on drink-driving risks significantly increased self-reported alcohol safety knowledge and behaviours, but did not result in changes in reports of corresponding attitudes. Likewise, Rothengatter (1988) found that while enforcement and publicity could alter behaviour patterns, underlying motivational factors did not change. It is likely that perceptions of changes in attitudes are adjusted over a greater period of time than perceptions of changes in behaviour.

For the present research, changes in perceptions of behaviour as measured by the DBQ, were considered to be the most important indicators of effects of the Skilled Drivers driver-training program. Changes in attitudes were also considered significant. A lack of change in attitudes, however, was not considered to indicate a lack of an effect of the driver-training program. For these items, it was possible that effects, if any, would not be evident for some time, such that firm conclusions could not be drawn.

## **1.4 PERCEPTIONS OF ENFORCEMENT AND CRASH RISK**

Perceptions of enforcement can be influenced by many factors, including police presence and visibility, perceived risk of detection, and interactions between these and related publicity (e.g. Bjørnskau & Elvik, 1992; Cameron, Diamantopoulou, & Newstead, 1999;

Harrison & Pronk, 1998; Holland & Conner, 1996; Rothengatter, 1988; Watson, 1986). Following the focus on sex differences in driver attitudes and behaviours, it was of interest to examine sex differences in perceptions of enforcement activity, both prior to and following participation in the driver-training program.

Given that young drivers tend to overestimate their driving ability and underestimate their risk of injury when driving, it was also of interest to examine how participation in the driver-training program would influence their perceived risk of having a crash or near miss. Drivers in general, and young males in particular, tend to believe that they are less likely to be involved in a crash compared to the average driver (e.g. DeJoy, 1992; Guppy, 1993; Matthews & Moran, 1986). This is true of young drivers even when they recognise that the accident risk for young drivers is higher than for older groups (Finn & Bragg, 1986).

Changes in perceived crash risk due to driver-training were difficult to predict. On one hand, better realisation of the inflated rate of crash involvement of young people may increase perceptions of personal risk. On the other hand, adoption of less risky driving behaviours may reduce perceptions of personal risk. Therefore, results were explored to see whether any significant differences in perceptions of crash risk before and after driver-training could be detected.

## **1.5 SUMMARY OF AIMS AND OBJECTIVES**

In summary, the present research aimed to evaluate the effectiveness of the AAMI / Skilled Drivers of Australia driver-training program in terms of changes in self-reported driving-related attitudes, behaviours, and related perceptions of risk. The evaluation focused on changes in self-perceptions of confidence and ability, dangerous driving behaviours as measured by the DBQ, and crash risk factors. Particular attention was given to sex differences given the prominence of young male drivers and the growing proportion of young female drivers represented in crash statistics.



## 2. METHOD

### 2.1 PARTICIPANTS AND PROCEDURE

In order to examine self-reported changes in attitudes, behaviours, and perceptions of enforcement and crash risk following participation in the driver-training program, the responses of young drivers who had completed the program were compared to the responses of a similar group of young drivers who had enrolled to take part in the program but had not yet participated.

AAMI / Skilled Drivers driver-training is offered to young drivers who are policy holders or the children of parents who are policy holders. For the present evaluation, only those who were personal policy holders were recruited, in order to maximise the similarity of participants. All those who enrolled in the driver-training program during the recruitment period were sent a letter from MUARC endorsed by AAMI / Skilled Drivers, inviting them to take part in the study (see Appendix 1). The letter was accompanied by an explanatory statement and consent form in addition to the preliminary questionnaire (see Appendices 2, 3 & 4), according to the requirements of the *Monash University Standing Committee on Ethics in Research on Humans*. A reply paid envelope was also provided. If wishing to take part in the evaluation, participants were required to return a completed questionnaire and consent form.

Therefore, preliminary questionnaires were first distributed at the time of enrolment, prior to driver training (Time 1). Mailouts were conducted on a weekly basis. To form a control group, an interim questionnaire was sent to approximately half of the participants 2-3 weeks later, again prior to driver training, while the remaining half were sent the interim questionnaire approximately 1-2 weeks after training in order to form the case group (Time 2). This allowed relatively short-term outcomes of the course to be evaluated. In order to evaluate more long-term effects, an additional final questionnaire was distributed at approximately 8-9 weeks following completion of the driver-training program (Time 3).

A total of 644 young drivers (212 male, 432 female) were contacted and 220 chose to participate. Of these 54 (24.5%) were male and 166 (75.5%) were female. This represented an overall response rate of 34.2% (25.5% of males and 38.4% of females). This is in line with other studies that have used a similar mailout design (for review see Heberlein & Baumgartener, 1978). Generally other techniques are needed to enhance mailout designs to achieve a higher response than 30-40% (see e.g. Goyder, 1982; Moser & Kalton, 1986; Pirotta, Gunn, Farish, & Karabatsos, 1999).

In total, 177 participants (40 male and 137 female) responded to the interim questionnaire (an interim retention rate of 82.7%), and 161 (40 male, 121 female) responded to the final questionnaire (an overall retention rate of 75.2%). Ages of participants ranged from 18 to 25 years, with a median age of 20 years.

While mail-outs were routinely conducted so that approximately equal sized groups of cases and controls could be recruited, the time frame between enrolment and course participation reduced from 3-4 weeks at the outset of the study to only 2-3 weeks in the remaining months and therefore, the number of controls was reduced due to the late receipt of many questionnaires. This was true even though several reminder calls were made to participants when necessary. In addition, from the 220 participants, 6 preliminary

questionnaires were not received prior to training and therefore, could not be included in analyses. Further, 11 final questionnaires were received from participants who returned the preliminary but not the interim questionnaire. The repeated measures design necessitates that data is available from all stages for all participants. Therefore, the number of participants included in analyses was sometimes less than the overall total of respondents.

The following Table 2.1 presents the numbers of respondents at each of the three stages who supplied usable data and were therefore included in analyses. Numbers are presented by sex and by status as cases or controls, where applicable. The final column displays the total numbers of male and female drivers for whom data was available for all three questionnaires (highlighted in bold type).

**Table 2.1 Eligible data at each stage by sex and status (case or control)**

	Time 1	Time 2			Time 3		<b>Total</b>
	Total	Case	Control	Total	Case	Control	
Males	52	26	15	41	23	12	<b>35</b>
Females	162	78	58	136	69	45	<b>114</b>
Total	214	104	73	177	92	57	<b>149</b>

Of the core sample of participants ( $n = 149$ ), most received a full licence at 18 years of age. Weekly driving exposure averaged approximately 11 hours for females and 15 hours for males. This difference was significant at  $\alpha = .10$  [ $t_{(146)} = 1.860, p < .10$ ]. In addition, male participants spent more of this time driving for work purposes (approx. 4 hours per week) compared to females participants (approx 1 hour per week) [ $t_{(146)} = 2.435, p < .05$ ].

Approximately 30% of these participants had been involved in one crash as a driver, and a further 12% had been involved in 2-3 crashes as a driver<sup>1</sup>. In addition, approximately 34% had been involved in one crash as a passenger or pedestrian, while a further 20% had been involved in two or more such crashes. However, of these participants only 12 (8.1%) reported that one crash had resulted in a hospital visit, while one person reported that three crashes had resulted in hospital visits. This indicated that in most cases, the crashes were likely to be minor. There were no sex differences for any of these variables.

Twenty-two of the young drivers (14.8%) had been caught speeding on one occasion, and 17 (11.3%) had been caught on 2-4 occasions. None had been caught drink-driving. Most participants knew at least two people who had been detected speeding (range 1-30+ people), while approximately half knew of one or more persons detected drink-driving. Again there were no sex differences. Therefore, as a group many of these young drivers had been exposed to speed and drink-driving enforcement experiences, personally and/or through acquaintances. Only one driver had not been exposed to any of these experiences.

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<sup>1</sup> Note that young drivers who had already had a crash as a driver were not eligible for AAMI comprehensive insurance. Therefore, the reporting of these crashes suggested that participants tended to respond to the questionnaires truthfully and without social desirability bias.

## 2.2 MEASURES

The preliminary, interim, and final questionnaires each included three sets of items to measure driving-related attitudes, behaviours, and perceived enforcement and crash risk. In addition, the preliminary and final questionnaires included items concerning demographic and background information, such as driving exposure, enforcement and crash history. The final questionnaire also included some open-ended response items. Copies of the three questionnaires can be found in Appendices 4, 5 and 6.

Driving-related attitudes were measured by 14 items. Participants were asked to rate how much they agreed with a statement expressing a particular attitude or belief, such as “I am a better driver than others my age”, “Speeding is always wrong” and “I am confident in my driving ability”. Ratings were made on a 7-point Likert scale, where 1 = Strongly Disagree and 7 = Strongly Agree. (All items appear in the results section in Table 3.1.)

Dangerous driving behaviours were measured by the Driver Behaviour Questionnaire (adapted from Åberg and Rimmö, 1998). The DBQ was comprised of 37 items describing examples of everyday driving situations and behaviours, such as “Deliberately disregard the speed limit to stay with the traffic flow” (Violation), “Underestimate the speed of an oncoming vehicle when overtaking” (Mistake), “Fail to notice when a traffic signal turns green” (Inattention Lapse), and “Forget which gear you are currently in and have to check it with your hand” (Inexperience Lapse). Participants were asked to indicate how often each situation occurred when they were driving according to a 6-point Likert scale, where 0 = Never and 5 = All the time. (An examination of the factor structure of the DBQ, including a full list of items, is presented in Appendix 7.)

Perceptions of enforcement and crash risk were measured by 7 items representing possible events that could occur when driving. Participants were asked to estimate the chance that each of the events would occur during the following two weeks. Examples include “Being stopped for a breath test”, “Driving over the speed limit” and “Failing to see a possible on a 7-point Likert scale, where 1 = Very Unlikely and 7 = Very Likely. (Table 3.9 in the results section includes all seven items.)

In addition to demographic information, the preliminary questionnaire included questions on driving exposure and experiences of enforcement and crashes. These included average driving hours, crashes as drivers, crashes as passengers or pedestrians, resulting hospitalisations, detection for speeding and drink-driving, and the number of people the respondent knew who had been caught speeding or drink-driving. These questions were repeated in the final questionnaire to determine any changes, in addition to some open-ended questions seeking general feedback on the course. Participants were asked what they remembered most about the course, whether anything should have been added to the course, what part of the course was the most personally relevant, whether the course had changed the way they drive and why or why not. Examination of responses to these feedback questions are referred to as the qualitative analyses.



### **3. RESULTS AND DISCUSSION**

#### **3.1 OUTLINE OF RESULTS AND DISCUSSION**

The results and discussion are addressed according to the three areas of the evaluation, namely, driver attitudes, driver behaviours, and perceptions of enforcement and crash risk. For each area, overall changes in responses are examined from Time 1 (no training) to Time 2 (cases have training, controls do not) to Time 3 (all participants have training). The focus is on the more long-term effects of the driver-training program, that is, changes that were evident at approximately 8-9 weeks following course participation. These are examined by comparing the responses of cases and controls at each stage. Short-term effects at Time 2, approximately 1-2 weeks following course participation, were previously examined in an interim report (Senserrick & Swinburne, 2000). These results appear in Appendix 8.

Given that all participants had completed the driver-training program at Time 3, overall long-term effects of course participation could be more clearly examined by comparing changes in responses of all participants collectively at Times 1 and 3, that is, as a single group rather than two groups (cases and controls). An advantage of this approach was that overall sex differences could be examined. Sex differences could not be clearly identified when participants were divided into cases and controls, due to the low number of male participants.

Overall therefore, results for each area of the evaluation are presented and discussed according to the pattern of findings for:

- a) cases and controls at Time 1, 2, and 3;
- b) all participants at Time 1 and Time 3; and
- c) males and females at Time 1 and Time 3.

Before these results are presented, a brief overview is provided on the statistical approach adopted for the research.

#### **3.2 OVERVIEW OF STATISTICAL APPROACH**

The main statistical approach applied is known as *repeated measures analysis*. In a repeated measures design the same participants complete the same measures on more than one occasion. Therefore, as the same drivers were included as participants at each stage (Times 1, 2 and 3) of the present research, repeated measures analysis was an appropriate approach.

Repeated measures analysis is a powerful tool. The analyses reduce the effects of variations that can result from sampling different participants at each stage, thereby increasing the power of the analyses to detect differences. They also ensure that variations in responses reflect changes for participants and not sampling errors.

A disadvantage of the repeated measures design is that it relies on the initial participants to represent an appropriate sample. A common problem however, is that the initial sample may be biased at the outset due to the willingness of the individuals to agree to participate (true of many research designs). Analyses also rely on unbiased drop-out throughout the project, and on the drop-out rate not exceeding the limit necessary for sufficient power. In addition, initial participation may influence perceptions and behaviours related to survey items, thereby biasing responses in subsequent testings. For example, inclusion of items on specific behaviours may heighten awareness of these behaviours and may lead to reported changes in these behaviours at later stages. These problems are difficult to avoid, but their effects can be reduced by including well selected controls.

In multivariate analyses, the repeated measures statistical procedure first tests for differences according to the *overall model*. In the present research, the overall model refers to the between-subjects factor of status as a case or control, with all items of interest as within-subject factors. Next, individual item significance levels are calculated to identify which factors contribute significantly to the overall model. When research is exploratory (that is, when no specific pattern of differences is predicted), it is important for the overall model to be significant. If the model is not significant, any significant findings among the factors are considered to represent trends only. However, if specific differences are expected (such as improved responses by cases compared to controls), it is more important for differences in factor scores to be significant, such that some authors argue that the overall model should not be tested in these circumstances (e.g. Thompson, 1994). The present research includes a mix of expected outcomes and exploratory analyses. Therefore, the significance results of the overall model are reported for each analysis.

If a given model or comparison of means achieves a significance level of  $\alpha = .05$ , this is generally accepted as a conservative indication of a true difference between those means. The probability that the outcome under consideration is due to factors other than the variables included in the analysis, including chance variation, is 5%. While  $\alpha = .05$  is a common significance level reported in psychological literature,  $\alpha = .10$  is also widely used. Given that the present results were largely exploratory in nature and included a relatively

The use of conservative significance levels reduces the risk of claiming means are different when there is no true difference. This is known as Type I Error. A second type of error, known as Type II Error, relates to claiming there are no differences between means when there are in fact true differences. To protect against Type II Error, analyses must have sufficient *power* to detect an effect. The power of a test increases as the sample size increases. For example, analyses of the effects of course participation in the present research did not include sufficient power to detect short-term sex differences as the numbers of male cases and controls were small (due to the low response rate and retention rate of males). Therefore, only limited analyses could be presented in those sections of the report (Appendix 8).

### **3.3 CHANGES IN DRIVER ATTITUDES FOLLOWING COURSE PARTICIPATION**

#### **3.3.1 Responses of cases and controls at Times 1, 2 and 3**

In order to identify differences in the self-reported attitudes of cases and controls throughout the study, a repeated measures analysis was performed with the 14 attitudinal items. The overall model was significant [ $F_{(28,109)} = 1.974, p < .01$ ]. Mean ratings and  $F$  statistics of the analysis are presented in Table 3.1. Possible scores ranged from 1 (Strongly Disagree) to 7 (Strongly Agree), such that a rating of 4 was a neutral mid-point. The analysis also included contrasts of the changes in responses of cases compared to the changes in responses of controls at each stage (Time 1 to Time 2, Time 2 to Time 3, and Time 1 to Time 3). Results of the contrast analyses are displayed in Table 3.2. In order to interpret the findings, Tables 3.1 and 3.2 were examined together. Graphs of key findings have been included within the text to assist the reader with interpretation. Additional graphs can be found in Appendix 9.

Assuming all other effects had remained equal during the survey period, a typical indication of positive effects of course participation would be indicated in Table 3.1 by the follow pattern:

- a) no significant differences between the scores of cases and controls at Time 1;
- b) controls' scores not significantly different at Time 1 and Time 2;
- c) cases' scores increase on positive attitude items and decrease on negative attitude items from Time 1 to Time 2, resulting in significant differences between the scores of cases and controls at Time 2;
- d) controls' scores increase and cases' scores remain the same from Time 1 to Time 3, resulting in no significant difference between the scores of cases and controls at Time 3.

In addition, Table 3.2 would indicate significant contrasts for changes from Time 1 to Time 2 and Time 2 to Time 3, but not from Time 1 to Time 3. That is, improvements in ratings would only be evident for participants after they had completed the driver-training program, and these improvements would persist in the long term. This pattern of findings would more clearly support the conclusion that benefits reported by cases could be attributable to the driver-training program. Other patterns could also indicate positive effects, such as delayed benefits of training only apparent at Time 3. Several patterns in responses were evident in the present findings.

**Table 3.1 Mean ratings and *F* statistic for driver attitudes of cases (*n* = 81) and controls (*n* = 57) at Times 1, 2 and 3**

Item	Time 1		Time 2		Time 3		<i>F</i> statistic
	Cases	Controls	Cases	Controls	Cases	Controls	
1. I am a better driver than others my age	4.654 <sup>a</sup>	4.754 <sup>b</sup>	4.790	4.474 <sup>b</sup>	4.901 <sup>a</sup>	4.667	$F_{(2,272)} = 3.782, p < .05$
2. I am a better driver than most drivers	4.012 <sup>a,w,x</sup>	3.649 <sup>w</sup>	4.185 <sup>b,x,y</sup>	3.649 <sup>b,z</sup>	4.346 <sup>a,c,y</sup>	3.842 <sup>c,z</sup>	$F_{(2,272)} = 0.733, p > .10$
3. Older drivers are a real problem on the road	4.370	4.123 <sup>a</sup>	4.309 <sup>b</sup>	4.000 <sup>c</sup>	4.580 <sup>b</sup>	4.474 <sup>a,c</sup>	$F_{(2,272)} = 0.524, p > .10$
4. Other drivers are usually courteous	3.765	3.947	3.704	3.895	3.741	3.965	$F_{(2,272)} = 0.023, p > .10$
5. Driver training is a waste of time	1.543	1.526 <sup>w</sup>	1.358	1.526	1.395	1.298 <sup>w</sup>	$F_{(2,272)} = 1.233, p > .10$
6. I could still use more training	5.543 <sup>a</sup>	5.526 <sup>b</sup>	5.099 <sup>a,c,d</sup>	5.877 <sup>b,c,e</sup>	5.506 <sup>d</sup>	5.526 <sup>e</sup>	$F_{(2,272)} = 5.912, p < .01$
7. It is likely that one day I will have a crash	5.259 <sup>a,w</sup>	5.053	4.988 <sup>w</sup>	5.140	4.988 <sup>a</sup>	5.105	$F_{(2,272)} = 1.404, p > .10$
8. I am uncomfortable driving close behind another car	5.037 <sup>a</sup>	4.246 <sup>a,b</sup>	5.284 <sup>c</sup>	4.667 <sup>c,d</sup>	4.926 <sup>e</sup>	5.544 <sup>b,d,e</sup>	$F_{(2,272)} = 8.658, p = .000$
9. I sometimes drive at a speed below the limit	4.630	4.702	4.753	4.807	4.778	4.947	$F_{(2,272)} = 0.129, p > .10$
10. Speeding is always wrong	4.975	4.912	4.951	5.105	4.994	5.140	$F_{(2,272)} = 0.420, p > .10$
11. Drink-driving is always wrong	6.519	6.404 <sup>a</sup>	6.420 <sup>b</sup>	6.930 <sup>a,b</sup>	6.296 <sup>w</sup>	6.719 <sup>w</sup>	$F_{(2,272)} = 2.476, p < .10$
12. Driving at the speed limit is always safe	3.136 <sup>w,x</sup>	2.877	2.691 <sup>w</sup>	2.596	2.741 <sup>x</sup>	2.632	$F_{(2,272)} = 0.184, p > .10$
13. I am confident in my driving ability	5.346	5.351 <sup>a</sup>	5.272	5.035 <sup>a,b</sup>	5.352	5.439 <sup>b</sup>	$F_{(2,272)} = 1.745, p > .10$
14. I am confident in my ability to manage possible hazards when driving	4.580 <sup>a,b</sup>	4.404 <sup>c</sup>	5.025 <sup>a,d</sup>	4.561 <sup>d,e</sup>	5.049 <sup>b</sup>	4.930 <sup>c,e</sup>	$F_{(2,272)} = 1.384, p > .10$

Note: Possible range 1-7

Identical superscripts *a, b, c, d* and *e* indicate that row means are significantly different from each other at  $p < .05$

Identical superscripts *w, x, y* and *z* indicate that row means are significantly different from each other at  $p < .10$

**Table 3.2 Contrast analyses comparing reported changes in driver attitudes of cases ( $n = 81$ ) to those of controls ( $n = 57$ ) over Times 1, 2 and 3**

Item	Time contrasts	$F$ statistic
1. I am a better driver than others my age	1 vs 2	$F_{(1,136)} = 8.867, p < .01$
	2 vs 3	$F_{(1,136)} = 0.244, p > .10$
	1 vs 3	$F_{(1,136)} = 3.702, p < .10$
2. I am a better driver than most drivers	1 vs 2	$F_{(1,136)} = 1.422, p > .10$
	2 vs 3	$F_{(1,136)} = 0.053, p > .10$
	1 vs 3	$F_{(1,136)} = 0.695, p > .10$
3. Older drivers are a real problem on the road	1 vs 2	$F_{(1,136)} = 0.103, p > .10$
	2 vs 3	$F_{(1,136)} = 0.919, p > .10$
	1 vs 3	$F_{(1,136)} = 0.470, p > .10$
4. Other drivers are usually courteous	1 vs 2	$F_{(1,136)} = 0.002, p > .10$
	2 vs 3	$F_{(1,136)} = 0.030, p > .10$
	1 vs 3	$F_{(1,136)} = 0.040, p > .10$
5. Driver training is a waste of time	1 vs 2	$F_{(1,136)} = 0.735, p > .10$
	2 vs 3	$F_{(1,136)} = 4.052, p < .05$
	1 vs 3	$F_{(1,136)} = 0.246, p > .10$
6. I could still use more training	1 vs 2	$F_{(1,136)} = 8.643, p < .01$
	2 vs 3	$F_{(1,136)} = 8.823, p < .01$
	1 vs 3	$F_{(1,136)} = 0.021, p > .10$
7. It is likely that one day I will have a crash	1 vs 2	$F_{(1,136)} = 2.462, p > .10$
	2 vs 3	$F_{(1,136)} = 0.022, p > .10$
	1 vs 3	$F_{(1,136)} = 1.766, p > .10$
8. I am uncomfortable driving close behind another car	1 vs 2	$F_{(1,136)} = 0.211, p > .10$
	2 vs 3	$F_{(1,136)} = 12.336, p = .001$
	1 vs 3	$F_{(1,136)} = 14.035, p = .000$
9. I sometimes drive at a speed below the limit	1 vs 2	$F_{(1,136)} = 0.007, p > .10$
	2 vs 3	$F_{(1,136)} = 0.211, p > .10$
	1 vs 3	$F_{(1,136)} = 0.142, p > .10$
10. Speeding is always wrong	1 vs 2	$F_{(1,136)} = 0.802, p > .10$
	2 vs 3	$F_{(1,136)} = 0.001, p > .10$
	1 vs 3	$F_{(1,136)} = 0.630, p > .10$
11. Drink-driving is always wrong	1 vs 2	$F_{(1,136)} = 4.736, p < .05$
	2 vs 3	$F_{(1,136)} = 0.082, p > .10$
	1 vs 3	$F_{(1,136)} = 2.800, p < .10$
12. Driving at the speed limit is always safe	1 vs 2	$F_{(1,136)} = 0.265, p > .10$
	2 vs 3	$F_{(1,136)} = 0.003, p > .10$
	1 vs 3	$F_{(1,136)} = 0.229, p > .10$
13. I am confident in my driving ability	1 vs 2	$F_{(1,136)} = 2.016, p > .10$
	2 vs 3	$F_{(1,136)} = 3.617, p < .10$
	1 vs 3	$F_{(1,136)} = 0.169, p > .10$
14. I am confident in my ability to manage possible hazards when driving	1 vs 2	$F_{(1,136)} = 1.509, p > .10$
	2 vs 3	$F_{(1,136)} = 3.254, p < .10$
	1 vs 3	$F_{(1,136)} = 0.058, p > .10$

One item, *I am confident in my ability to manage possible hazards when driving* (Item 14), followed the typical pattern described above, although the overall item analysis and contrast from Time 1 to Time 3 did not achieve significance. Trends in the patterns of means indicated that confidence in personal ability to manage hazards tended to increase for cases shortly after course participation and that this confidence was maintained some weeks later. Reported confidence only tended to increase for controls in the long term, once they had completed the course (see Figure 1). In addition, contrast results for general confidence in personal driving ability (Item 13, Table 3.2), showed changes reported by cases and controls differed from Time 2 to Time 3. While the overall confidence of cases remained at a similar level throughout the study, controls' confidence tended to decrease at Time 2 and then increase at Time 3 to a level similar to Time 1 and to that of cases (see Figure 2). Therefore, while confidence in managing hazards tended to increase after participating in the driver-training program, general confidence in personal driving ability did not. In fact, confidence tended to decrease while waiting to participate in the training program.

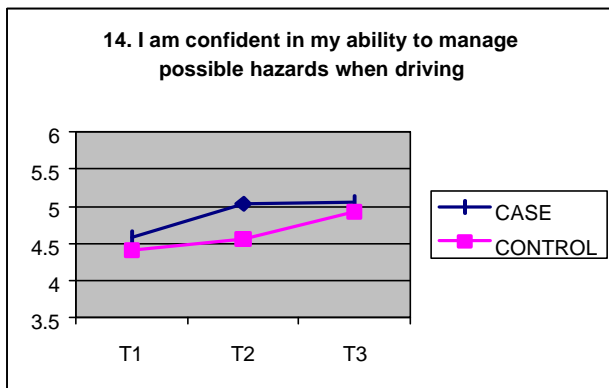


Figure 1: Responses of cases and controls to attitude item 14.

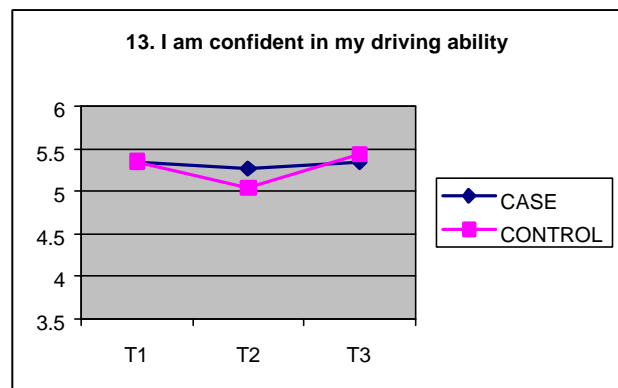


Figure 2: Responses of cases and controls to attitude item 13.

Two additional items also concerned perceptions of personal driving ability, namely, Items 1 and 2. Significant item and contrast analyses were found for Item 1, while significant trends in the pattern of means were evident for Item 2. For the first of these items, *I am a better driver than others my age*, cases' scores tended to remain similar at Time 2 then increased significantly at Time 3. For controls, scores decreased somewhat from Time 1 to Time 2 and then slightly increased to Time 3 to a level similar to their Time 1 scores and similar to the cases (see Figure 3). This showed a somewhat delayed perception by participants that they were better drivers than their peers after training. For the item, *I am a better driver than most drivers*, the pattern of findings tended to show a similarly delayed effect, although with scores for cases higher than those of controls at each stage (see Figure 4). Together these results suggested that course participation increased participants' perceptions of their driving ability relative to their peers, and somewhat relative to others, more powerfully at 8-9 weeks following the training. Notably however, scores varied around the mid-point only (4), indicating that driving ability was not rated particularly high.

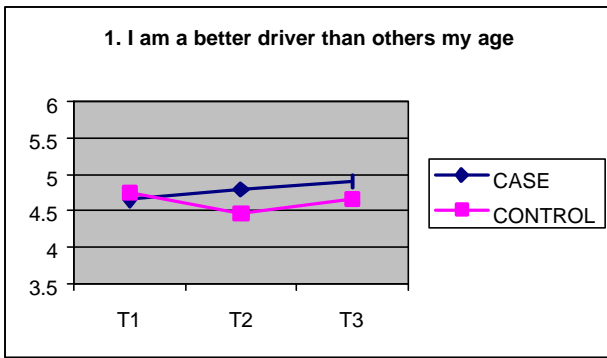


Figure 3: Responses of cases and controls to attitude item 1.

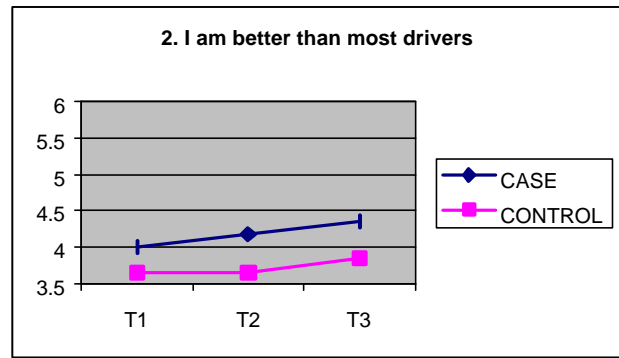


Figure 4: Responses of cases and controls to attitude item 2.

Two items in this section referred directly to driver training, Items 5 and 6. For Item 6, *I could still use more training*, significant item and contrasts analyses were identified. The scores of cases decreased initially (Time 1 to Time 2) and then increased (Time 2 to Time 3) to a similar level as that originally reported. In comparison, the scores of controls increased initially and then fell after course participation to a level similar to their original rating and similar to that of cases (see Figure 5). This reflected that course participants less strongly agreed they could use more training in the short term, but in the long term they agreed as strongly as prior to completing the course. In contrast control participants agreed most strongly with this statement at Time 2, when they were still waiting to participate in the program. Responses to Item 5, *Driver training is a waste of time*, yielded a significant contrast between cases and controls from Time 2 to Time 3. This was due to the tendency of ratings of cases to decrease somewhat from Time 1 to Time 2 and remain low at Time 3, while the ratings of controls tended not to decrease until Time 3. All means were considerably lower than for other items (see Figure 6). Together therefore, these results suggested that driver training was not considered unimportant – a waste of time – at any stage, particularly not after course completion. Further, while soon after completing the training program course participants perceived that they did not need much more training, a few weeks later this perception had weakened. That is, they recognised that they could still use more driver training.

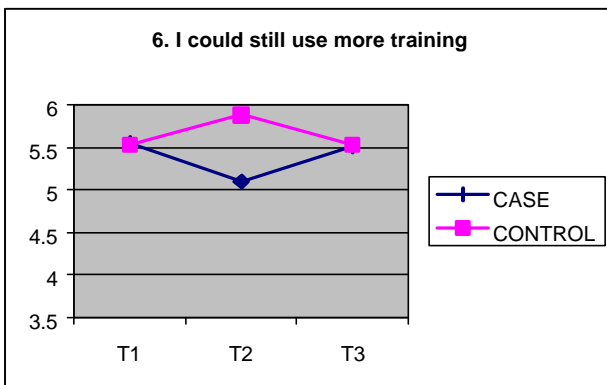


Figure 5: Responses of cases and controls to attitude item 6.

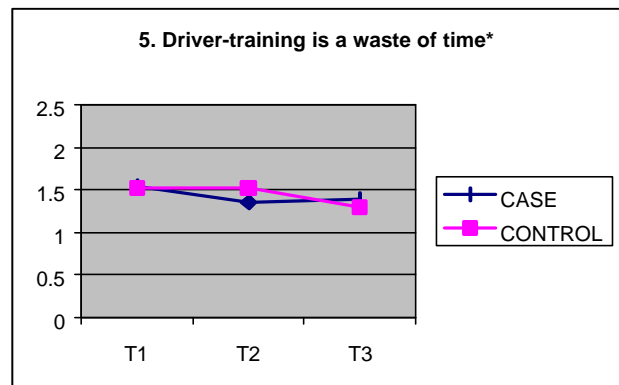


Figure 6: Responses of cases and controls to attitude item 5.

Highly significant item and contrast analyses were evident for Item 8, *I am uncomfortable driving close behind another vehicle*, an item that reflects a particular focus of the course. From the outset, cases scored higher on this item than controls and maintained this level throughout the study. In contrast, while controls' scores were lower at Time 1, they increased sharply from Time 2 to Time 3 to a level even greater than that of cases (see Figure 7). These findings clearly indicated that after completing the driver-training program control participants felt greater discomfort driving close behind other vehicles. Case participants appeared to be uncomfortable with this unsafe driving practice from the outset. However, in the long term controls reported even more discomfort than cases. Possible reasons for this group difference would require further investigation.

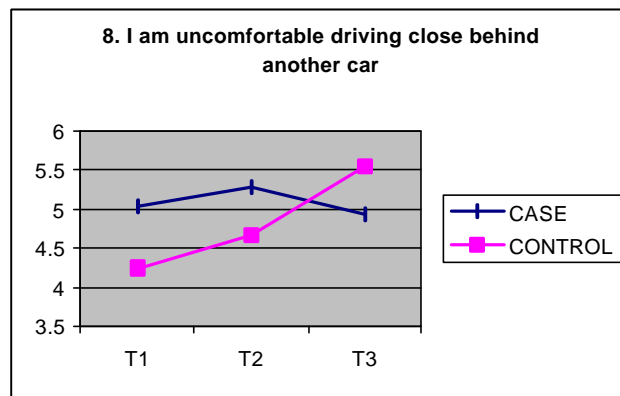


Figure 7: Responses of cases and controls to item 8.

Likewise, differences reported for Item 11, *drink-driving is always wrong*, would require further investigation. Again, controls reported greater agreement with this statement than cases following course participation. They also reported much stronger agreement than cases at Time 2 (see Figure 8). It is possible that factors other than the driver-training program influenced sensitivity to the dangers of drink-driving, such as education campaigns (e.g. Senserrick & Harrison, 1999).

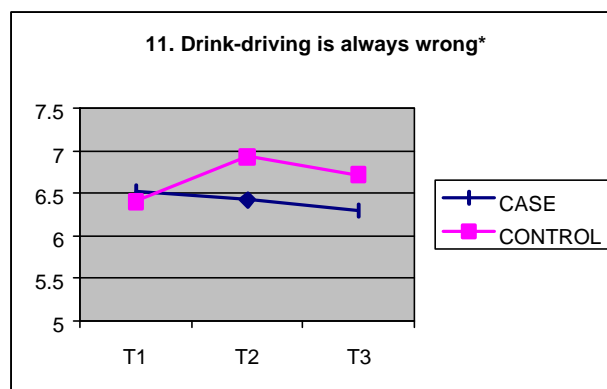


Figure 8: Responses of cases and controls to item 11.

Therefore, although many results did not follow the typical pattern, positive effects of course participation on driver attitudes were evident in responses. After the driver-training program, participants' confidence in their ability to manage hazards and the belief that they were better drivers than their peers tended to strengthen, but their overall confidence as a driver did not. Together with recognition some weeks after course participation that they could still benefit from more training, these results clearly indicated that the Skilled Drivers program did not inflate the over-confidence of these young drivers, as found to be true of other driver-training programs.

Rather, it seemed that they felt somewhat more confident in one particular aspect of driving - hazard management - but were more aware of the depth and breadth of skills necessary to become a safer driver. Importantly, most of the young drivers reported discomfort in keeping short headways, one of the most common factors in road accidents for this age group, and for some this discomfort increased after training.

As discussed in Section 3.1, controls are included in analyses to control for effects on responses arising from factors other than the treatment condition – in this case, participation in the driver-training program. Therefore, when there are differences between cases and controls from the outset, or when differences are reported by controls in the short term, we cannot claim that overall changes are due to course participation alone. One factor that may have influenced results appears to be enrolment in the course. During the enrolment period, participants tended to less strongly perceive themselves as better than other drivers, to more strongly agree they could use more training, and to report reduced confidence in their driving ability. It is likely that knowing their peers were receiving training effected these changes, at least in part.

### **3.3.2 Overall change in responses from Time 1 to Time 3**

Given that both cases and controls had completed the driver-training program at Time 3, overall long-term effects of course participation could be more clearly identified by comparing the combined responses of these participants at Times 1 and 3. The results of these analyses are displayed in Table 3.3. Graphs can be viewed in Appendix 10. The overall model was significant [ $F_{(14,127)} = 3.859, p = .000$ ].

The pattern of significant findings confirmed that after completion of the driver-training program participants perceived themselves as better drivers than most others, but not specifically to those their age. They also confirmed that these young drivers were less likely to agree that driver-training was a waste of time, reported greater discomfort driving close behind another vehicle, reported increased confidence in their ability to manage hazards, but not overall confidence in personal driving ability. These findings very clearly support the contention that the Skilled Drivers program provides a countermeasure to the over-confidence and speeding behaviour of young drivers.

Furthermore, the additional power of the analysis revealed that collectively respondents were less likely to agree that driving at the speed limit was always safe, and were more likely to agree that older drivers were a real problem on the road. This suggested that these young drivers were more aware of possible hazards when driving, a promising outcome, particularly regarding speed. Whether these changes in attitudes related to changes in behaviour however, could not be concluded without inclusion of the behaviour items. These are examined following an exploration of sex differences in the attitude changes.

**Table 3.3 Mean scores and *F* statistic for driver attitudes of all participants at Time 1 and Time 3 (*N* = 141)**

Item	Time 1	Time 3	<i>F</i> statistic
1. I am a better driver than others my age	4.730	4.830	$F_{(1, 140)} = 1.327, p > .10$
2. I am a better driver than most drivers	3.879	4.149	$F_{(1, 140)} = 10.882, p = .000$
3. Older drivers are a real problem on the road	4.284	4.532	$F_{(1, 140)} = 6.113, p = .01$
4. Other drivers are usually courteous	3.816	3.801	$F_{(1, 140)} = 0.019, p > .10$
5. Driver training is a waste of time	1.582	1.355	$F_{(1, 140)} = 6.657, p = .01$
6. I could still use more training	5.511	5.496	$F_{(1, 140)} = 0.013, p > .10$
7. It is likely that one day I will have a crash	5.128	4.993	$F_{(1, 140)} = 1.278, p > .10$
8. I am uncomfortable driving close behind another car	4.660	5.177	$F_{(1, 140)} = 7.197, p < .01$
9. I sometimes drive at a speed below the limit	4.638	4.823	$F_{(1, 140)} = 2.199, p > .10$
10. Speeding is always wrong	4.908	5.039	$F_{(1, 140)} = 1.037, p > .10$
11. Drink-driving is always wrong	6.440	6.482	$F_{(1, 140)} = 0.069, p > .10$
12. Driving at the speed limit is always safe	3.071	2.709	$F_{(1, 140)} = 5.682, p < .05$
13. I am confident in my driving ability	5.376	5.408	$F_{(1, 140)} = 0.112, p > .10$
14. I am confident in my ability to manage possible hazards when driving	4.532	5.028	$F_{(1, 140)} = 18.913, p = .000$

Note: Possible range 1-7

### 3.3.3 Overall sex differences

Given that case and control groups could be collapsed in these latter analyses, it was possible to examine sex differences in responses with increased power. While the overall model was not significant [ $F_{(14,126)} = 0.551, p > .10$ ], two items were found to yield significant differences overall, and several other trends were evident. Results are shown in Table 3.4. All graphs regarding these findings can be viewed in Appendix 10.

For Item 13, it can be seen that confidence in personal driving ability was initially higher for males than for females. Several weeks after course participation however, the scores of males had decreased to the lower level reported by females, such that there were no sex differences in perceptions at Time 3 (see Figure 9). As the above analyses showed that confidence in personal ability did not increase overall, these results suggested that the Skilled Drivers program particularly reduced the confidence of the male participants.

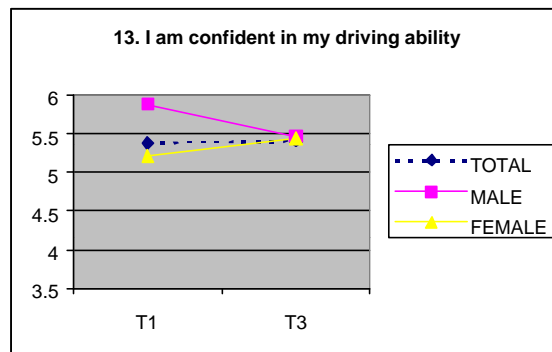


Figure 9: Responses of females and males to attitude item 13.

Further, scores for confidence in personal ability to manage hazards (Item 14) did not significantly increase for males after course participation. For females, who had scored significantly lower on this item than males at Time 1, scores significantly increased but not to a level that was not quite as high as that reported by males (see Figure 10). Therefore, in the previous analyses that reported on increased confidence in hazard management, this was true only for the female drivers who had reported low confidence initially, and not the male drivers.

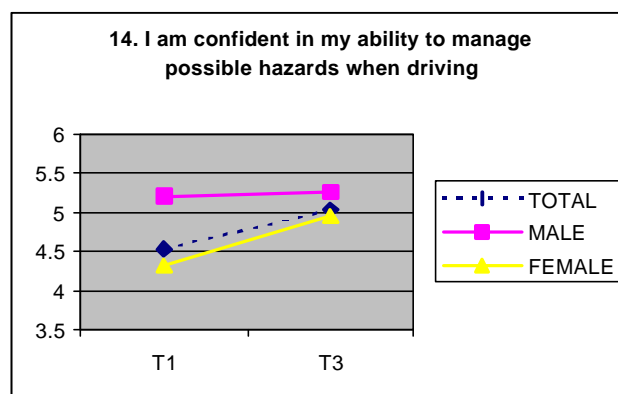


Figure 10: Responses of males and females to attitude item 14.

**Table 3.4 Mean scores and  $F$  statistic for driver attitudes of males ( $n = 34$ ) and females ( $n = 107$ ) at Time 1 and Time 3**

Item	Time 1		Time 3		$F$ statistic
	Males	Females	Males	Females	
1. I am a better driver than others my age	5.029 <sup>x</sup>	4.636 <sup>x</sup>	5.088	4.748	$F_{(1, 149)} = 0.016, p > .10$
2. I am a better driver than most drivers	4.206 <sup>a</sup>	3.776 <sup>a,b</sup>	4.441 <sup>x</sup>	4.056 <sup>b,x</sup>	$F_{(1, 149)} = 0.019, p > .10$
3. Older drivers are a real problem on the road	4.412 <sup>x</sup>	4.243 <sup>y</sup>	4.794 <sup>x</sup>	4.449 <sup>y</sup>	$F_{(1, 149)} = 0.394, p > .10$
4. Other drivers are usually courteous	3.706	3.850	3.735	3.822	$F_{(1, 149)} = 0.035, p > .10$
5. Driver training is a waste of time	1.735	1.533 <sup>a</sup>	1.441	1.327 <sup>a</sup>	$F_{(1, 149)} = 0.005, p > .10$
6. I could still use more training	5.353	5.561	5.471	5.505	$F_{(1, 149)} = 0.120, p > .10$
7. It is likely that one day I will have a crash	5.294	5.075	4.941	5.009	$F_{(1, 149)} = 0.333, p > .10$
8. I am uncomfortable driving close behind another car	4.412	4.738 <sup>a</sup>	4.971	5.243 <sup>a</sup>	$F_{(1, 149)} = 0.000, p > .10$
9. I sometimes drive at a speed below the limit	4.735	4.607	4.971	4.776	$F_{(1, 149)} = 0.002, p > .10$
10. Speeding is always wrong	4.294 <sup>a</sup>	5.103 <sup>a</sup>	4.294 <sup>b</sup>	5.276 <sup>b</sup>	$F_{(1, 149)} = 0.202, p > .10$
11. Drink-driving is always wrong	6.471	6.430	6.206	6.570	$F_{(1, 149)} = 0.404, p > .10$
12. Driving at the speed limit is always safe	2.824	3.150 <sup>a</sup>	2.882	2.654 <sup>a</sup>	$F_{(1, 149)} = 1.787, p > .10$
13. I am confident in my driving ability	5.882 <sup>a,b</sup>	5.215 <sup>a</sup>	5.471 <sup>b</sup>	5.438	$F_{(1, 149)} = 7.734, p < .01$
14. I am confident in my ability to manage possible hazards when driving	5.206 <sup>a</sup>	4.318 <sup>a,b</sup>	5.265 <sup>x</sup>	4.953 <sup>b,x</sup>	$F_{(1, 149)} = 4.301, p < .05$

Note: Possible range 1-7

Identical superscripts  $a$  and  $b$  indicate that row means are significantly different from each other at  $p \leq .05$

Identical superscripts  $x$  and  $y$  indicate that row means are significantly different from each other at  $p < .10$

& Moran, 1986; Rothe, 1987a; Stoddart, 1987; Williams, Paek, & Lund, 1995). The driver-training program appeared to diminish this sex difference.

Other trends in the patterns of means revealed the following patterns after driver training:

- The increased ratings for the item *I am a better driver than most drivers* were mostly reported by females rather than males.
- Both males and females more strongly agreed that older drivers were problematic.
- Females were significantly less likely to agree that driver training was a waste of time. While males' ratings showed the same tendency, this was not significant (although all scores were very low).
- Similarly, only females' ratings significantly increased in agreement that they were uncomfortable driving close behind another vehicle.
- Females more strongly agreed than males that speeding was always wrong both prior to and following course participation.
- The reduction in agreement that driving at the speed limit is always safe could only be attributed to females, not males.

Overall therefore, results indicated that the driver-training program contributed to a reduction in the over-confidence of young males in their ability as a driver. However, other positive changes in attitudes were mostly evident for females only, particularly increased confidence in their ability to manage hazards when driving. As discussed in the introduction, it may take some time before changes in attitudes that match changes in behaviour are evident in self-reports. Therefore, items concerning behaviour were considered the most important indicators of course influences. These are examined next.

### **3.4 CHANGES IN DRIVER BEHAVIOURS FOLLOWING COURSE PARTICIPATION**

Before analysing changes in responses to the DBQ, a check of the underlying factor structure and reliability of the DBQ was conducted. Factor analyses of responses at Time 1 and Time 2 were compared and reliability coefficients calculated for the two solutions. It was found that the DBQ at its subscales were highly reliable (see Appendix 7).

### 3.4.1 Responses of cases and controls at Times 1, 2 and 3

Differences in self-reported driving behaviours of cases and controls throughout the study were identified by a repeated measures analysis of the four DBQ factors. The results are presented in Tables 3.5 and Table 3.6 (contrast analyses), with corresponding graphs in Appendix 11. The overall model was not significant [ $F_{(8,128)} = 1.077, p > .10$ ].

The contrast results show that significant differences between cases and controls were most apparent for changes in responses from Time 1 to Time 2. In each case the scores of controls increased while scores for cases did not significantly differ. At Time 3 scores of cases and controls were not significantly different. There were also no significant differences in scores from Time 1 to Time 3 for either group. These results indicated that while the dangerous driving behaviours of cases remained low, the behaviours of controls increased during the enrolment period and returned to lower levels after course participation.

This pattern of results could be interpreted in at least two ways. It is possible that other factors were contributing to the risky driving behaviours of these young people and that course participation was a protective factor against these influences. That is, driver training helped deter participants from committing more violations, making more mistakes and experiencing more lapses, while non-trained participants were more vulnerable. These factors could include driving experience and increased opportunities, for example. It is also possible that participation in the study influenced responses. Given that the preliminary and interim questionnaires were completed approximately three to four weeks apart only, answering several questions about specific aspects of their driving behaviour may have made participants more aware of their driving habits and behaviours and encouraged more realistic self-reports. Manstead (1996) has highlighted that drivers do not necessarily make conscious decisions about whether or not to violate particular road rules, and others have suggested individuals are generally likely to under-report any experiences of driving-related difficulties (Westerman & Haigney, 2000). It is possible that participation in the study increased personal awareness and promoted more accurate self-reports over time. Either interpretation reflects a positive role of the Skilled Drivers program. The importance of these results is the finding that self-reported dangerous driving behaviours did not increase for drivers who had completed the driver training.

**Table 3.5 Mean ratings and *F* statistic for driver behaviours of cases (*n* = 83) and controls (*n* = 54) at Times 1, 2 and 3**

Factor	Time 1		Time 2		Time 3		<i>F</i> statistic
	Cases	Controls	Cases	Controls	Cases	Controls	
Violations	1.430	1.421 <sup>a</sup>	1.385	1.546 <sup>a,b</sup>	1.401	1.439 <sup>b</sup>	$F_{(2,270)} = 2.283, p = .10$
Inattention Lapses	0.780	0.838 <sup>a</sup>	0.839 <sup>x</sup>	1.009 <sup>a,b,x</sup>	0.784	0.848 <sup>b</sup>	$F_{(2,270)} = 1.525, p > .10$
Mistakes	0.843	0.859 <sup>a</sup>	0.817 <sup>x</sup>	1.007 <sup>a,x</sup>	0.786	0.914	$F_{(2,270)} = 2.161, p > .10$
Inexperience Lapses	0.740	0.813 <sup>x</sup>	0.728 <sup>y</sup>	0.900 <sup>x,y</sup>	0.726	0.818	$F_{(2,270)} = 1.160, p > .10$

*Note:* Possible range 0-5

Identical superscripts *a* and *b* indicate that row means are significantly different from each other at  $p < .05$

Identical superscripts *x* and *y* indicate that row means are significantly different from each other at  $p < .10$

**Table 3.6 Contrast analyses comparing reported changes in driver behaviours of cases ( $n = 83$ ) to those of controls ( $n = 54$ ) over Times 1, 2 and 3**

Factor	Time contrasts	$F$ statistic
Violations	1 vs 2	$F_{(1,135)} = 5.063, p < .05$
	2 vs 3	$F_{(1,135)} = 2.381, p > .10$
	1 vs 3	$F_{(1,135)} = 0.273, p > .10$
Inattention Lapses	1 vs 2	$F_{(1,135)} = 2.926, p < .10$
	2 vs 3	$F_{(1,135)} = 2.052, p > .10$
	1 vs 3	$F_{(1,135)} = 0.007, p > .10$
Mistakes	1 vs 2	$F_{(1,135)} = 3.901, p = .05$
	2 vs 3	$F_{(1,135)} = 0.601, p > .10$
	1 vs 3	$F_{(1,135)} = 1.675, p > .10$
Inexperience	1 vs 2	$F_{(1,135)} = 2.523, p > .10$
	2 vs 3	$F_{(1,135)} = 1.220, p > .10$
Lapses	1 vs 2	$F_{(1,135)} = 1.220, p > .10$
	1 vs 3	$F_{(1,135)} = 0.066, p > .10$

### 3.4.2 Overall change in responses from Time 1 to Time 3

Next, long-term effects of course participation on driver behaviour were examined by comparison of changes in DBQ factor scores from Time 1 to Time 3 for all respondents (cases and controls combined). Results are displayed in Table 3.7. Graphs can be viewed in Appendix 12. The overall model was not significant [ $F_{(4,135)} = 0.131, p > .05$ ].

**Table 3.7 Mean ratings and  $F$  statistic for DBQ driver behaviours of all participants at Time 1 and Time 3 ( $N = 139$ )**

Factor	Time 1	Time 3	$F$ statistic
Violations	1.417	1.407	$F_{(1, 138)} = 0.044, p > .10$
Inattention Lapses	0.799	0.810	$F_{(1, 138)} = 0.100, p > .10$
Mistakes	0.845	0.830	$F_{(1, 138)} = 0.127, p > .10$
Inexperience Lapses	0.767	0.763	$F_{(1, 138)} = 0.017, p > .10$

Note: Possible range 0-5

As shown in Table 3.7, the self-reported dangerous driving behaviours of participants were at low levels both at Time 1 and Time 3. This finding exemplifies the need for research of this nature to include a control group. The previous analysis revealed that while the factor scores of cases remained similar throughout the study, the scores of controls increased at Time 2, prior to course participation. It was only after completion of the course that scores of controls returned to the low levels reported by cases. Therefore, the finding of no overall differences in self-reported driving behaviours again reflected a protective role of the Skilled Drivers program against other influences that were operating during this period that increased dangerous driving behaviours, or otherwise confirmed that with more realistic reporting, the program lead to a reduction in these behaviours.

### 3.4.3 Overall sex differences

Important sex differences were revealed for the four DBQ factors. The overall model was found to be significant [ $F_{(4,134)} = 2.901, p < .05$ ]. Table 3.8 displays the results of the repeated measures analysis.

**Table 3.8 Mean ratings and  $F$  statistic for DBQ driver behaviours of males ( $n = 33$ ) and females ( $n = 106$ ) at Time 1 and Time 3**

Factor	Time 1		Time 3		$F$ statistic
	Males	Females	Males	Females	
Violations	1.779 <sup>a</sup>	1.303 <sup>a</sup>	1.791 <sup>b</sup>	1.288 <sup>b</sup>	$F_{(1,137)} = 0.073, p > .10$
Inattention Lapses	0.800 <sup>a</sup>	0.798	0.988 <sup>a</sup>	0.755	$F_{(1,137)} = 7.383, p < .01$
Mistakes	0.834	0.848	0.991	0.780	$F_{(1,137)} = 5.445, p < .05$
Inexperience Lapses	0.707 <sup>x</sup>	0.786	0.854 <sup>x</sup>	0.734	$F_{(1,137)} = 6.133, p < .05$

Note: Possible range 0-5

Identical superscripts *a* and *b* indicate that row means are significantly different from each other at  $p < .05$ . Identical superscripts *x* indicate that row means are significantly different from each other at  $p < .10$ .

While self-reported driving violations yielded similar scores at Times 1 and 3, the scores of males were higher than those of females on both occasions (see Figure 11). This follows from previous research that has consistently found males report more violations than females (Åberg & Rimmö, 1998; Blockey & Hartley, 1995; Lawton et al, 1997; Parker et al, 1995a; Reason et al, 1990; Westerman & Haigney, 2000).

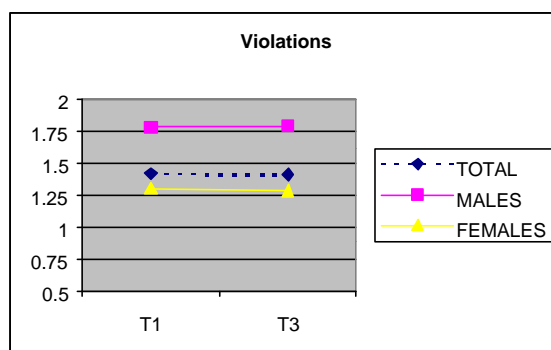


Figure 11: Responses of males and females on the violations DBQ factor.

Of note, reporting of Inattention Lapses by the male participants significantly increased from Time 1 to Time 3. Overall however, the scores of males did not differ to those of females. This finding of no overall sex difference for Inattention Lapses is consistent with findings from the original study that divided lapses into inattention and inexperience factors (Åberg & Rimmö, 1998). While these lapses are considered to pose minimal threat to road users, with consequences mostly inconveniencing the driver, it is still important to note that they tended to increase in frequency for males. Inexperience Lapses also showed

a tendency to increase for males (and not females). Therefore, lapses are one area that might need to be better addressed in the Skilled Drivers program.

While the pattern of means for Mistakes or driving errors did not differ statistically, trends in the mean did differ, as indicated by the overall item significance. There was a tendency for males' scores to increase, while females' scores tended to decrease. However, it is important to reiterate that while the pattern of responses differed for males and females, the changes from Time 1 to Time 3 were not significant for either group and were not significant overall in the previous analysis (section 3.4.3). Previous research has found inconsistent results regarding sex differences in the reporting of mistakes or errors (Åberg & Rimmö, 1998; Blockey & Hartley, 1995; Parker et al., 1995a). The present findings suggested that a clearer understanding of sex differences in these driving behaviours is more likely to be detected in longitudinal studies that examine fluctuations over time.

### **3.5 CHANGES IN PERCEPTIONS OF ENFORCEMENT ACTIVITIES AND CRASH RISK FOLLOWING COURSE PARTICIPATION**

#### **3.5.1 Responses of cases and controls at Times 1, 2 and 3**

In order to identify differences in perceptions of enforcement and crash risk by cases and controls throughout the study, a repeated measures analysis was performed, as presented in Table 3.9. The overall model was significant [ $F_{(14,127)} = 2.096, p < .05$ ]. Graphs of the results are located in Appendix 13. The results of the contrast analyses are displayed in Table 3.10.

Items 1 to 3 focused on perceptions of enforcement, while Items 4 to 7 focused on speed and crash risk, an important component of the driver-training program. Results suggested positive effects of course participation.

While perceptions of enforcement are influenced by a number of factors (e.g. Bjørnskau & Elvik, 1992; Cameron et al, 1999; Harrison & Pronk, 1998; Holland & Conner, 1996; Rothengatter, 1988; Watson, 1986), it is possible that the course contributed to the small increased risk perceived by cases of having their speed checked by Police and, to a lesser extent, of being stopped for a breath test in the following fortnight. The chance of seeing a speed camera fluctuated for both groups.

More important were the changes in items relating to crash risk. In particular, perceived changes in the chance of driving over the speed limit and the chance of having a near miss showed significant differences overall. The reported chance of driving over the speed limit during the following two-week period tended to decrease for cases and increase for controls from Time 1 to Time 2 (a significant contrast in Table 3.10). Consequently, shortly after course participation (Time 2) cases reported a lower chance of speeding compared to controls. In the long term, controls' scores had decreased and cases' scores remained low, such that there were no differences between cases and controls at Time 3, and no differences in responses from Time 1 to Time 3 for either group (see Figure 12).

**Table 3.9 Mean ratings and *F* statistic for perceptions of enforcement and crash risk of cases (*n* = 87) and controls (*n* = 55) at Times 1, 2 and Time 3**

Item	Time 1		Time 2		Time 3		<i>F</i> statistic
	Cases	Controls	Cases	Controls	Cases	Controls	
1. Seeing a speed camera	4.690 <sup>a</sup>	4.691 <sup>b,c</sup>	4.172 <sup>a,d</sup>	4.309 <sup>b</sup>	4.575 <sup>d</sup>	4.073 <sup>c</sup>	$F_{(2,280)} = 3.195, p < .05$
2. Being stopped for a breath test	2.517 <sup>a</sup>	2.891	2.621	2.855	2.874 <sup>a</sup>	2.800	$F_{(2,280)} = 1.723, p > .10$
3. Having my speed checked by the Police	3.345 <sup>a</sup>	3.709	3.517	3.636	3.793 <sup>a</sup>	3.545	$F_{(2,280)} = 2.497, p < .10$
4. Driving over the speed limit	4.057	4.327	3.851 <sup>a</sup>	4.527 <sup>a,b</sup>	4.046	4.145 <sup>b</sup>	$F_{(2,280)} = 2.698, p < .10$
5. Having a crash	1.989 <sup>a,x</sup>	2.036 <sup>b,c</sup>	2.264 <sup>d,x</sup>	2.527 <sup>b,y</sup>	2.529 <sup>a,d</sup>	2.782 <sup>c,y</sup>	$F_{(2,280)} = 0.716, p > .10$
6. Failing to see a possible hazard	2.598	2.764 <sup>x,y</sup>	2.529 <sup>a</sup>	3.055 <sup>a,x</sup>	2.655 <sup>b</sup>	3.127 <sup>b,y</sup>	$F_{(2,280)} = 1.183, p > .10$
7. Having a near miss	2.713	2.655 <sup>a</sup>	2.609 <sup>x</sup>	3.000 <sup>a</sup>	2.862 <sup>x</sup>	2.727	$F_{(2,280)} = 2.556, p < .10$

*Note:* Possible range 1-7

Identical superscripts *a*, *b*, *c* and *d* indicate that row means are significantly different from each other at  $p < .05$

Identical superscripts *x* and *y* indicate that row means are significantly different from each other at  $p < .10$

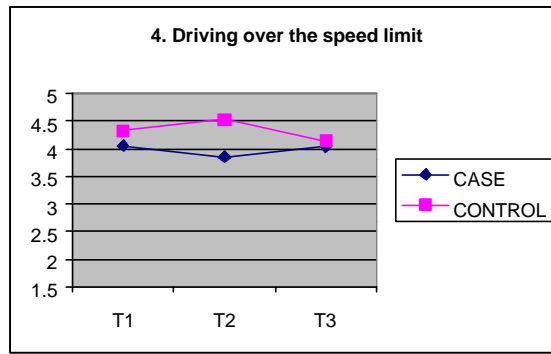


Figure 12: Responses of cases and controls to crash risk item 4.

These results showed that while the tendency to drive over the speed limit remained low for cases, it tended to increase for controls during the enrolment period and then decrease after participation in the course. This indicated that the driver-training program was a protective factor against an increasing tendency towards speeding behaviour. Given the prominence of speed in road trauma, this is a promising finding. Any factor that reduces speeding behaviour can play an important role in reducing the road toll.

Perceptions of the risk of having a near miss tended to remain low for cases and increase for controls from Time 1 to Time 2. However, there was no difference between the group scores at Time 3. Scores were not significantly different from Time 1 to Time 3 for either group. These results implied that awareness of the possibility of having a near miss only increased during the enrolment period (see Figure 13). In comparison, the perceived risk of having a crash tended to increase for cases from Time 1 to Time 2 and increase significantly from Time 2 to Time 3 (see Figure 14). For controls, perceptions of risk increased significantly during the enrolment period, and tended to increase again from Time 2 to Time 3. Therefore, while course enrolment appeared to increase awareness of the possibility of having a near miss, both course enrolment and course participation seemed to increase sensitivity to the risk of being involved in a crash.

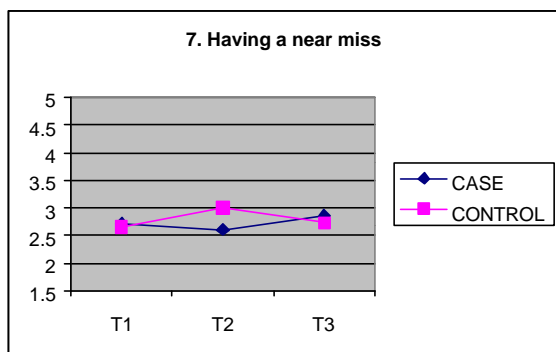


Figure 13: Responses of cases and controls to crash risk item 7.

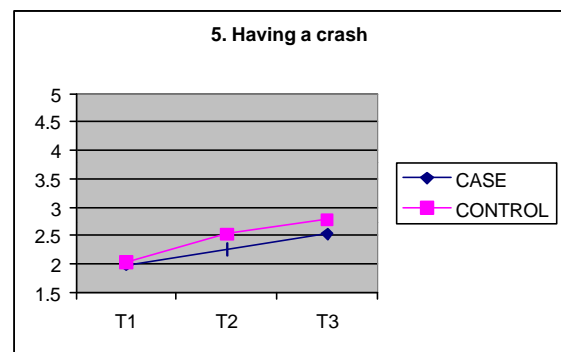


Figure 14: Responses of cases and controls to crash risk item 5.

**Table 3.10 Contrast analyses comparing reported changes in perceptions of enforcement and crash risk of cases ( $n = 87$ ) to those of controls ( $n = 55$ ) over Times 1, 2 and 3**

Item	Time contrasts	$F$ statistic
1. Seeing a speed camera	1 vs 2	$F_{(1,140)} = 0.296, p > .10$
	2 vs 3	$F_{(1,140)} = 6.354, p < .05$
	1 vs 3	$F_{(1,140)} = 2.929, p < .10$
2. Being stopped for a breath test	1 vs 2	$F_{(1,140)} = 0.360, p > .10$
	2 vs 3	$F_{(1,140)} = 1.668, p > .10$
	1 vs 3	$F_{(1,140)} = 2.804, p < .10$
3. Having my speed checked by the Police	1 vs 2	$F_{(1,140)} = 0.727, p > .10$
	2 vs 3	$F_{(1,140)} = 2.074, p > .10$
	1 vs 3	$F_{(1,140)} = 4.660, p < .05$
4. Driving over the speed limit	1 vs 2	$F_{(1,140)} = 2.860, p < .10$
	2 vs 3	$F_{(1,140)} = 4.871, p < .05$
	1 vs 3	$F_{(1,140)} = 0.418, p > .10$
5. Having a crash	1 vs 2	$F_{(1,140)} = 0.978, p > .10$
	2 vs 3	$F_{(1,140)} = 0.003, p > .10$
	1 vs 3	$F_{(1,140)} = 1.068, p > .10$
6. Failing to see a possible hazard	1 vs 2	$F_{(1,140)} = 2.044, p > .10$
	2 vs 3	$F_{(1,140)} = 0.052, p > .10$
	1 vs 3	$F_{(1,140)} = 1.303, p > .10$
7. Having a near miss	1 vs 2	$F_{(1,140)} = 2.985, p < .10$
	2 vs 3	$F_{(1,140)} = 5.538, p > .10$
	1 vs 3	$F_{(1,140)} = 0.082, p > .10$

Finally, the chance of failing to see a possible hazard when driving also indicated a trend in the pattern of means. While the scores of cases tended to remain low throughout the study, the scores of controls tended to increase, suggesting they perceived a greater chance of failing to see a hazard than did cases. Identifying reasons why these two groups differed would require further investigation.

Overall therefore, regarding speed and crash risk, the results identified several positive effects of course participation. Driver training provided a protective role against driving over the speed limit, and increased awareness of the possibility of being involved in a crash or near miss over the following two weeks. It is likely that these perceptions reflect important messages retained from the course. In addition, enrolment in the program also appeared to alter the young drivers' perceptions. During the enrolment period they tended to report greater awareness of the risk of having a crash or near miss, and of failing to see a hazard.

### 3.5.2 Overall change in responses from Time 1 to Time 3

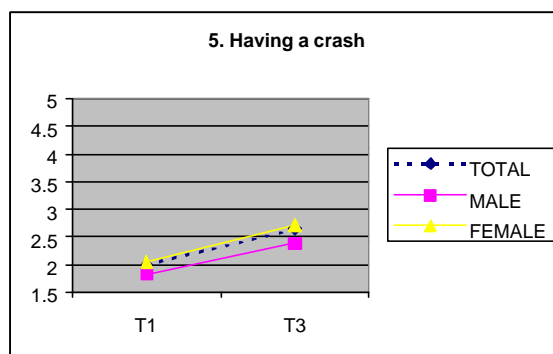
Table 3.11 presents the repeated measures analysis results for overall effects of course participation on perceptions of enforcement and crash risk for cases and controls combined. Appendix 14 presents graphs of these results. The overall model was found to be significant [ $F_{(7,137)} = 9.126, p = .000$ ]. Two items contributed to this finding.

**Table 3.11 Mean ratings and *F* statistic for perceptions of enforcement and crash risk of all participants at Time 1 and Time 3 (*N* = 144)**

Item	Time 1	Time 3	<i>F</i> statistic
1. Seeing a speed camera	4.674	4.361	$F_{(1, 143)} = 4.688, p < .05$
2. Being stopped for a breath test	2.646	2.826	$F_{(1, 143)} = 1.944, p > .10$
3. Having my speed checked by the Police	3.472	3.674	$F_{(1, 143)} = 2.103, p > .10$
4. Driving over the speed limit	4.174	4.097	$F_{(1, 143)} = 0.366, p > .10$
5. Having a crash	1.993	2.639	$F_{(1, 143)} = 41.505, p = .000$
6. Failing to see a possible hazard	2.646	2.826	$F_{(1, 143)} = 1.955, p > .10$
7. Having a near miss	2.674	2.799	$F_{(1, 143)} = 0.947, p > .10$

*Note:* Possible range 1-7

Some weeks after completing the driver-training program, participants perceived that they were more likely to have a crash in the following two weeks (see Figure 15). The large *F* value for this item shows this was a highly significant finding, therefore, indicating that the Skilled Drivers program increased the sensitivity of participants to the high possibility of crash involvement when driving (particularly for this age group).



*Figure 15: Overall responses from Time 1 to Time 3 to crash risk item 5.*

In addition, participants perceived that they were less likely to see a speed camera at Time 3 than at Time 1 (see Figure 16). This finding may be attributed to a number of factors, including advertising and police enforcement occurring at the time (e.g. Bjørnskau & Elvik, 1992; Cameron et al, 1999; Harrison & Pronk, 1998; Holland & Conner, 1996; Rothengatter, 1988; Watson, 1986).

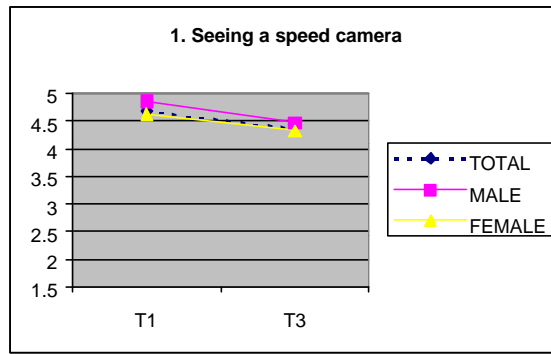


Figure 16: Overall responses from Time 1 to Time 3 to enforcement perception item 1.

### 3.5.3 Overall sex differences

To explore whether overall changes in perceptions from Time 1 to Time 3 differed for males and females, the repeated measures analysis was repeated including sex as a between-subjects factor. The overall model was not significant [ $F_{(7,136)} = 1.534, p > .10$ ]. The results are displayed in Table 3.12. No item achieved an overall significance level

Results for Item 1 reveal that the earlier finding of an overall decrease in the perceived chance of seeing a speed camera over the following two weeks, was somewhat more attributable to females than males (see Figure 17). Males initially reported a greater chance of driving over the speed limit compared to females at Time 1. By Time 3 however, the scores of males had decreased to a level similar to that of females, such that there were no sex differences at Time 3. While the overall item analysis only approached significance ( $p = .11$ ), this pattern of findings indicated a decreasing trend was reported by these young males in their tendency to drive over the speed limit. This is a very important component of the Skilled Drivers program. The road safety literature consistently identifies speed and the young male driver as a particularly problematic issue (e.g. Greening & Stoppelbein, 2000; Harré et al, 1996). These findings suggested the Skilled Drivers program offers a promising countermeasure.

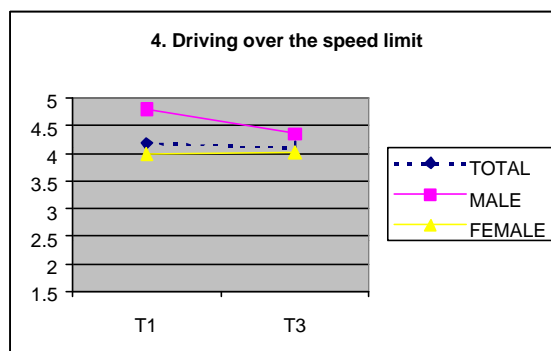


Figure 17: Responses of males and females to enforcement perception item 4.

**Table 3.12 Mean ratings and *F* statistic for perceptions of enforcement and crash risk of males (*n* = 34) and females (*n* = 110) at Time 1 and Time 3**

Item	Time 1		Time 3		<i>F</i> statistic
	Males	Females	Males	Females	
1. Seeing a speed camera	4.853	4.618 <sup>x</sup>	4.471	4.327 <sup>x</sup>	$F_{(1, 142)} = 0.072, p > .10$
2. Being stopped for a breath test	2.912	2.564	3.029	2.764	$F_{(1, 142)} = 0.072, p > .10$
3. Having my speed checked by the Police	3.735	3.391	3.941	3.591	$F_{(1, 142)} = 0.000, p > .10$
4. Driving over the speed limit	4.794 <sup>ax</sup>	3.982 <sup>a</sup>	4.353 <sup>x</sup>	4.018	$F_{(1, 142)} = 2.610, p > .10$
5. Having a crash	1.824 <sup>a</sup>	2.045 <sup>b</sup>	2.382 <sup>a</sup>	2.718 <sup>b</sup>	$F_{(1, 142)} = 0.232, p > .10$
6. Failing to see a possible hazard	2.441 <sup>x</sup>	2.709	2.971 <sup>x</sup>	2.782	$F_{(1, 142)} = 2.276, p > .10$
7. Having a near miss	2.588 <sup>a</sup>	2.700	3.029 <sup>a</sup>	2.727	$F_{(1, 142)} = 1.884, p > .10$

*Note:* Possible range 1-7

Identical superscripts *a* and *b* indicate that row means are significantly different from each other at  $p < .05$

Identical superscripts *x* indicate that row means are significantly different from each other at  $p < .10$

It can also be seen in Table 3.12 that the perceived chance of having a crash over the following two weeks increased for both males and females on a similar scale. This suggested the Skilled Drivers program increased the sensitivity of all participants to the high possibility of crash involvement. There was some indication that the perceived chance of having a near miss and of failing to see a possible hazard increased for males only. These results implied that course participation particularly increased the awareness of male participants of the presence of hazards when driving.

In summary, it seems that changes in perceptions of crash risk factors were more apparent for males than females, although female participants did become more sensitive to the possibility of having a crash. Of particular importance was the promising finding that the Skilled Drivers program appeared to curb the tendency of the young males to drive over the speed limit, at least to the lower level reported by females.

### **3.6 PARTICIPANTS' OVERALL IMPRESSIONS OF THE DRIVER-TRAINING PROGRAM**

Several, open-ended questions seeking general impressions of the AAMI / Skilled Drivers driver-training program were included in the final questionnaire. Of the 163 participants who completed the final questionnaire, 161 responded to these questions. This allowed qualitative feedback on the course to be examined. A full list of responses is included in Appendix 15.

#### **3.6.1 What participants remembered most about the course**

Several themes emerged in response to the question "What do you remember most about the course?" In total, 157 participants (97.5%) responded.

##### ***3.6.1.1 Practical versus theoretical components***

The majority of comments included in response to this question referred to specific road safety issues, such as headways and speed, independent of references as to whether these related to the practical or theoretical component of the driver-training program. In relation to specific references however, almost one-quarter of the respondents (38 or 24.2%) reported that they remembered the practical component the most: "The practical sessions", "Practical component". While only 11 respondents (7.0%) specifically referred to theory, they also often included reference to practical aspects as well, indicating the synergy between the theory and practical components of the course:

Going through theory in the classroom and then going into groups and being faced with possible hazards which we all took in our own cars.

Seven of the responses referred to particular statistics, such as:

That most accidents are nose to tail, so I sit a lot further back when cars are in front of me.

The statistics - young drivers, usually P platers involved in head tail collisions.”

Overall therefore, while specific references to theory and statistics were included among responses, the practical component was referred to more often. The majority of responses however, could be grouped into themes concerning particular road safety issues that incorporated both aspects of the driver-training program. These are explored under the headings of headways and speed, driving skills, driving environment, and inexperience.

### ***3.6.1.2 Headways and speed***

By far the most prominent response, reported by almost half of the sample (70 or 44.6% respondents), was learning about the minimum gap required between one's own vehicle and the vehicle travelling in front. Most were general references, such as “Don't drive too close to the car in front. Leave a lot of space around your car.” However, more specific references were made by 23 respondents regarding the *two second rule*, for example:

The main thing I remember about the course is, that it's a lot safer to leave a 2 or 3 seconds distance between you and other cars.

The second most common message retained by course participants was the importance of speed with 45 respondents (28.7%) reporting on this aspect. While 17 of these respondents made more general references towards the importance of speed, such as “Not to speed, drive at a safe speed”, 16 respondents commented on the influence of speed on the control of the vehicle, for example “Driving around the course at low speed but still loosing

Five participants also reported on actual speeds and how as little as 5 or 10 kph could have a significant impact on the control of their vehicle, for example:

Being in situations where you find yourself swerving and braking, and realising that just 10 kph makes a difference.

A further 7 participants commented on the importance of speed and its contribution to the risk of accidents, such as:

That it wasn't so much about learning driving techniques, it was about impressing on us how important distance and speed are in avoiding crashes. Ie., increase distance and decrease speed even a little to considerably reduce risk of crashing.

Another common response incorporating aspects of the importance of both headways and speed was stopping distance. Thirty-four respondents (21.7%) reported on this aspect, with comments such as:

The distance your car should be behind the car in front of you, to give you enough distance to brake suddenly.

That a slight increase/decrease in speed makes a huge difference to stopping distance.

Five of these 34 participants specifically referred to the *emergency braking exercise*, commenting on the stopping distance when travelling at 40 kph:

How long it took for my car to stop when going 40 kph (and I never drive at 40 kph).

These responses clearly signified the two aspects of headway distance and speed choice, as well as the related issue of stopping distance, as the key road safety messages participants recalled 8-9 weeks after their training. Given the significant role these issues play in crash involvement, particularly for young drivers, this is an important outcome of the Skilled Drivers Program.

### **3.6.1.3 Driving skills**

The next most commonly remembered aspects of the course were driving skills. Twenty-five respondents (15.9%) made 36 references to these, generally emphasising one or two particular skills. Most remembered braking and stopping skills the most, and a large proportion remembered cornering skills. Other skills included steering and preventing or reducing the risk of accidents and hazardous situations. Examples of responses for each of these driving skills, respectively, are:

The breaking [*sic*] suddenly in one of the road courses because it's something I don't normally do.

Choosing a safe and comfortable speed to take corners

Drive with both hands on the wheel.

Learning techniques on how to avoid an accident or how to get out of hazardous situations.

Overall, these responses again appeared to identify aspects of the practical component of the course as the most remembered, although theoretical aspects could also underpin many of these comments.

#### ***3.6.1.4 Driving environment***

A small group of respondents (9 or 5.7%) reported that what they remembered most about the course was an increased awareness of the driving environment and potentially hazardous situations. Most of these respondents reported that they became more aware of their immediate driving environment, such as surrounding vehicles, and unpredictable drivers and pedestrians. Others specifically mentioned looking further into the distance, beyond the vehicle ahead of them. Examples included:

Slow down in areas where unpredictable hazards are possible (i.e. shops, schools).

To look more than just one car ahead.

These responses referred to key messages of the driver-training program that may more strongly reflect influences of the theoretical component of the course.

#### ***3.6.1.5 Inexperience***

A very important theme included by only four respondents (2.5%) was the realisation of how inexperienced they really were, both as course participants and as young drivers. For example “We are not as good as we think we are” and “How bad I was and how hard it was to do the driving in and out of the cars.” Alternatively, one respondent was more mindful of how inexperienced young drivers could be: “That I was a better driver than

These responses reflected an awareness by respondents that they might have been unrealistic in their previous confidence in their driving ability.

In summary, the practical component appeared to be the most memorable aspect of the course, although synergistic influences of theory were also highlighted. The importance of maintaining safe headways and speeds, particularly in relation to stopping distances, were the best recalled messages, with several particular driving skills also prominent. Less common themes included awareness of the driving environment and realisation of personal inexperience or that of young drivers. Therefore, responses confirmed that key messages of the AAMI / Skilled Drivers driver-training program were retained by course participants.

In addition, perusal of responses in Appendix 15, also highlights that the respondents generally seemed to enjoy the course and there were some complimentary references made regarding the course instructors. Overall therefore, the course was remembered as a very positive experience by the majority of respondents.

### **3.6.2 What participants believed should be added to the course**

A total of 146 participants (90.7%) responded to the second open-ended question “Is there anything you believe should be added to the course?” The overwhelming response was simply “No” or in some cases, additional comments were added, such as “it was well structured and informative”. In total, 65 respondents (44.5%) did not suggest anything should be added to the course.

The single most common recommendation for improving the course, included by 30 respondents (20.5%), related to driving on different road surfaces, such as slippery or wet surfaces and gravel or dirt roads. This was generally recommended in relation to the practical exercises, so that they could experience the differences when driving on more dangerous surfaces compared to dry roads:

When we did the stopping distance test ... maybe you could do something similar with a wet road to really alert us P platers to slow down.

Maybe they could wet the road and do some of the exercises that way to demonstrate the dangers of speeding in the wet.

Several of these statements also referred to teaching skills to deal with these hazardous situations, with nine respondents specifically referring to skills for braking or skidding in wet conditions. Respective examples include:

More could be included on handling your car in wet weather / bad conditions.

More handling the car skills. For example, stopping in the wet and controlling your car.

In addition, 27 respondents (18.5%) recommended that other more advanced vehicle-handling skills should be taught. These included skid recovery techniques and ways to manage unexpected hazards, such as emergency swerving or tyre blowout. Examples include:

Techniques on getting out of skids.

How to handle the car in a dangerous situation, what you can do to try to regain control.

A little more practical on learning how to handle your car in an emergency braking or swerving situation.

Interestingly, it is the teaching of advanced skills such as these that has previously been found to inflate driver confidence in other driver-training programs (e.g. Gregersen, 1996; Struckman-Johnson et al, 1989)

Regarding other recommendations, nine respondents (6.2%) simply suggested that there should be more of the practical driving component, while seven (4.8%) recommended the course be conducted over a longer period of time, possibly 2-3 days, or that a delayed follow up class be conducted. These respondents suggested a longer program would allow more of the information to be absorbed and enable more time to practice the skills they had learned.

Five participants (3.4%) reported that the course should emphasise the consequences of driving violation behaviour, including talks by crash survivors or people who have committed offences, and graphic images and statistics, for example:

Real stories of real people explaining how road accidents changed / destroyed their lives.

More gruesome images of car crashes to scare people more.

These suggestions are consistent with research that has found a link between emotive education campaigns, safer driving and reductions in crashes (Cameron et al., 1999; Senserrick & Harrison, 1999). Previous research has also found that young people tend to prefer to receive education about issues such as safe driving from same aged peers rather than authority figures (e.g. Rivers, Sarvela, Shannon, & Gast, 1996).

Of interest, some important issues were included among the miscellaneous responses . Only two respondents referred to driver attitudes, most likely in the context of road rage:

Perhaps a bit more about driver attitudes? I think that's really more of a general problem though (not that speeding and leaving space aren't).

Only one respondent suggested more attention should be paid to fatigue: "Possibly a fatigue factor as I hear so many crashes involve some kind of fatigue." These issues are certainly significant in road safety, especially for young drivers.

In summary, approximately half of the respondents believed nothing needed to be added to the course, reflecting a strong sense of satisfaction with the driver-training program. The most common recommendation by remaining participants was for driving tasks to include experience on different road surfaces. Also common were suggestions for the inclusion of more advanced vehicle-handling skills. Practical recommendations included extending the length of the program, incorporating speakers with a history of a crash or driving offence, including more graphic images and statistics, and components on driver attitudes and fatigue. Some of these suggestion are addressed further in the recommendations section.

### **3.6.3 Aspects of the course that were considered the most personally important**

The question "What was the most important part of the course for you personally?" was answered by 153 participants (95.0%). As might be expected, several key themes corresponded to those previously identified in the first question concerning the most memorable aspect of the course. That is, there was a strong emphasis on the practical component, headways, speed, stopping distances, and specific driving skills.

Specific reference to the practical component was made by 34 respondents (22.2%), while references to theory were generally implicit in other responses. Generally, participants reported that this helped them to understand the theory and was a powerful way to teach the consequences of driving behaviour. The importance of safe headways was reported by 28 respondents (18.3%), and safe speeds by 27 respondents (17.6%). Some reported on the impact of speed on vehicle control and almost a third noted the contribution of speed to crash risk. Twenty-one respondents (13.7%) specified stopping distance, including the relationship with speed, and the potential dangers associated with close following. Specific driving skills were included by 23 respondents (15.0%), particularly in the context of managing potential hazards and preventing or reducing the risk of an accident.

Additional themes that emerged included respondents' realisation of the limitations of their vehicles and of their driving ability. Twenty-five participants (16.3%) reported that the most important part of the course was being able to use their own car in the practical situations and more importantly, 20 of these reported that this was significant because they were able to experience and learn the limitations of their own vehicle. Furthermore, 11 participants (7.2%) reported that the course changed the way they perceived their own driving ability as they were able to observe their reactions to potentially hazardous

situations and, most encouragingly, some reported that they realised they were less competent than they had previously thought, for example:

The practical component was important because it illustrated just how inadequately my car and myself could handle potentially hazardous driving situations.

These responses are very positive and complementary to the quantitative analyses, in that they suggest the confidence of these young drivers was reduced after course participation, even 8-9 weeks later.

Further to this sense of reduced confidence was a theme of realisation of the unpredictability of the driving environment and of potential hazards, and how easily an accident can occur. Twelve participants (7.8%) reported that this was the most important aspect of the course. For example:

It made me realise how easily you can lose control of a car and how hard it is to stop a car in an emergency situation. Reality really hits home - it can only take a second to have an accident.

While these responses were considered positive regarding the issue of self-calibration or over-confidence in one's ability, a few participants (5 or 3.3%) considered that their skills in managing hazards had improved (also complementing the quantitative findings):

Gave me more confidence in my driving ability, I feel confident that I could handle most unforeseen hazards/accidents.

Again several complimentary remarks were made regarding course instructors. Six respondents (3.9%) reported that the instructors and the advice they provided was the most important component of the training program, for example:

Having the course trainer in the car while we were doing the driving exercises. They had quite a lot of good driving safety tips to tell us about the correct way to handle our vehicles.

Included in miscellaneous comments was the promising response that one respondent's attitudes towards driving had changed, and another had learned how road rage can potentially lead to accidents:

The way I get so upset when cars overtake and then slow down or cut me off – sometimes that anger could lead to accidents.

In summary, key issues that were most memorable to participants were also among the issues considered to be the most important. These included the role of the practical component, knowledge of safe headways, speeds, and stopping distances, and of specific driving skills. Other themes supported earlier analyses that suggested participants had become more realistic about their lack of experience and that this had somewhat reduced their overall confidence. This included realising their limitations and those of their vehicles. Again these responses reflect very positive outcomes and recollections of the AAMI / Skilled Drivers driver-training program.

Six of these respondents reported that in addition to slowing down, they are even more cautious of their speed in potentially hazardous situations, such as in residential areas or during wet conditions. For example:

I now think a little more about the consequences of speeding. More likely to slow down even more than before in areas with pedestrians.

In relation to both headways and speed, again the theme of stopping distance was evident, with 13 participants (8.7%) reporting that they are now more aware of the stopping distance required. Furthermore, four respondents reported that they now use more controlled braking techniques, including:

I leave braking distance between cars and find myself braking a lot earlier than I used to when the driver in front is braking.

Therefore, the perceived benefits of the driver-training program focused on two of the most important issues for young drivers – both safe headways and speed, and in turn, their relation to stopping distances.

The next most common theme related to increased perception and awareness of the driving environment. Forty-seven participants (31.3%) reported that they have become more aware of their surroundings and the unpredictability of other drivers, for example:

I try to be more aware of other drivers making mistakes and being prepared for this.

I always look at what's going on the road ahead, not just at the car in front of me.

Not so much the way I drive but I am more aware of the potential dangers associated with every day driving.

One-fifth of the respondents (31 or 20.7%) reported more attitudinal or affective changes when driving. For example, 24 respondents perceived that they are now more cautious and careful in their approach to driving, and five reported that they are more patient and less aggressive when they drive. Two particular recognised increased awareness of how their own affective state can potentially influence their driving ability:

How different moods can alter one's driving ability.

I'm more aware of the way I'm feeling at the time and can think more beneficially about how to react to changed driving conditions.

Finally, five respondents (3.3%) reported that they now have a greater understanding and awareness of the limitations and capabilities of their vehicle, for example "I am a lot more aware of what me and my car are capable of [*sic*]".

In summary, participants reported that the AAMI / Skilled Drivers driver-training program had changed the way that they drive, that they now maintained safer headways and speeds and allowed for safer stopping distances. Given that participants reported that they had maintained these behaviours for 8-9 weeks following course participation, it is likely that these changes were developing into habits and, therefore, were likely to continue into the future (see e.g. Ouellette & Wood, 1998; Ronis, Yates, & Kirscht, 1989; Sutton, 1994). This finding alone strongly supports the contention that the course provides an important road safety countermeasure for young drivers. Many respondents also reported increased caution and awareness of the driving environment, and of their own affective state when driving, as well as recognising their limitations and those of their vehicles.

#### **3.6.4.2 No change**

Of the 156 participants who responded to this question, only five (3.2%) reported that the course had not changed the way that they drive, in addition to the two respondents who agreed that it had in some ways but not others.

Encouragingly, three of the seven participants reported that they were already good drivers, for example:

It reinforced what I was hopefully doing. A lot of what is in the course should be common knowledge to most people, who are sensible when they are driving a car.

Therefore, only two drivers from the total pool of 161 responding to the final questionnaire and 156 responding to this question, reported that they were not significantly influenced by the course to reduce their poor driving habits:

I still sometimes drive a bit too fast, but I know that I shouldn't, and no amount of training would change this. It's too tempting to speed to get to places more quickly.

Because I drive such a long distance to work, time / traffic / impatience plays a bigger role and forces me to forget these issues.

The two remaining responses were ambiguous as to whether the respondents drove safely or not:

I still basically drive the same way, the course was not so eye opening that I felt my driving was unsafe.

Not necessarily things you would apply everyday in the course of driving.

While the last quote is somewhat perplexing, overall it is quite clear that the Skilled Drivers program was considered overwhelmingly to have effected positive changes in the driving of these young people or reinforced existing positive behaviours.

### **3.6.5 Additional comments**

In all, 59 participants (36.6%) took the opportunity to make additional comments regarding the course. The most common themes reported by respondents were that that they would recommend the course to other drivers and that they found the course beneficial and enjoyable, indicating the course was perceived as a rewarding experience for these young drivers.

Twenty-nine respondents (49.2%) reported that the course was a good initiative. Some of the responses included that the course was beneficial and worthwhile, that the course was enjoyable, and that one's driving had improved following the participation in the course, for example:

I'm definitely a better driver for having done the course, I'm more confident and so I find I learn something new every time I take the car out.

Great to see AAMI being socially responsible and pro-active, genuinely trying to save young lives.

Six of these respondents expressed their appreciation for the opportunity to take part in the course and in the evaluation, for example:

I'd just like to say a big thank you for the way the course was run. Many thanks.

Thank you AAMI and Monash University.

Twenty-six respondents (44.1%) not only reported that they would recommend the course to other drivers, but most considered that it should be compulsory for all new drivers, with comments such as:

I strongly think that everyone who drives should do a skilled drivers course. It should be mandatory because I didn't know 80% of that information and I'm sure others are the same. This information could save a life.

Others also indicated that it would be beneficial to repeat the course or a similar refresher course at a later date. It was also suggested that drivers of other age groups, may also benefit from participation.

Six respondents (10.2%) recommended possible changes to the course. Two reiterated the view that there should be more of the practical component, while another two suggested the course could benefit from more instructors. Two additional respondents believed the course should be more widely publicised:

I believe that more information needs to be given to people. I was only aware that the course was available to me when my mother told me about it.

In addition to these comments, five respondents (8.5%) referred to the evaluation, which seemed to consider worthwhile, for example:

I think this evaluation is a good idea.

Good-luck with the investigation, and thank-you for including my views, experiences, and input.

Of those 59 participants who commented, only two participants reported that the course was not beneficial in the long term. One believed that changes could only be achieved with experience, while the other reported that poor habits gradually returned:

The first few weeks after the program, my driving really changed. I drove a lot slower (on the speed limit), with a big gap between cars. After a while though, I got sick of driving that slow and went back to my old habits, but I still leave bigger gaps.

It is encouraging that, overall, all but two comments were not only positive regarding the course, they encouraged broader marketing of the course, including to road user groups other than the young driver. The course was clearly regarded as beneficial and enjoyable by most respondents.

### **3.6.6 Summary**

In summary, overall impressions of the AAMI / Skilled Drivers driver-training program, as provided in open-ended responses, were overwhelming positive and complemented the findings of quantitative analyses that the course had effected changes in the driving behaviours of many of these young drivers. Generally, the practical exercises were the most highly regarded component of the course. The most remembered messages and those deemed most important pertained to safe headways, speeds and stopping distances. Most respondents reported positive changes in their driving behaviours in line with these road safety messages. Only two respondents reported that their behaviour had not changed for the better, citing habit and time pressures as more powerful influences.



## 4. CONCLUSIONS

Repeated measures analyses identified several patterns of association between participation in the AAMI / Skilled Drivers driver-training program and positive changes in driving-related attitudes, behaviours, and perceptions of enforcement and crash risk. Some positive changes in attitudes were also found as a result of being enrolled to take part in the driver-training program. Significant changes were identified both in the short term, 1-2 weeks following course participation, and in the long term, 8-9 weeks following course participation. The long-term reporting of changes in behaviour is likely to reflect the development of new habits and, therefore, the likelihood that the safer behaviours adopted will continue in the future.

Following the driver-training program participants were less likely to agree that driver training was a waste of time and reported greater discomfort driving close behind another vehicle. Importantly, confidence in driving ability did not increase; in fact, male drivers reported reduced confidence. The individual belief that they were better drivers than others became stronger, and they reported increased confidence in their ability to manage possible hazards when driving. Together these findings suggested the program improved perceptions of personal driving abilities, particularly in relation to hazard management, but did not inflate the over-confidence of the young drivers, as found to be true of other driver-training programs. This supports the contention that insight training can provide a countermeasure to the over-confidence of young drivers, particular young males. This is a very important finding given that young males have been identified as one of the most problematic road user groups.

In relation to dangerous driving behaviours, as measured by the Driver Behaviour Questionnaire, findings also revealed a positive role of insight training. In the short term it was found that those who were enrolled in the program but had not yet taken part reported increasing levels of dangerous driving behaviours, while for those who had completed the training dangerous driving levels remained quite low. In the long term, after all the participants had completed the training, all of the young drivers reported similarly low levels of these behaviours. These findings suggested at least two possibilities. First, driving training had a protective role for course participants over other factors that would otherwise have increased dangerous driving over the survey period, including driving experience and increased opportunities. Second, it is possible that participation in the evaluation study alone influenced responses. Participants' awareness of specific aspects of their driving behaviour may have increased after the first survey and consequently lead to more realistic reporting for later surveys. From this perspective, the program could be considered to have reduced dangerous driving behaviours. Regardless of the interpretation, the driver-training program was shown to have a positive role in minimising these behaviours.

Some important conclusions were also drawn regarding perceptions of crash risk factors, including speeding behaviour and hazard detection. Again a protective role of driver training was apparent. For those who were enrolled in the program but who had not yet taken part, the estimated chance of driving over the speed limit increased during the initial 3-4 week period. However, after driver training all participants reported low risk. There was also a tendency for male drivers, who initially reported a greater chance of driving over the speed limit than females, to report a reduced likelihood of speeding after course participation, such that their ratings were as low as those initially reported by females.

These results are very encouraging. Any program that reduces the likelihood of speeding, particularly for young males, offers a promising road safety countermeasure, given the high rate of involvement of speeding in fatality and serious injury crashes.

In addition, there was a tendency for both participation and enrolment in the driver-training program to be associated with an increased awareness of the risk of being involved in a crash when driving, both in the short term and long term. In contrast, awareness of the chance of having a near miss increased during enrolment but appeared only to increase in the long term after course participation, suggesting a more delayed realisation. Overall, it seems that over time the Skilled Drivers program increased the sensitivity of participants both to the possibility of having a near miss and of having a crash when driving, particularly for this age group. This may be a contributing factor to the low or reduced confidence in personal driving ability reported by participants.

Examination of qualitative feedback about the course, revealed that respondents were overwhelmingly positive about the program<sup>2</sup>. They not only enjoyed the day in general, but also recognised the benefits of the program, which they recommended for other drivers. While overall the practical exercises appeared to be the most popular aspect, the impact of these on exemplifying theory was also apparent. Key messages were not only retained, but were clearly considered to be important. Most importantly, participants reported the course had effected positive changes in their driving behaviour, including behaviours that are commonly reported among the crashes of young drivers. These included maintaining safer headways and reductions in speeds, as well as the related aspect of allowing for safer stopping distances.

Overall therefore, there was evidence of the benefits of insight training as provided by the AAMI / Skilled Drivers driver-training program. Quantitative findings that most supported the contention that the program provided an important road safety countermeasure, were the reduced confidence in personal driving ability reported by males, the increased confidence in hazard management but not in personal driving ability reported by females, the consistently low levels of dangerous driving behaviours reported following course completion, and the increased sensitivity of all participants to the possibility they may be involved in a crash. These findings were complemented by the qualitative evaluation that clearly indicated a reduction in driving behaviours that are associated with the high crash rate for this age group. Given these important changes in both attitudes and behaviours, the evaluation was deemed to confirm that the insight-training program conducted by AAMI / Skilled Drivers was likely to result in reduced crash involvement for these young people.

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<sup>2</sup> Note that this may in part reflect a sampling bias, due to the voluntary nature of the sample and attrition over the three stages of data collection. Nonetheless, there was no reason to expect that all individuals critical of the course would chose not to continue to Time 3.

## 5. RECOMMENDATIONS

This evaluation has shown that the insight training provided by the AAMI / Skilled Drivers driver-training program was effective in addressing the over-confidence of young drivers and in minimising driving behaviours that were likely to lead to crashes. Important road safety messages were relayed in a relatively short time period with positive results. While some analyses yielded clear patterns of change in self-reported driving-related attitudes and behaviours, others were presented as trends. Quantitative and qualitative evaluations lead to the formulation of several recommendations to AAMI / Skilled Drivers and regarding insight training in general.

### *Maximising learning: personal relevance and social influences*

It is recommended that a variety of teaching mediums as used in the AAMI / Skilled Drivers program and the tendency to arouse mild anxiety levels should continue in insight-training programs. The complementary theoretical and practical sessions provided a powerful combination of learning tasks. Heightened emotional states also play an important role in enhancing such learning (e.g. see Blaney 1986; Senserrick & Harrison, 1999).

It is also recommended that such training programs that involve groups of young drivers (rather than individual training) capitalise on available opportunities to enhance personal relevance and the role of social factors. One outcome of the practical sessions apparent in the qualitative responses was participants' heightened awareness not only of their own inexperience but also of the inexperience of other participants.

Social factors, particularly social comparison, can have a powerful influence on behaviour. Educational research, for example, has shown that students use peer comparison not only to gauge the acceptability of their beliefs and behaviours, but also to evaluate their ability levels (e.g. Reuman, 1989; Ruble, 1983; Suls & Sanders, 1982; Veroff, 1969). In road safety, researchers such as Shope, Waller, and Lang (1996), Canterbury, Gressard, Vieweg, and Grossman (1992) and Evans (1987) have stressed the importance of social factors in understanding the driving behaviour of young drivers, in particular, influences from peers.

Program participants should be encouraged to view themselves both as trainees and observers. Notably, this should not be in a manner that encourages competitiveness, but to highlight the inexperience of all participants (as novice drivers), and to heighten awareness that many other inexperienced drivers travel on the roads. As recommended by some participants in the current evaluation, inclusion of examples from current media, traffic offenders and/or road trauma survivors, particularly those of a similar age to the participants, is also likely to increase the relevance of the learning experience and, therefore, its longevity (e.g. Rivers et al, 1996). (Notably, this could be in person or by means of video and audiotapes.)

In addition, the impact of insight training could be enhanced by a group discussion on personal perceptions and experiences of the program. A group discussion or focus group is a powerful tool that can offer immediate and vivid feedback (Geller, Berry, Ludwig, Evans, Gilmore, & Clarke, 1990; Morgan & Krueger, 1993). It can allow individuals to learn the views of others and match these to their own views and/or become aware of

aspects that they might not have considered previously. It can also clarify views for some individuals with divided opinions. An important factor in young people's adoption of safe driving practices is likely to be the perception that their peers find such behaviour acceptable and worthwhile (e.g. Evans, 1987; Rivers et al, 1996). While it is possible that negative views might also be put forward in this medium, it is likely that they will be challenged. Furthermore, when problematic issues and situations are identified, potential alternatives and strategies that can improve safety could be explored; for example, peer influences to speed. Participants may well be knowledgeable of the issues, but may not have explored acceptable, safe alternatives and strategies. Such a discussion simulates social processes not unlike conversations that might take place with friends following the course (e.g. Harrison & Senserrick, 2000).

### *Contrasting road surface*

Notably, the most common suggestion for improving the AAMI / Skilled Drivers program by the evaluation participants, was the inclusion of more risky road surfaces (e.g. wet surfaces, gravel roads) in practical exercises so that comparison of performance outcomes on the different surfaces could be experienced. A task such as this that focuses on experience and not emergency manoeuvring skills would be in line with the guidelines recommended by the Transport Accident Commission (TAC, 2001). The TAC encourages novice drivers to gain as much experience as possible driving in different conditions and circumstances when accompanied by a fully-licensed driver. However, it is recognised that the inclusion of such a task may be impractical for current programs and driving courses. Additional safety issues would need to be considered, such as the possibilities of loss of vehicle control and the need for safe run-offs. If the AAMI / Skilled Drivers program was to be extended, as some participants suggested, over a longer period of time or with additional follow-up classes, and space was available, AAMI / Skilled Drivers would be encouraged to consider the possibility of extending one or more of the practical exercises to include repetition on a contrasting road surface (such as sand or fine gravel).

### *Analysis of crash involvement*

An additional recommendation relates to a more specific evaluation of the relationship between participation in the AAMI / Skilled Drivers driver-training program and potential reductions in crashes. Given that the current evaluation has found course participants report positive effects of the program, it would be worthwhile exploring differences in the incidence of crashes for those who do and do not chose to take part in the course.

Survival analysis is a statistical technique that is typically used to examine the length of time a group or groups of individuals take to reach a pre-defined event or end-point, when the length of time of the study is fixed and some participants might not reach the defined end-point (Cox & Oakes, 1984; Newstead, 1993). For example, a recent study at MUARC has explored the time to first fall for older persons who had and had not received training to prevent falls (Day, Fildes, Gordon, Fitzharris, Flamer, & Lord, 2001). This proved to be a more sensitive analysis than analysis of fall frequency, for example. A survival analysis of time to first crash for young AAMI insurance holders could compare whether the times to first insurance claim (indicating more than a minor incident) are systematically longer for those who completed the Skilled Drivers driver-training program compared to those who did not. The analysis could control for other factors, such as sex and age. This type of analysis would be able to provide more conclusive support for the evaluation conclusion

that the crash rate of these young drivers is likely to decrease following completion of the program.

### *Driver-training research*

Finally, for research in general, there is a need to review the potential benefits of driver-training programs. Traditional programs that have included advanced vehicle-handling skills, such as skid training, have led to a poor view of driver training among many road safety experts. However, insight-training programs such as the AAMI / Skilled Drivers program that target awareness and insight show promise as a road safety countermeasure to address the over-representation of young people in our crash statistics. There is a need for research to focus on the potential of attitudinal-motivational driver training to improve safety not only for young drivers but also for drivers of all ages and backgrounds.

### *Summary*

In summary, it is recommended that insight-training programs for groups of young drivers such as the AAMI / Skilled Drivers program use a variety of teaching mediums, including focus group discussions, with the aim of heightening emotions and maximising personal relevance and social influences. Learning may also be enhanced by guest speakers with a personal connection to road trauma, particularly young people. Consideration should be given to adding a practical exercise on a contrasting road surface in future developments. The powerful technique of survival analysis is recommended for an evaluation of actual behaviour, based on the time to first claim, to provide more conclusive evidence of the role of insight training in reducing the incidence of crashes for young drivers. Finally, researchers and others involved in the field of road safety are encouraged to reconsider the effectiveness of driver training, with a focus on the benefits of new-look programs that focus on insight and awareness.



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# APPENDIX 1 RECRUITMENT LETTER

M O N A S H U N I V E R S I T Y

---

«First\_Name» «Surname»  
«Address»  
«Suburb» Vic «Postcode»  
«prelim»



ACCIDENT RESEARCH CENTRE  
Director: Professor C. Tingvall

Dear «First\_Name»

AAMI / Skilled Drivers of Australia have engaged Monash University Accident Research Centre (MUARC) to evaluate its driver-training program. The driver-training program focuses on key skills that have been shown to reduce the number of crashes on our roads. In this way, the program has potential value as a road-safety measure. It is therefore very important to evaluate the program and also important that this evaluation is conducted independently.

Researchers at MUARC have developed a questionnaire on driving-related attitudes and behaviours. We would like to compare responses to this questionnaire both before and after participating in the training program. AAMI / Skilled Drivers have provided the names and addresses of people who have recently enrolled in the program but have not yet completed the training. The provision of these details is subject to a strict confidentiality arrangement between AAMI / Skilled Drivers and Monash University. If you are interested in the project, please read on.

The project involves filling out a questionnaire (that takes about 15-20 minutes to complete) on three occasions. The first questionnaire accompanies this letter. If you choose to take part, the second questionnaire will be sent out to you in approximately three weeks time and the third approximately eight weeks later. You will be given a Reply Paid envelope each time so that you can post the questionnaire back to us free of charge.

As you can see, the time frame for this project is extremely short. The second questionnaire will be sent quickly at a time when it is likely that only half of you will have completed the training program. Therefore, we will need you to return the questionnaires quite promptly so that we have somewhat even numbers of people who have and have not completed the training. For this reason, we will ask you for a contact phone number so that we can give you a reminder, if necessary. By the third questionnaire you will all have completed the training, so this will provide some long-term information.

It is important for you to know that this project is strictly confidential. No information that could identify you will be published or given to anyone else, including AAMI / Skilled Drivers. All data from this project will be kept at MUARC, and at the end of the project will be stored electronically without any attached identifying information. The report presented to AAMI / Skilled Drivers will provide group results only.

Your participation is, of course, entirely voluntary and you are free to withdraw from the project at any time. You are also free not to answer any specific items on the questionnaires that you feel concerned about without affecting your involvement in the project. Please note that your choice whether to take part in this project or not will in no way affect your participation in the training program or your eligibility for insurance. AAMI / Skilled Drivers, including the training instructors, will have no knowledge at any time about who actually took part in this study.

Please take some time to read over the attached *Explanatory Statement and Consent Form*. If you choose to take part, all you need to do is sign the *Consent Form*, fill out the *Preliminary Questionnaire* and send them back to us in the envelope provided as soon as possible and no later than «due\_date\_1». (Please note that written consent is a requirement of all University research.)

As a small way of showing our appreciation, we will be happy to send you a summary of the results at the end of the project. I hope you are able to help us with this important project.

Yours sincerely

Warren Harrison  
Senior Research Fellow, MUARC

With the approval of

Tony Barber  
Skilled Drivers Co-ordinator, AAMI

BUILDING 70, WELLINGTON ROAD, CLAYTON, VICTORIA 3168, AUSTRALIA TELEPHONE: (03) 9905 4371 FAX: (03) 9905 4363  
INTERNATIONAL: TELEPHONE: +61 3 9905 4371 FAX: +61 3 9905 4363 <http://www.general.monash.edu.au/muarc>



## APPENDIX 2 EXPLANATORY STATEMENT

M O N A S H U N I V E R S I T Y



ACCIDENT RESEARCH CENTRE  
Director: Professor C. Tingvall

### EXPLANATORY STATEMENT:

#### EVALUATION OF AAMI / SKILLED DRIVERS OF AUSTRALIA DRIVER-TRAINING PROGRAM

AAMI / Skilled Drivers of Australia have engaged Monash University Accident Research Centre (MUARC) to evaluate its driver-training program. This is an independent evaluation conducted by Senior Research Fellow Warren Harrison (MUARC). The research aims to compare the self-reported driving-related attitudes and behaviours of individuals before and after they have completed the training program.

The project involves completing a questionnaire on driving-related attitudes and behaviour on three occasions. The first questionnaire accompanies this statement. The second questionnaire will be sent in 2-3 weeks time, and the third approximately eight weeks later. On each occasion you will be provided with a reply paid envelope (no stamp required) to post the questionnaire back to us free of charge. It is estimated that each questionnaires will take about 15-20 minutes to complete.

The timing of the questionnaires is extremely important in this study. We will send the second questionnaire at a time when it is likely that only half of you will have completed the training program. Therefore, we will need you to return the questionnaires promptly so that we have somewhat even numbers of people who have and have not completed the training. For this reason, we will ask you for a contact phone number so that we can remind you to return the questionnaire, if necessary. By the third questionnaire you will all have completed the training, so this will provide some long-term information about the program.

The AAMI / Skilled Drivers driver-training program focuses on key skills that have been shown to reduce the incidence of crashes. Therefore, the program has potential value as a road-safety measure. It is therefore very important to evaluate the program and also important that this evaluation is conducted independently.

No information that could identify you will be published or given to anyone else (including AAMI /Skilled Drivers), and only members of the research team will see the information you provide. All data from this project will be kept at MUARC, and at the end of the project will be stored electronically without any attached identifying information. On request, you will receive a summary of the results at the end of the project.

Your participation is, of course, entirely voluntary and you are free to withdraw from the project at any time. You are also free not to answer any specific items on the questionnaires that you feel concerned about without affecting your involvement in the project. Your choice to take part in this project will in no way affect your participation in the training program. AAMI / Skilled Drivers will have no knowledge of which individuals are participating in this study.

Any enquiries about the project can be addressed to Mr Warren Harrison, telephone (03) 9905 1903. Should you have any complaint concerning the manner in which this research (project number 2000/013) is conducted, please do not hesitate to contact The Standing Committee on Ethics in Research on Humans at the following address:

The Secretary  
The Standing Committee on Ethics in Research on Humans  
Monash University  
Wellington Road  
Clayton Victoria 3168  
Telephone (03) 9905 2052 Fax (03) 9905 1420

A handwritten signature in black ink, appearing to read 'Warren Harrison'.

Mr Warren Harrison  
Senior Research Fellow

BUILDING 70, WELLINGTON ROAD, CLAYTON, VICTORIA 3168, AUSTRALIA TELEPHONE: (03) 9905 4371 FAX: (03) 9905 4363  
INTERNATIONAL: TELEPHONE: +61 3 9905 4371 FAX: +61 3 9905 4363 <http://www.general.monash.edu.au/muarc>



## APPENDIX 3 CONSENT FORM

### CONSENT FORM:

#### EVALUATION OF AAMI / SKILLED DRIVERS OF AUSTRALIA DRIVER-TRAINING PROGRAM

I agree to take part in the above Monash University research project. I have had the project explained to me, and I have read the Explanatory Statement, which I keep for my records. I understand that this is an independent study being conducted on behalf of AAMI / Skilled Drivers of Australia and that Monash University researchers are responsible for the collection, collation, and analysis of all data. I understand that agreeing to take part means that I am willing to:

- complete a questionnaire about driving-related attitudes and behaviours on three occasions; and
- complete and return the questionnaires promptly.

I also understand that my participation is voluntary, that I can choose not to participate in part or all of the project, and that I can withdraw at any stage of the project without being penalised or disadvantaged in any way.

I also understand that any information I provide is confidential, and that no information that could lead to the identification of any individual will be disclosed in any reports on the project, or to any other party (including AAMI / Skilled Drivers). I understand that taking part in this study in no way affects my participation in the AAMI / Skilled Drivers driver-training program or my eligibility for insurance.

Name: \_\_\_\_\_ (Please Print)

Signature: \_\_\_\_\_ Date: \_\_\_\_\_



# APPENDIX 4 PRELIMINARY QUESTIONNAIRE, TIME 1

## EVALUATION OF AAMI / SKILLED DRIVERS OF AUSTRALIA DRIVER-TRAINING PROGRAM

P	
G	S

### PRELIMINARY QUESTIONNAIRE

Please complete this questionnaire and return it in the reply paid envelope provided AS SOON AS POSSIBLE and no later than < **DUE DATE** >.



1 Please write your name	
2 Please write your address	
3 In case we need to contact you, what is your telephone number?	
4 Could you please indicate how much you agree or disagree with the following statements:	<b>Strongly Disagree ← → Strongly Agree</b>
I am a better driver than others my age	1 2 3 4 5 6 7
I am a better driver than most drivers	1 2 3 4 5 6 7
Older drivers are a real problem on the road	1 2 3 4 5 6 7
Other drivers are usually courteous	1 2 3 4 5 6 7
Driver training is a waste of time	1 2 3 4 5 6 7
I still could use more training	1 2 3 4 5 6 7
It is likely that one day I will have a crash	1 2 3 4 5 6 7
I am uncomfortable driving close behind another car	1 2 3 4 5 6 7
I sometimes drive at a speed below the limit	1 2 3 4 5 6 7
Speeding is always wrong	1 2 3 4 5 6 7
Drink-driving is always wrong	1 2 3 4 5 6 7
Driving at the speed limit is always safe	1 2 3 4 5 6 7
I am confident in my driving ability	1 2 3 4 5 6 7
I am confident in my ability to manage possible hazards when driving	1 2 3 4 5 6 7

5 These are some situations in everyday driving. Could you please rate them according to how often each situation happens to you when you are driving:	Never ← → All the time					
	0	1	2	3	4	5
Deliberately disregard the speed limit to stay with the traffic flow	0	1	2	3	4	5
Overtake when the car in front is slowing down approaching an area with a lower speed limit	0	1	2	3	4	5
Fail to notice a "green arrow" at a traffic signal allowing you to turn	0	1	2	3	4	5
Forget to loosen the park brake when driving off	0	1	2	3	4	5
Drive especially close to the car in front to signal to its driver to go faster or get out of the way	0	1	2	3	4	5
Have other drivers flash their headlights because you forget to turn off high beam on your headlights at night	0	1	2	3	4	5
Speed up at traffic lights because the lights change to yellow	0	1	2	3	4	5
Deliberately park your car illegally in order to run an errand	0	1	2	3	4	5
Break a driving rule because you didn't notice a new traffic sign	0	1	2	3	4	5
Misread signs and find yourself lost	0	1	2	3	4	5
Fail to notice when a traffic signal turns green	0	1	2	3	4	5
Deliberately exceed speed limit on main roads during low traffic	0	1	2	3	4	5
Find yourself in the next-to-highest gear when you are driving fast enough to be in the highest gear	0	1	2	3	4	5
Uncertain where you left your car at a large parking area	0	1	2	3	4	5
Intend to reverse but find the car is moving forward because it is in the wrong gear	0	1	2	3	4	5
Deliberately exceed the speed limit when overtaking	0	1	2	3	4	5
Fail to notice a traffic sign telling you that the road is temporarily closed	0	1	2	3	4	5
Intend to drive to destination A but you "wake up" to find yourself on the road to destination B, perhaps because B is your more usual destination	0	1	2	3	4	5
Miss your exit on a freeway and have to make a lengthy detour	0	1	2	3	4	5

	Never ← → All the time					
Misjudge the road surface when braking and find that the distance required to stop is longer than you expected	0	1	2	3	4	5
Shift into the wrong gear while driving	0	1	2	3	4	5
Switch on one accessory (eg. wipers) when you meant to switch on another (eg. headlights)	0	1	2	3	4	5
Forget which gear you are currently in and have to check it with your hand	0	1	2	3	4	5
Turn onto a main road in front of another vehicle even though no other traffic is approaching	0	1	2	3	4	5
Misjudge the gap to an oncoming vehicle when overtaking and have to cut back into your lane more quickly than normal	0	1	2	3	4	5
Turn right onto a main road into the path of an oncoming vehicle that you didn't see or whose speed you misjudged	0	1	2	3	4	5
Try to change into a higher gear even though you are already in the highest gear	0	1	2	3	4	5
Park against the parking rules because you cannot find anywhere else to park	0	1	2	3	4	5
Misjudge your speed when turning from a main road and have to brake heavily	0	1	2	3	4	5
Cut the corner on a left-hand curve in rural areas	0	1	2	3	4	5
Misjudge the gap to an oncoming vehicle when turning right and force the oncoming vehicle to brake heavily	0	1	2	3	4	5
Underestimate the speed on an oncoming vehicle when overtaking	0	1	2	3	4	5
Fail to notice a car overtaking you until it is beside you	0	1	2	3	4	5
Fail to notice a speed-limit sign	0	1	2	3	4	5
Find yourself stopped in an intersection or on a pedestrian crossing because of queueing	0	1	2	3	4	5
Fail to use an indicator when changing lanes	0	1	2	3	4	5
Fail to use an indicator when turning a corner	0	1	2	3	4	5

6	What is your date of birth?	
7	Your sex?	
8	How old were you when you first obtained a probationary driver licence?	
9	How many hours would you spend driving in an average week?	
10	How many hours would you spend driving FOR work purposes in an average week? (ie. not including to and from work)	
11	How many crashes have you been involved in as a driver?	
12	How many crashes have you been involved in as a passenger or pedestrian?	
13	How many crashes out of all of these resulted in someone going to hospital?	
14	How many times have you been caught speeding?	
15	How many times have you been caught drink-driving?	
16	How many people do you know who have been caught speeding?	
17	How many people do you know who have been caught drink-driving?	
18	Please estimate the chance of the following things happening some time while you are driving in the next two weeks:	
		Very Unlikely ←                      → Very Likely
	Seeing a speed camera	1   2   3   4   5   6   7
	Being stopped for a breath test	1   2   3   4   5   6   7
	Having my speed checked by the Police	1   2   3   4   5   6   7
	Driving over the speed limit	1   2   3   4   5   6   7
	Having a crash	1   2   3   4   5   6   7
	Failing to see a possible hazard	1   2   3   4   5   6   7
	Having a near miss	1   2   3   4   5   6   7

**(Please remember to post this ASAP)**

**THANKS FOR YOUR HELP!**

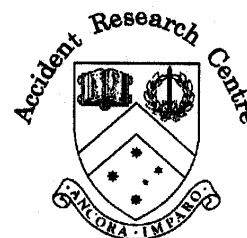
# APPENDIX 5 INTERIM QUESTIONNAIRE, TIME 2

P	
G	S

## EVALUATION OF AAMI / SKILLED DRIVERS OF AUSTRALIA DRIVER-TRAINING PROGRAM

### INTERIM QUESTIONNAIRE

Please complete this questionnaire and return it in the reply paid envelope provided AS SOON AS POSSIBLE and no later than < DUE DATE >.



1	Please write your name	
2	If your address has changed, what is your new address?	
3	If your telephone number has changed, what is your new number?	
4	Could you please indicate how much you agree or disagree with the following statements:	<b>Strongly Disagree ← → Strongly Agree</b>
	I am a better driver than others my age	1 2 3 4 5 6 7
	I am a better driver than most drivers	1 2 3 4 5 6 7
	Older drivers are a real problem on the road	1 2 3 4 5 6 7
	Other drivers are usually courteous	1 2 3 4 5 6 7
	Driver training is a waste of time	1 2 3 4 5 6 7
	I still could use more training	1 2 3 4 5 6 7
	It is likely that one day I will have a crash	1 2 3 4 5 6 7
	I am uncomfortable driving close behind another car	1 2 3 4 5 6 7
	I sometimes drive at a speed below the limit	1 2 3 4 5 6 7
	Speeding is always wrong	1 2 3 4 5 6 7
	Drink-driving is always wrong	1 2 3 4 5 6 7
	Driving at the speed limit is always safe	1 2 3 4 5 6 7
	I am confident in my driving ability	1 2 3 4 5 6 7
	I am confident in my ability to manage possible hazards when driving	1 2 3 4 5 6 7

5 These are some situations in everyday driving. Could you please rate them according to how often each situation happens to you when you are driving:	Never ← → All the time					
	0	1	2	3	4	5
Deliberately disregard the speed limit to stay with the traffic flow	0	1	2	3	4	5
Overtake when the car in front is slowing down approaching an area with a lower speed limit	0	1	2	3	4	5
Fail to notice a "green arrow" at a traffic signal allowing you to turn	0	1	2	3	4	5
Forget to loosen the park brake when driving off	0	1	2	3	4	5
Drive especially close to the car in front to signal to its driver to go faster or get out of the way	0	1	2	3	4	5
Have other drivers flash their headlights because you forget to turn off high beam on your headlights at night	0	1	2	3	4	5
Speed up at traffic lights because the lights change to yellow	0	1	2	3	4	5
Deliberately park your car illegally in order to run an errand	0	1	2	3	4	5
Break a driving rule because you didn't notice a new traffic sign	0	1	2	3	4	5
Misread signs and find yourself lost	0	1	2	3	4	5
Fail to notice when a traffic signal turns green	0	1	2	3	4	5
Deliberately exceed speed limit on main roads during low traffic	0	1	2	3	4	5
Find yourself in the next-to-highest gear when you are driving fast enough to be in the highest gear	0	1	2	3	4	5
Uncertain where you left your car at a large parking area	0	1	2	3	4	5
Intend to reverse but find the car is moving forward because it is in the wrong gear	0	1	2	3	4	5
Deliberately exceed the speed limit when overtaking	0	1	2	3	4	5
Fail to notice a traffic sign telling you that the road is temporarily closed	0	1	2	3	4	5
Intend to drive to destination A but you "wake up" to find yourself on the road to destination B, perhaps because B is your more usual destination	0	1	2	3	4	5
Miss your exit on a freeway and have to make a lengthy detour	0	1	2	3	4	5

	Never ←					→ All the time
Misjudge the road surface when braking and find that the distance required to stop is longer than you expected	0	1	2	3	4	5
Shift into the wrong gear while driving	0	1	2	3	4	5
Switch on one accessory (eg. wipers) when you meant to switch on another (eg. headlights)	0	1	2	3	4	5
Forget which gear you are currently in and have to check it with your hand	0	1	2	3	4	5
Turn onto a main road in front of another vehicle even though no other traffic is approaching	0	1	2	3	4	5
Misjudge the gap to an oncoming vehicle when overtaking and have to cut back into your lane more quickly than normal	0	1	2	3	4	5
Turn right onto a main road into the path of an oncoming vehicle that you didn't see or whose speed you misjudged	0	1	2	3	4	5
Try to change into a higher gear even though you are already in the highest gear	0	1	2	3	4	5
Park against the parking rules because you cannot find anywhere else to park	0	1	2	3	4	5
Misjudge your speed when turning from a main road and have to brake heavily	0	1	2	3	4	5
Cut the corner on a left-hand curve in rural areas	0	1	2	3	4	5
Misjudge the gap to an oncoming vehicle when turning right and force the oncoming vehicle to brake heavily	0	1	2	3	4	5
Underestimate the speed on an oncoming vehicle when overtaking	0	1	2	3	4	5
Fail to notice a car overtaking you until it is beside you	0	1	2	3	4	5
Fail to notice a speed-limit sign	0	1	2	3	4	5
Find yourself stopped in an intersection or on a pedestrian crossing because of queueing	0	1	2	3	4	5
Fail to use an indicator when changing lanes	0	1	2	3	4	5
Fail to use an indicator when turning a corner	0	1	2	3	4	5

6 Please estimate the chance of the following things happening some time while you are driving in the next two weeks:	Very Unlikely ← → Very Likely						
	1	2	3	4	5	6	7
Seeing a speed camera	1	2	3	4	5	6	7
Being stopped for a breath test	1	2	3	4	5	6	7
Having my speed checked by the Police	1	2	3	4	5	6	7
Driving over the speed limit	1	2	3	4	5	6	7
Having a crash	1	2	3	4	5	6	7
Failing to see a possible hazard	1	2	3	4	5	6	7
Having a near miss	1	2	3	4	5	6	7
7 Have you completed the AAMI / Skilled Drivers driver-training program?							

**(Please remember to post this ASAP)**

**THANKS FOR YOUR HELP!**

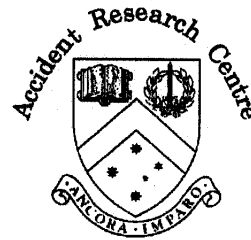
# APPENDIX 6 FINAL QUESTIONNAIRE, TIME 3

P	
G	S

## EVALUATION OF AAMI / SKILLED DRIVERS OF AUSTRALIA DRIVER-TRAINING PROGRAM

### FINAL QUESTIONNAIRE

Please complete this questionnaire and return it in the reply paid envelope provided AS SOON AS POSSIBLE and no later than < **DUE DATE** >.



1 Please write your name.	
2 Would you like a summary of the results of this research?	
3 If so, please note that it will be some months before the research and report is complete. If it is likely that your address may change, please include an alternative address here.	
4 Could you please indicate how much you agree or disagree with the following statements:	<b>Strongly Disagree ← → Strongly Agree</b>
I am a better driver than others my age	1 2 3 4 5 6 7
I am a better driver than most drivers	1 2 3 4 5 6 7
Older drivers are a real problem on the road	1 2 3 4 5 6 7
Other drivers are usually courteous	1 2 3 4 5 6 7
Driver training is a waste of time	1 2 3 4 5 6 7
I still could use more training	1 2 3 4 5 6 7
It is likely that one day I will have a crash	1 2 3 4 5 6 7
I am uncomfortable driving close behind another car	1 2 3 4 5 6 7
I sometimes drive at a speed below the limit	1 2 3 4 5 6 7
Speeding is always wrong	1 2 3 4 5 6 7
Drink-driving is always wrong	1 2 3 4 5 6 7
Driving at the speed limit is always safe	1 2 3 4 5 6 7
I am confident in my driving ability	1 2 3 4 5 6 7
I am confident in my ability to manage possible hazards when driving	1 2 3 4 5 6 7

5 These are some situations in everyday driving. Could you please rate them according to how often each situation happens to you when you are driving:

	Never ←					→ All the time
	0	1	2	3	4	5
Deliberately disregard the speed limit to stay with the traffic flow	0	1	2	3	4	5
Overtake when the car in front is slowing down approaching an area with a lower speed limit	0	1	2	3	4	5
Fail to notice a "green arrow" at a traffic signal allowing you to turn	0	1	2	3	4	5
Forget to loosen the park brake when driving off	0	1	2	3	4	5
Drive especially close to the car in front to signal to its driver to go faster or get out of the way	0	1	2	3	4	5
Have other drivers flash their headlights because you forget to turn off high beam on your headlights at night	0	1	2	3	4	5
Speed up at traffic lights because the lights change to yellow	0	1	2	3	4	5
Deliberately park your car illegally in order to run an errand	0	1	2	3	4	5
Break a driving rule because you didn't notice a new traffic sign	0	1	2	3	4	5
Misread signs and find yourself lost	0	1	2	3	4	5
Fail to notice when a traffic signal turns green	0	1	2	3	4	5
Deliberately exceed speed limit on main roads during low traffic	0	1	2	3	4	5
Find yourself in the next-to-highest gear when you are driving fast enough to be in the highest gear	0	1	2	3	4	5
Uncertain where you left your car at a large parking area	0	1	2	3	4	5
Intend to reverse but find the car is moving forward because it is in the wrong gear	0	1	2	3	4	5
Deliberately exceed the speed limit when overtaking	0	1	2	3	4	5
Fail to notice a traffic sign telling you that the road is temporarily closed	0	1	2	3	4	5
Intend to drive to destination A but you "wake up" to find yourself on the road to destination B, perhaps because B is your more usual destination	0	1	2	3	4	5
Miss your exit on a freeway and have to make a lengthy detour	0	1	2	3	4	5

	Never ← → All the time					
	0	1	2	3	4	5
Misjudge the road surface when braking and find that the distance required to stop is longer than you expected	0	1	2	3	4	5
Shift into the wrong gear while driving	0	1	2	3	4	5
Switch on one accessory (eg. wipers) when you meant to switch on another (eg. headlights)	0	1	2	3	4	5
Forget which gear you are currently in and have to check it with your hand	0	1	2	3	4	5
Turn onto a main road in front of another vehicle even though no other traffic is approaching	0	1	2	3	4	5
Misjudge the gap to an oncoming vehicle when overtaking and have to cut back into your lane more quickly than normal	0	1	2	3	4	5
Turn right onto a main road into the path of an oncoming vehicle that you didn't see or whose speed you misjudged	0	1	2	3	4	5
Try to change into a higher gear even though you are already in the highest gear	0	1	2	3	4	5
Park against the parking rules because you cannot find anywhere else to park	0	1	2	3	4	5
Misjudge your speed when turning from a main road and have to brake heavily	0	1	2	3	4	5
Cut the corner on a left-hand curve in rural areas	0	1	2	3	4	5
Misjudge the gap to an oncoming vehicle when turning right and force the oncoming vehicle to brake heavily	0	1	2	3	4	5
Underestimate the speed on an oncoming vehicle when overtaking	0	1	2	3	4	5
Fail to notice a car overtaking you until it is beside you	0	1	2	3	4	5
Fail to notice a speed-limit sign	0	1	2	3	4	5
Find yourself stopped in an intersection or on a pedestrian crossing because of queueing	0	1	2	3	4	5
Fail to use an indicator when changing lanes	0	1	2	3	4	5
Fail to use an indicator when turning a corner	0	1	2	3	4	5

6 Please estimate the chance of the following things happening some time while you are driving in the next two weeks:	Very Unlikely ← → Very Likely						
	1	2	3	4	5	6	7
Seeing a speed camera	1	2	3	4	5	6	7
Being stopped for a breath test	1	2	3	4	5	6	7
Having my speed checked by the Police	1	2	3	4	5	6	7
Driving over the speed limit	1	2	3	4	5	6	7
Having a crash	1	2	3	4	5	6	7
Failing to see a possible hazard	1	2	3	4	5	6	7
Having a near miss	1	2	3	4	5	6	7
<b>Please complete the following details:</b>							
7 How many hours would you spend driving in an average week?							
8 How many hours would you spend driving FOR work purposes in an average week? (ie. not including to and from work)							
9 How many crashes have you been involved in as a driver?							
10 How many crashes have you been involved in as a passenger or pedestrian?							
11 How many crashes out of all of these resulted in someone going to hospital?							
12 How many times have you been caught speeding?							
13 How many times have you been caught drink-driving?							
14 How many people do you know who have been caught speeding?							
15 How many people do you know who have been caught drink-driving?							
<b>Finally, please provide some details about the AAMI / Skilled Drivers driver-training program:</b>							
16 What do you remember most about the course?							

17 Is there anything you believe should have been added to the course?			
18 What was the most important part of the course for you personally?			
19	Has the course changed the way you drive?	Yes	No (please circle)
	If yes, how has the way you drive changed?		
	If no, what are possible reasons why the course did not change the way you drive?		
20 Any other comments?			

**(Please remember to post this ASAP)**

**THANKS FOR ALL YOUR HELP WITH THIS PROJECT!**



## **APPENDIX 7      FACTOR STRUCTURE OF THE DBQ**

## FACTOR STRUCTURE OF THE DRIVER BEHAVIOUR QUESTIONNAIRE

Factor analysis is a statistical technique that identifies groups of items that are relatively independent of one another. That is, it is a means of identifying underlying response patterns in the data. Item factor loadings represent the degree to which a given item correlates with each factor. The higher the factor loading, the stronger the correlation. In general, a minimum factor loading of  $\pm .300$  is required to indicate association with a given item (Tabachnick & Fidell, 1989).

Factor analysis of the 37 DBQ items at Time 1 indicated that four underlying response patterns were present in the data, which together accounted for 41.1% of the variance in responses. Results of the analysis are presented in Table A7.1. The four factors closely resembled those found by Åberg and Rimmö (1998), representing violations, inattention lapses, mistakes, and inexperience lapses.

To examine the test-retest reliability of the solution, a factor analysis of the 37 DBQ items was also conducted at Time 2. The solution also confirmed the presence of four underlying response patterns, together accounting for 45.5 % of response variance. Results of the Time 2 analysis are presented in Table A7.2. Items that showed movement to a different factor than at Time 1 are highlighted. Comparison of Tables A7.1 and A7.2 shows that the two solutions were very similar.

Three of the seven highlighted items (the first, sixth and seventh, consecutively) also loaded onto the original factor in the Time 1 solution, therefore maintaining some consistency with the original solution. For example, the item “Fail to notice a traffic sign telling you that the road is temporarily closed” was included in the Mistakes factor at Time 1. From Table A7.2 it can be seen that, while this item loaded (marginally) stronger on the Violations factor at Time 2, it also loaded on the Mistakes factor.

A further three of the highlighted items (the third, fourth and fifth) that had originally loaded on the Inexperience Lapses factor at Time 1, loaded on the Inattention Lapses factor at Time 2. Given that both factors represent examples of lapses when driving, this was considered a conceptually meaningful pattern that did not compromise the strength of the Time 1 factor solution.

The last of the highlighted items (“Turn onto a main road in front of another vehicle even though no other traffic is approaching”), while originally loading on the Mistakes factor, loaded on the Violations factor at Time 2. Again, conceptually this was an acceptable pattern. While the item could be considered as a mistake only, it could also be regarded as a violation of the give way road rule.

Therefore, only a few changes in loadings for factors at Time 1 and Time 2 occurred, and these changes were conceptually meaningful. Given this finding, the Time 1 factors were used as the basis for comparison in further analyses.

**Table A7.1 Factor analysis of DBQ items at Time 1**

Item	Factor Loading			
	I	II	III	IV
<u>Factor I: Violations</u>				
Deliberately exceed speed limit on main roads during low traffic	.812			
Deliberately exceed the speed limit when overtaking	.712			
Deliberately disregard the speed limit to stay with the traffic flow	.707			
Drive especially close to the car in front to signal to its driver to go faster or get out of the way	.618			
Speed up at traffic lights because the lights change to yellow	.588			
Overtake when the car in front is slowing down approaching an area with a lower speed limit	.566		.313	
Park against the parking rules because you cannot find anywhere else to park	.564			
Deliberately park your car illegally in order to run an errand	.551			
Cut the corner on a left-hand curve in rural areas	.467	.344		
Fail to notice a speed-limit sign	.442	.403		
<u>Factor II: Inattention Lapses</u>				
Misread signs and find yourself lost		.585		
Fail to notice a “green arrow” at a traffic signal allowing you to turn		.584		
Fail to notice when a traffic signal turns green		.558		
Fail to notice a car overtaking you until it is beside you		.517		
Forget to loosen the park brake when driving off		.507		
Miss your exit on a freeway and have to make a lengthy detour		.493		
Fail to use an indicator when changing lanes		.492		
Fail to use an indicator when turning a corner		.488		
Intend to drive to destination A but you “wake up” to find yourself on the road to destination B, perhaps because B is your more usual destination		.424		
Intend to reverse but find the car is moving forward because it is in the wrong gear		.413	.349	

**Table A7.1 Factor analysis of DBQ items at Time 1 (continued)**

Item	Factor Loading			
	I	II	III	IV
<u>Factor III: Mistakes</u>				
Underestimate the speed on an oncoming vehicle when overtaking			.730	
Misjudge the gap to an oncoming vehicle when overtaking and have to cut back into your lane more quickly than normal			.708	
Misjudge the gap to an oncoming vehicle when turning right and force the oncoming vehicle to brake heavily			.688	
Turn right onto a main road into the path of an oncoming vehicle that you didn't see or whose speed you misjudged			.676	
Turn onto a main road in front of another vehicle even though no other traffic is approaching			.570	
Misjudge the road surface when braking and find that the distance required to stop is longer than you expected		.35	.467	
Find yourself stopped in an intersection or on a pedestrian crossing because of queueing	.303		.433	
Misjudge your speed when turning from a main road and have to brake heavily	.326	.339	.397	
<u>Factor IV: Inexperience Lapses</u>				
Forget which gear you are currently in and have to check it with your hand				.775
Shift into the wrong gear while driving				.754
Find yourself in the next-to-highest gear when you are driving fast enough to be in the highest gear				.672
Try to change into a higher gear even though you are already in the highest gear				.448
Uncertain where you left your car at a large parking area				.419
Break a driving rule because you didn't notice a new traffic sign	.328			.391
Switch on one accessory (eg. wipers) when you meant to switch on another (eg. headlights)		.336		.374
Fail to notice a traffic sign telling you that the road is temporarily closed		.356		.364
Have other drivers flash their headlights because you forget to turn off high beam on your headlights at night		.337		.362

**Table A7.2 Factor analysis of DBQ items at Time 2**

Item	Factor Loading			
	I	II	III	IV
<u>Factor I: Violations</u>				
Deliberately exceed speed limit on main roads during low traffic	.790			
Deliberately disregard the speed limit to stay with the traffic flow	.737			
Deliberately exceed the speed limit when overtaking	.686			
Overtake when the car in front is slowing down approaching an area with a lower speed limit	.618			
Speed up at traffic lights because the lights change to yellow	.603			
Drive especially close to the car in front to signal to its driver to go faster or get out of the way	.529		.341	
Deliberately park your car illegally in order to run an errand	.510			
Park against the parking rules because you cannot find anywhere else to park	.501			
Cut the corner on a left-hand curve in rural areas	.493	.334		
Find yourself stopped in an intersection or on a pedestrian crossing because of queueing	.368		.316	
Turn onto a main road in front of another vehicle even though no other traffic is approaching	.354	.301		
<u>Factor II: Inattention Lapses</u>				
Fail to use an indicator when changing lanes	.536	.610		
Intend to reverse but find the car is moving forward because it is in the wrong gear		.606		
Misread signs and find yourself lost		.569	.366	
Fail to use an indicator when turning a corner	.503	.559		
Forget to loosen the park brake when driving off		.526		
Fail to notice a traffic sign telling you that the road is temporarily closed		.521		
Fail to notice when a traffic signal turns green		.518	.407	
Fail to notice a car overtaking you until it is beside you		.511	.380	
Switch on one accessory (eg. wipers) when you meant to switch on another (eg. headlights)		.489		
Have other drivers flash their headlights because you forget to turn off high beam on your headlights at night		.468		

**Table A7.2 Factor analysis of DBQ items at Time 2 (continued)**

Item	Factor Loading			
	I	II	III	IV
<u>Factor II: Inattention lapses (cont.)</u>				
Miss your exit on a freeway and have to make a lengthy detour		.464	.308	
Fail to notice a “green arrow” at a traffic signal allowing you to turn		.458		.338
Intend to drive to destination A but you “wake up” to find yourself on the road to destination B, perhaps because B is your more usual destination		.312		
<u>Factor III: Mistakes</u>				
Misjudge the gap to an oncoming vehicle when turning right and force the oncoming vehicle to brake heavily			.768	
Misjudge the gap to an oncoming vehicle when overtaking and have to cut back into your lane more quickly than normal			.707	
Underestimate the speed on an oncoming vehicle when overtaking			.691	
Turn right onto a main road into the path of an oncoming vehicle that you didn’t see or whose speed you misjudged			.636	
Misjudge the road surface when braking and find that the distance required to stop is longer than you expected			.550	
Misjudge your speed when turning from a main road and have to brake heavily			.506	
Fail to notice a speed-limit sign	.411	.340	.444	
Break a driving rule because you didn’t notice a new traffic sign		.311	.377	.304
<u>Factor IV: Inexperience Lapses</u>				
Forget which gear you are currently in and have to check it with your hand				.786
Shift into the wrong gear while driving				.729
Find yourself in the next-to-highest gear when you are driving fast enough to be in the highest gear				.646
Try to change into a higher gear even though you are already in the highest gear				.630
Uncertain where you left your car at a large parking area				.448

Next the reliability coefficients of the DBQ and the factors were examined. The DBQ was found to be highly reliable on each occasion, with scale alpha coefficients of .90, .92, and .93 at Times 1, 2, and 3 (respectively).

Reliability coefficients were also acceptable for each of the factors. These are displayed in Table A7.3 below.

**Table A7.3 DBQ factor reliabilities**

DBQ factor	Alpha coefficients		
	Time 1	Time 2	Time 3
Violations	.85	.85	.87
Inattention Lapses	.75	.80	.81
Mistakes	.82	.82	.80
Inexperience Lapses	.75	.78	.83

Overall therefore, test-retest of DBQ showed a consistent factor structure that was highly reliable. There were no items of concern. Therefore, the full version of scale was included for the analyses reported in Section 3.4.



**APPENDIX 8      SHORT-TERM OUTCOMES OF THE AAMI /  
SKILLED DRIVERS DRIVER-TRAINING PROGRAM:  
INTERIM RESULTS**

## **A.8 SHORT TERM OUTCOMES OF THE AAMI / SKILLED DRIVERS DRIVER-TRAINING PROGRAM: INTERIM RESULTS**

An analysis of all available participant responses was conducted following completion of the preliminary and interim questionnaires at Time 1 and Time 2. This analysis aimed at exploring the short-term outcomes following participation in the AAMI skilled drivers course and an interim report was submitted to AAMI. The following appendix is based on those findings.

### **A8.1 DRIVER ATTITUDES AND SHORT-TERM OUTCOMES OF COURSE PARTICIPATION**

In order to identify short-term outcomes of the driver-training program, the responses of all participants who completed surveys at both Time 1 and Time 2 were examined. This allowed any changes in responses by cases at 1-2 weeks following course participation to be compared to the responses of controls (who had not yet taken part in the course).

Assuming all other effects had remained equal over the survey period, a typical pattern of results that would suggest a positive effect of course participation would be indicated by:

- a) no significant differences between scores of cases and controls at Time 1;
- b) increased scores on positive attitude items or decreased scores on negative attitude items of cases from Time 1 to Time 2; and
- c) significant differences between scores of cases and controls at Time 2.

This would indicate that the two groups did not differ initially and that course participants reported improvements following completion of the driver training program, while untrained participants reported no such change. This pattern of findings would more clearly support the conclusion that benefits reported by cases could be attributable to the driver-training program. The above pattern will be referred to as the typical pattern of results indicating a positive effect of course participation.

#### **A8.1.1 Responses of cases and controls at Time 1 and Time 2**

A repeated measures analysis of the 14 attitude items was performed. Results are presented in Table A8.1. Means indicated that several of the attitudes of cases improved towards road safety after participation in the driver-training program, although this was also apparent for some of the attitudes of controls. While the overall model was not significant [ $F_{(14,147)} = 1.292, p > .10$ ], several comparisons were significant (shaded in Table A8.1).

**Table A8.1 Mean ratings and *F* statistic for driver attitudes of cases and controls at Time 1 and Time 2 (*N* = 162)**

Item	Time 1		Time 2		<i>F</i> statistic
	Cases	Controls	Cases	Controls	
1. I am a better driver than others my age	4.674	4.699 <sup>a</sup>	4.775 <sup>x</sup>	4.452 <sup>a,x</sup>	$F_{(1, 160)} = 7.484, p < .01$
2. I am a better driver than most drivers	3.978	3.712	4.124 <sup>a</sup>	3.603 <sup>a</sup>	$F_{(1, 160)} = 3.548, p = .06$
3. Older drivers are a real problem on the road	4.303	4.123	4.303	4.014	$F_{(1, 160)} = 0.372, p > .10$
4. Other drivers are usually courteous	3.775	3.904	3.742	3.795	$F_{(1, 160)} = 0.145, p > .10$
5. Driver training is a waste of time	1.517	1.616	1.404	1.575	$F_{(1, 160)} = 0.119, p > .10$
6. I could still use more training	5.573 <sup>a</sup>	5.630	5.146 <sup>a,b</sup>	5.808 <sup>b</sup>	$F_{(1, 160)} = 5.925, p < .10$
7. It is likely that one day I will have a crash	5.247 <sup>x</sup>	4.849 <sup>x</sup>	5.056	4.849	$F_{(1, 160)} = 0.669, p > .10$
8. I am uncomfortable driving close behind another car	5.022 <sup>a</sup>	4.329 <sup>a</sup>	5.360 <sup>b</sup>	4.658 <sup>b</sup>	$F_{(1, 160)} = 0.001, p > .10$
9. I sometimes drive at a speed below the limit	4.652	4.507	4.809	4.616	$F_{(1, 160)} = 0.052, p > .10$
10. Speeding is always wrong	5.045	4.822	4.978	5.014	$F_{(1, 160)} = 1.352, p > .10$
11. Drink-driving is always wrong	6.517	6.493	6.393 <sup>x</sup>	6.753 <sup>x</sup>	$F_{(1, 160)} = 1.923, p > .10$
12. Driving at the speed limit is always safe	3.169 <sup>a</sup>	2.904	2.742 <sup>a</sup>	2.712	$F_{(1, 160)} = 0.744, p > .10$
13. I am confident in my driving ability	5.360	5.342 <sup>a</sup>	5.236	5.110 <sup>a</sup>	$F_{(1, 160)} = 0.509, p > .10$
14. I am confident in my ability to manage possible hazards when driving	4.584 <sup>a</sup>	4.384	5.011 <sup>a,b</sup>	4.479 <sup>b</sup>	$F_{(1, 160)} = 2.547, p > .10$

*Note:* Identical superscripts *a* and *b* indicate that row means are significantly different from each other at  $p < .05$   
Identical superscripts *x* indicate that row means are significantly different from each other at  $p < .10$

From Table A8.1 it can be seen that the typical pattern of results indicating a positive effect of course participation was evident for two of the items, Items 6 and 14. Drivers who participated in the course agreed less strongly (although still above the neutral position) that they could still use more training both in relation to their Time 1 rating and in relation to the controls' Time 2 rating. They also reported increased confidence in their ability to manage possible hazards when driving (although overall this comparison did not reach significance:  $p = .11$ ).

Another significant comparison resulted for Item 1. While cases continued to rate themselves as a better driver than most others of the same age somewhat equally before and after training, controls rated themselves less strongly over the testing period. There was also a tendency for controls to more strongly disagree that they were better than most drivers at Time 2, when compared to cases. Therefore, while enrolled in the driver-training program, participants' perceptions of their driving ability became somewhat less positive, while after completion of the program participants' reported confidence was at the same level as originally reported.

Other key findings include:

- Cases agreed more strongly than controls that they were uncomfortable driving close behind another car both at Time 1 and at Time 2. Participation in the course did not significantly increase this reported discomfort for cases.
- Cases more strongly disagreed that driving at the speed limit was always safe after completing the driver-training program, however, these scores were not significantly different to those of controls.
- Controls reported increased confidence in their driving ability from Time 1 to Time 2. While means for cases indicate the reverse was true, there were no significant differences between scores of cases and controls at either Time 1 or Time 2.

Overall therefore, positive short-term effects of course participation on driver attitudes were evident in responses. The strongest results indicated that, after completing the course, drivers tended to report reduced agreement that they needed more training, greater confidence in their ability to manage hazards, and more strongly disagreed that driving at the speed limit was always safe. They also tended to maintain a higher level of discomfort driving close behind another vehicle than those who did not participate in the course. Results also suggested that enrolment in the course alone had positive effects, including reductions in the belief that one is a better driver than others and in confidence in personal driving ability in general.

### **A8.1.2 Sex differences**

Due to the low number of male participants, there was insufficient power to report sex differences for comparisons of responses at Times 1 and 2. Therefore, as there are known differences in the driving attitudes of young males and females, results were reported separately, first for females and second, for males, to see whether different patterns emerged to those for the entire sample.

#### ***A8.1.2.1 Female participants***

As found for the total sample, the overall model of differences for self-reported attitudes of female participants was not significant [ $F_{(14, 110)} = 1.347, p > .10$ ]. Table A8.2 displays the results, which were very similar to those for the total sample, including significant comparisons.

**Table A8.2 Mean ratings and *F* statistic for driver attitudes of female cases and controls at Time 1 and Time 2 (*N* = 125)**

Item	Time 1		Time 2		<i>F</i> statistic
	Cases	Controls	Cases	Controls	
1. I am a better driver than others my age	4.597	4.586 <sup>a</sup>	4.701 <sup>x</sup>	4.362 <sup>a,x</sup>	$F_{(1, 123)} = 5.270, p < .05$
2. I am a better driver than most drivers	3.925	3.621	4.075 <sup>a</sup>	3.483 <sup>a</sup>	$F_{(1, 123)} = 3.781, p = .05$
3. Older drivers are a real problem on the road	4.328	3.966	4.299	3.897	$F_{(1, 123)} = 0.330, p > .10$
4. Other drivers are usually courteous	3.851	3.862	3.731	3.828	$F_{(1, 123)} = 0.149, p > .10$
5. Driver training is a waste of time	1.537	1.569	1.358	1.621	$F_{(1, 123)} = 0.907, p > .10$
6. I could still use more training	5.612 <sup>a</sup>	5.690	5.119 <sup>a,b</sup>	5.845 <sup>b</sup>	$F_{(1, 123)} = 5.431, p < .05$
7. It is likely that one day I will have a crash	5.119	4.897	5.045	4.897	$F_{(1, 123)} = 0.076, p > .10$
8. I am uncomfortable driving close behind another car	5.224 <sup>a</sup>	4.207 <sup>a,x</sup>	5.567 <sup>b</sup>	4.724 <sup>b,x</sup>	$F_{(1, 123)} = 0.183, p > .10$
9. I sometimes drive at a speed below the limit	4.687	4.397	4.851	4.483	$F_{(1, 123)} = 0.097, p > .10$
10. Speeding is always wrong	5.239	4.897	5.090	5.052	$F_{(1, 123)} = 1.302, p > .10$
11. Drink-driving is always wrong	6.507	6.414	6.448	6.741	$F_{(1, 123)} = 1.326, p > .10$
12. Driving at the speed limit is always safe	3.373 <sup>a</sup>	2.879	2.746 <sup>a</sup>	2.724	$F_{(1, 123)} = 2.255, p > .10$
13. I am confident in my driving ability	5.254	5.190	5.164	5.103	$F_{(1, 123)} = 0.000, p > .10$
14. I am confident in my ability to manage possible hazards when driving	4.403 <sup>a</sup>	4.190	4.955 <sup>a,b</sup>	4.379 <sup>b</sup>	$F_{(1, 123)} = 2.270, p > .10$

*Note:* Identical superscripts *a* and *b* indicate that row means are significantly different from each other at  $p < .05$   
 Identical superscripts *x* indicate that row means are significantly different from each other at  $p < .10$

One finding that did vary was that for Item 8. While cases more strongly agreed that they were uncomfortable driving close behind another car than did controls at both Time 1 and Time 2, controls' scores significantly increased over this period. That is, while enrolled in the driver-training program, female participants reported increasing discomfort with close following, however, not to the same level as that reported by cases.

#### ***A8.1.2.2 Male participants***

Mean scores for male participants are displayed in Table A8.3. While some effects were able to be detected, it is stressed that the overall lack of significant findings is likely to be due to the low power of these analyses and not due to a lack of effects.

From Item 8 it can be seen that at Time 1 cases more strongly agreed than controls that it was likely that one day they would have a crash. After training however, cases scores had reduced (although not significantly) to a level similar to that of controls. This indicated a tendency for male course participants to somewhat less strongly agree that they might be involved in a future crash after training.

For Items 5, 12 and 13, results showed that during the period of enrolment in the driver-training program, controls' agreement that driver training is a waste of time decreased, as did their confidence in their driving ability and, to a lesser extent, their belief that driving at the speed limit is always safe. For each comparison, the scores of controls and cases did not differ significantly. This suggested some benefits for young male drivers in being enrolled in the driver-training program.

## **A8.2 DRIVER BEHAVIOURS AND SHORT-TERM OUTCOMES OF COURSE PARTICIPATION**

In order to identify short-term outcomes of course participation on driver behaviours, the responses of cases and controls were examined for the four DBQ factors, Violations, Inattention Lapses, Mistakes, and Inexperience Lapses, at Time 1 and Time 2.

### **A8.2.1 Responses of cases and controls at Time 1 and Time 2**

Results of the repeated measures analysis of the four DBQ factors are presented in Table A8.4. The overall model was significant [ $F_{(4, 161)} = 3.303, p < .05$ ].

A first point to note is that all scores are extremely low. This is known as a floor effect. Generally, floor effects reduce the probability of detecting any differences as scores remain within an extremely low range. From Table A8.4 it can be seen that means scores for Violations, Mistakes, and Inexperience Lapses appeared to decrease for cases and increase for controls. Inattention Lapses appeared to increase for both participant groups.

**Table A8.3 Mean ratings for driver attitudes of male cases and controls at Time 1 and Time 2 (N = 38)**

Item	Time 1		Time 2	
	Cases	Controls	Cases	Controls
1. I am a better driver than others my age	4.909	5.133	5.000	4.800
2. I am a better driver than most drivers	4.136	4.067	4.273	4.067
3. Older drivers are a real problem on the road	4.227	4.733	4.318	4.467
4. Other drivers are usually courteous	3.545	4.067	3.773	3.667
5. Driver training is a waste of time	1.455	1.800 <sup>a</sup>	1.545	1.400 <sup>a</sup>
6. I could still use more training	5.455	5.400	5.227	5.667
7. It is likely that one day I will have a crash	5.636 <sup>a</sup>	4.667 <sup>a</sup>	5.091	4.667
8. I am uncomfortable driving close behind another car	4.409	4.800	4.727	4.400
9. I sometimes drive at a speed below the limit	4.545	4.933	4.682	5.133
10. Speeding is always wrong	4.455	4.533	4.636	4.867
11. Drink-driving is always wrong	6.545	6.800	6.227	6.800
12. Driving at the speed limit is always safe	2.545	3.000 <sup>x</sup>	2.727	2.667 <sup>x</sup>
13. I am confident in my driving ability	5.682	5.933 <sup>a</sup>	5.455	5.133 <sup>a</sup>
14. I am confident in my ability to manage possible hazards when driving	5.136	5.133	5.182	4.867

*Note:* Identical superscripts *a* indicate that the row means are significantly different from each other at  $p < .05$   
Identical superscripts *x* indicate that the row means are significantly different from each other at  $p < .10$

**Table A8.4 Mean ratings and *F* statistic for DBQ driver behaviours of cases and controls at Time 1 and Time 2 (*N* = 166)**

Factor	Time 1		Time 2		<i>F</i> statistic
	Cases	Controls	Cases	Controls	
Violations	1.420	1.468 <sup>a</sup>	1.384 <sup>b</sup>	1.642 <sup>a,b</sup>	$F_{(1, 164)} = 10.271, p < .01$
Inattention Lapses	0.788 <sup>x</sup>	0.850 <sup>a</sup>	0.850 <sup>b,x</sup>	1.042 <sup>a,b</sup>	$F_{(1, 164)} = 4.924, p < .05$
Mistakes	0.859	0.858 <sup>a</sup>	0.832 <sup>b</sup>	1.028 <sup>a,b</sup>	$F_{(1, 164)} = 6.045, p < .05$
Inexperience Lapses	0.771	0.811 <sup>a</sup>	0.755 <sup>b</sup>	0.938 <sup>a,b</sup>	$F_{(1, 164)} = 5.486, p = .05$

*Note:* Identical superscripts *a* and *b* indicate that row means are significantly different from each other at  $p < .05$   
 Identical superscripts *x* indicate that row means are significantly different from each other at  $p < .10$

Significant differences resulted for each factor. Key findings include:

- Scores for Violations, Mistakes and Inexperience Lapses all increased for controls from Time 1 to Time 2, but not for cases, such that the Time 2 scores of controls were greater than for cases. That is, reported dangerous driving behaviours increased for controls but not for cases.
- Inattention lapses increased for controls and also tended to increase for cases. However, controls reported a greater level of inattention lapses at Time 2 than did cases. Overall therefore, inattention lapses increased, particularly for controls.

Inattention Lapses have previously been found to increase over time. These are considered to pose relatively minimal risk to other road users. Violations and Mistakes however, typically include behaviours that present a risk to other drivers and are considered the most dangerous. Therefore, these findings indicated that while the self-reported dangerous driving behaviours of those who completed the driver-training program remained infrequent, the reported frequency of dangerous driving behaviours of those enrolled to take part in the course increased over the survey period.

These results suggested at least two possibilities. The first is that other factors were contributing to the more dangerous driving behaviours of these young people during the survey period and that course participation was a protective factor against these influences. Second, it is possible that participation in the study influenced responses. Given the short time lapse between completion of the two questionnaires (3-4 weeks), answering multiple questions about specific aspects of their driving behaviour may have made participants more aware of their true driving habits. That is, participation in the study might have increased personal awareness and promoted more accurate self-reports over time. Particularly from this perspective, it was important that self-reported dangerous driving behaviours did not increase for drivers who had completed the driver training.

## **A8.2.2 Sex differences**

### ***A8.2.2.1 Female participants***

The overall model of responses to the DBQ of female participants was also significant [ $F_{(7,121)} = 2.928, p < .05$ ]. Results are displayed in Table A8.5. As shown, significant differences resulted for three of the four factors.

Violations and Inattention lapses significantly increased for controls from Time 1 to Time 2, but not for cases, with Time 2 scores greater than for cases. That is, reporting of these behaviours increased for controls but not for cases scores. Mistakes and Inexperience Lapses also showed a tendency to follow this pattern.

Therefore, as for the total sample, there was a strong indication that while the self-reported dangerous driving behaviours by female cases remained low shortly following driver training, the same behaviours by female controls had increased.

**Table A8.5 Mean ratings and *F* statistic for DBQ driver behaviours of female cases and controls at Time 1 and Time 2 (*N* = 129)**

Factor	Time 1		Time 2		<i>F</i> statistic
	Cases	Controls	Cases	Controls	
Violations	1.255	1.451 <sup>a</sup>	1.230 <sup>b</sup>	1.646 <sup>a,b</sup>	$F_{(1, 127)} = 9.451, p < .01$
Inattention Lapses	0.765	0.915 <sup>a</sup>	0.820 <sup>b</sup>	1.111 <sup>a,b</sup>	$F_{(1, 127)} = 4.329, p < .05$
Mistakes	0.837	0.886 <sup>x</sup>	0.831 <sup>y</sup>	1.009 <sup>x,y</sup>	$F_{(1, 127)} = 1.811, p > .10$
Inexperience Lapses	0.780	0.820 <sup>a</sup>	0.740 <sup>x</sup>	0.942 <sup>a,x</sup>	$F_{(1, 127)} = 5.349, p < .05$

*Note:* Identical superscripts *a* and *b* indicate that row means are significantly different from each other at  $p < .05$   
 Identical superscripts *x* and *y* indicate that row means are significantly different from each other at  $p < .10$

### A8.2.2.2 Male participants

Means scores for male participants are displayed in Table A8.6. Two trends in responses were identified. Namely, both Inattention Lapses and Mistakes increased over the survey period for controls, while for cases scores remained low. This suggested course participation had a protective role for these young male drivers.

**Table A8.6 Mean ratings for DBQ driver behaviours of male cases and controls at Time 1 and Time 2 (N = 38)**

Factor	Time 1		Time 2	
	Cases	Controls	Cases	Controls
Violations	1.959	1.533	1.886	1.627
Inattention Lapses	0.864	0.604 <sup>a</sup>	0.950	0.780 <sup>a</sup>
Mistakes	0.928	0.750 <sup>a</sup>	0.837	1.100 <sup>a</sup>
Inexperience Lapses	0.743	0.778	0.803	0.926

*Note:* Identical superscripts *a* indicate that row means are significantly different from each other at  $p < .05$ .

## A8.3 ENFORCEMENT, CRASH RISK AND SHORT-TERM OUTCOMES OF COURSE PARTICIPATION

### A8.3.1 Responses of cases and controls at Time 1 and Time 2

In order to identify differences in driver perceptions of enforcement activities and crash risk of cases and controls in the short term, repeated measures analyses were performed using the 7 items shown in Table A8.7. The overall model was not significant [ $F_{(7,159)} = 1.487, p > .05$ ]. However, several trends were evident. These included:

- Cases estimated that their chance of driving over the speed limit during the following two weeks was lower than that of controls at Time 2. There was also a tendency for them to perceive their chance of failing to see a possible hazard as lower than controls at Time 2.
- Both cases and controls tended to estimate their chance of seeing a speed camera during the following two weeks as lower at Time 2 than at Time 1.
- Both cases and controls tended to perceive their chance of having a crash during the following two weeks as higher at Time 2 than at Time 1.

**Table A8.7 Mean ratings and  $F$  statistic for perceptions of enforcement and crash risk of cases and controls at Time 1 and Time 2 ( $N = 167$ )**

Item	Time 1		Time 2		$F$ statistic
	Cases	Controls	Cases	Controls	
1. Seeing a speed camera	4.656 <sup>a</sup>	4.789 <sup>b</sup>	4.146 <sup>a</sup>	4.352 <sup>b</sup>	$F_{(1, 165)} = 0.107, p > .10$
2. Being stopped for a breath test	2.521 <sup>x</sup>	2.944 <sup>x</sup>	2.615	2.986	$F_{(1, 165)} = 0.059, p > .10$
3. Having my speed checked by the Police	3.354	3.732	3.521	3.592	$F_{(1, 165)} = 1.495, p > .10$
4. Driving over the speed limit	4.073	4.310	3.854 <sup>a</sup>	4.549 <sup>a</sup>	$F_{(1, 165)} = 4.600, p < .05$
5. Having a crash	1.969 <sup>a</sup>	1.986 <sup>b</sup>	2.302 <sup>a</sup>	2.423 <sup>b</sup>	$F_{(1, 165)} = 0.284, p > .10$
6. Failing to see a possible hazard	2.615	2.817	2.521 <sup>a</sup>	2.958 <sup>a</sup>	$F_{(1, 165)} = 1.069, p > .10$
7. Having a near miss	2.698	2.676	2.583	2.873	$F_{(1, 165)} = 1.784, p > .10$

*Note:* Identical superscripts *a* and *b* indicate that row means are significantly different from each other at  $p < .05$ .  
Identical superscripts *x* indicate that row means are significantly different from each other at  $p < .10$ .

These findings indicated that course participation tended to reduce the probability that the young driver would speed and increase confidence in hazard detection. Both participation and enrolment in the course showed association with a greater perceived risk of crash involvement.

### **A8.3.2 Sex differences**

#### ***A8.3.2.1 Female participants***

The overall model to test differences in responses concerning enforcement and crash risk of female cases and controls was not significant [ $F_{(7, 121)} = 1.213, p > .05$ ]. Results are displayed in Table A8.8. As shown, several additional trends were identified in comparison to the total sample figures. These findings included:

- There was a tendency for controls to perceive their chance of driving over the speed limit as increasing from Time 1 to Time 2, while for cases this perception did not change.
- While cases tended to perceive a lower chance than controls of being stopped for a breath test at Time 1, this difference was reduced at Time 2.
- Cases also tended to perceive a lower chance than controls of having their speed checked by the Police at Time 1. There were no such differences at Time 2.

Overall therefore, there was some indication that the driver-training program was protective against other influences that may cause a young driver to drive over the speed limit. There was also some indication that the course may have influenced young driver perceptions about speed and drink-driving enforcement levels, such that the chance of encountering such enforcement was perceived as more likely, although several other factors also could have influenced this finding (e.g. Bjørnskau & Elvik, 1992; Cameron et al, 1999; Harrison & Pronk, 1998; Holland & Conner, 1996; Rothengatter, 1988; Watson, 1986).

#### ***A8.3.2.2 Male participants***

Means scores for male participants are presented in Table A8.9. Several trends were evident in responses:

- Cases initially perceived a greater chance of having their speed checked by Police than controls. The chance of seeing a speed camera was also perceived as greater by cases than controls initially, however, cases' scores decreased after participation in the driver-training program to a level that was not significantly different to those of controls. This may reflect either a perception that speed cameras were not as commonly in operation or that the speed camera program is more covert than originally believed.
- There was a tendency for controls to perceive the chance of being stopped for a breath test as decreased at Time 2, while their perceived probability of crash involvement increased. Their perceived chance of having a near miss also tended to increase and to a level that was somewhat higher than that of cases.

**Table A8.8 Mean ratings and *F* statistic for perceptions of enforcement and crash risk of female cases and controls at Time 1 and Time 2 (*N* = 129)**

Item	Time 1		Time 2		<i>F</i> statistic
	Cases	Controls	Cases	Controls	
1. Seeing a speed camera	4.425 <sup>a,x</sup>	5.018 <sup>b,x</sup>	3.973 <sup>a,y</sup>	4.464 <sup>b,y</sup>	$F_{(1,127)} = 0.170, p > .10$
2. Being stopped for a breath test	2.425 <sup>a</sup>	2.929 <sup>a</sup>	2.534 <sup>x</sup>	3.161 <sup>x</sup>	$F_{(1,127)} = 0.257, p > .10$
3. Having my speed checked by the Police	3.096 <sup>a</sup>	3.875 <sup>a</sup>	3.411	3.679	$F_{(1,127)} = 3.021, p = .08$
4. Driving over the speed limit	3.740 <sup>x</sup>	4.339 <sup>a,x</sup>	3.671 <sup>y</sup>	4.679 <sup>a,y</sup>	$F_{(1,127)} = 2.752, p > .10$
5. Having a crash	1.986 <sup>a</sup>	2.054 <sup>b</sup>	2.438 <sup>a</sup>	2.500 <sup>b</sup>	$F_{(1,127)} = 0.001, p > .10$
6. Failing to see a possible hazard	2.534 <sup>x</sup>	2.964 <sup>x</sup>	2.479 <sup>y</sup>	3.018 <sup>y</sup>	$F_{(1,127)} = 0.184, p > .10$
7. Having a near miss	2.658	2.786	2.616	2.786	$F_{(1,127)} = 0.022, p > .10$

*Note:* Identical superscripts *a* and *b* indicate that row means are significantly different from each other at  $p < .05$ .  
Identical superscripts *x* and *y* indicate that row means are significantly different from each other at  $p < .10$ .

**Table A8.9 Mean ratings for perceptions of enforcement and crash risk of male cases and controls at Time 1 and Time 2 (N = 38)**

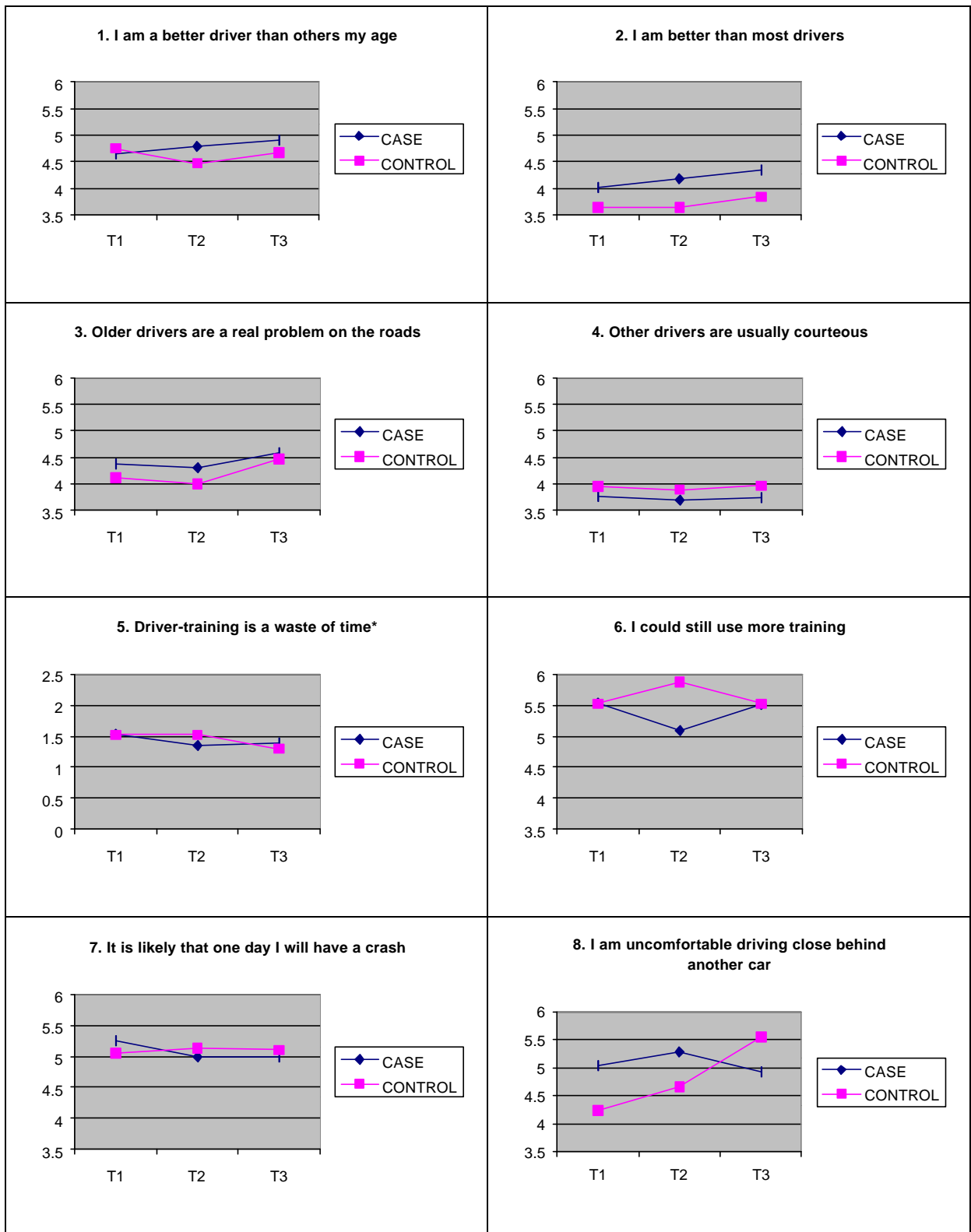
Item	Time 1		Time 2	
	Cases	Controls	Cases	Controls
1. Seeing a speed camera	5.391 <sup>a,x</sup>	3.933 <sup>a</sup>	4.696 <sup>x</sup>	3.933
2. Being stopped for a breath test	2.826	3.000 <sup>c</sup>	2.870	2.333 <sup>c</sup>
3. Having my speed checked by the Police	4.174 <sup>x</sup>	3.200 <sup>x</sup>	3.870	3.267
4. Driving over the speed limit	5.130 <sup>a,x</sup>	4.200 <sup>x</sup>	4.435 <sup>a</sup>	4.067
5. Having a crash	1.913	1.733 <sup>x</sup>	1.870	2.133 <sup>x</sup>
6. Failing to see a possible hazard	2.870	2.267	2.652	2.733
7. Having a near miss	2.826	2.267 <sup>x</sup>	2.478 <sup>y</sup>	3.200 <sup>x,y</sup>

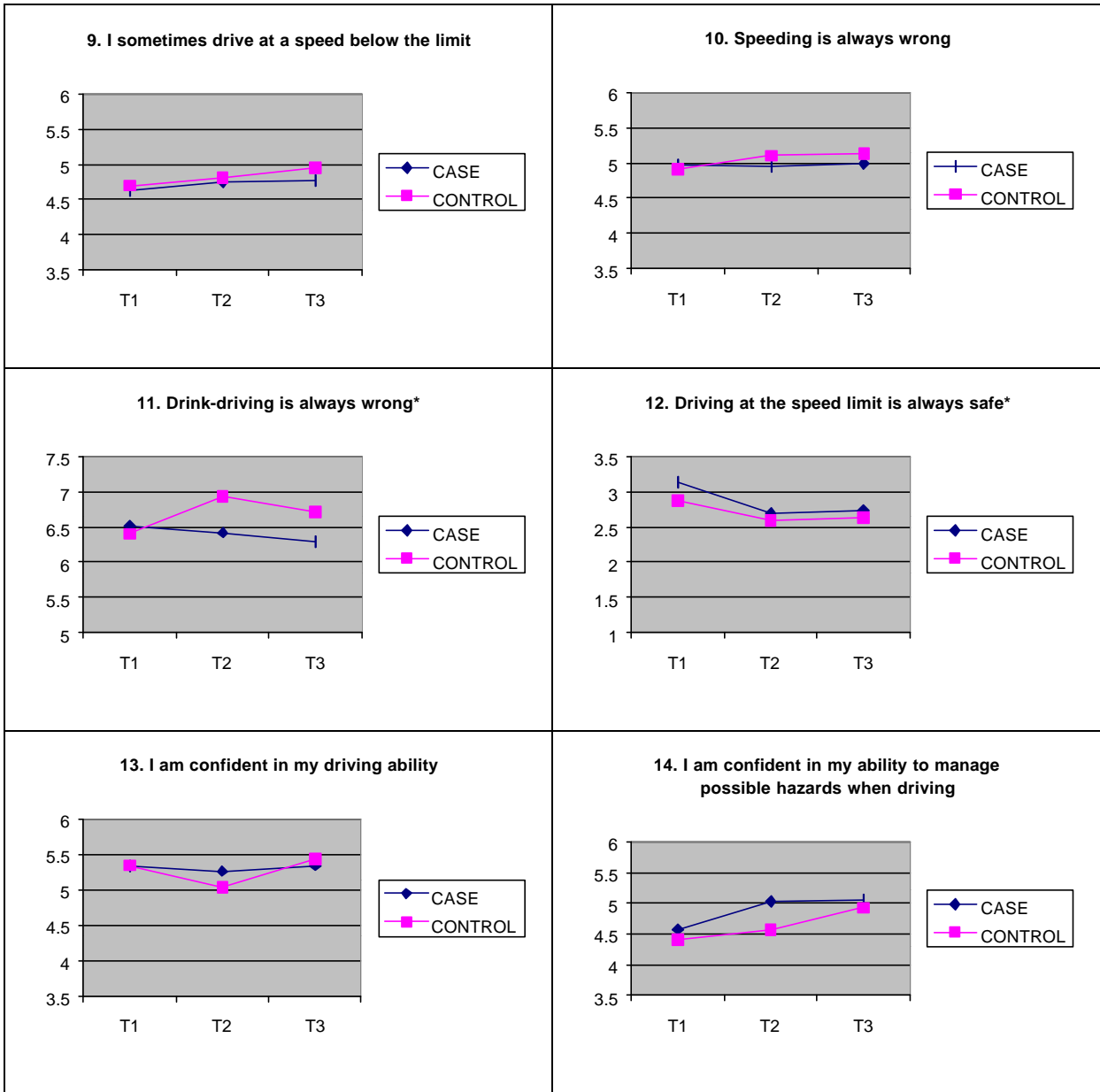
*Note:* Identical superscripts *a* indicate that row means are significantly different from each other at  $p < .05$   
Identical superscripts *x* indicate that row means are significantly different from each other at  $p < .10$

- There was a tendency for cases to perceive their chance of driving over the speed limit at a level higher than that perceived by controls at Time 1. However, after course participation cases' perceptions had decreased to a similar level to that of controls.

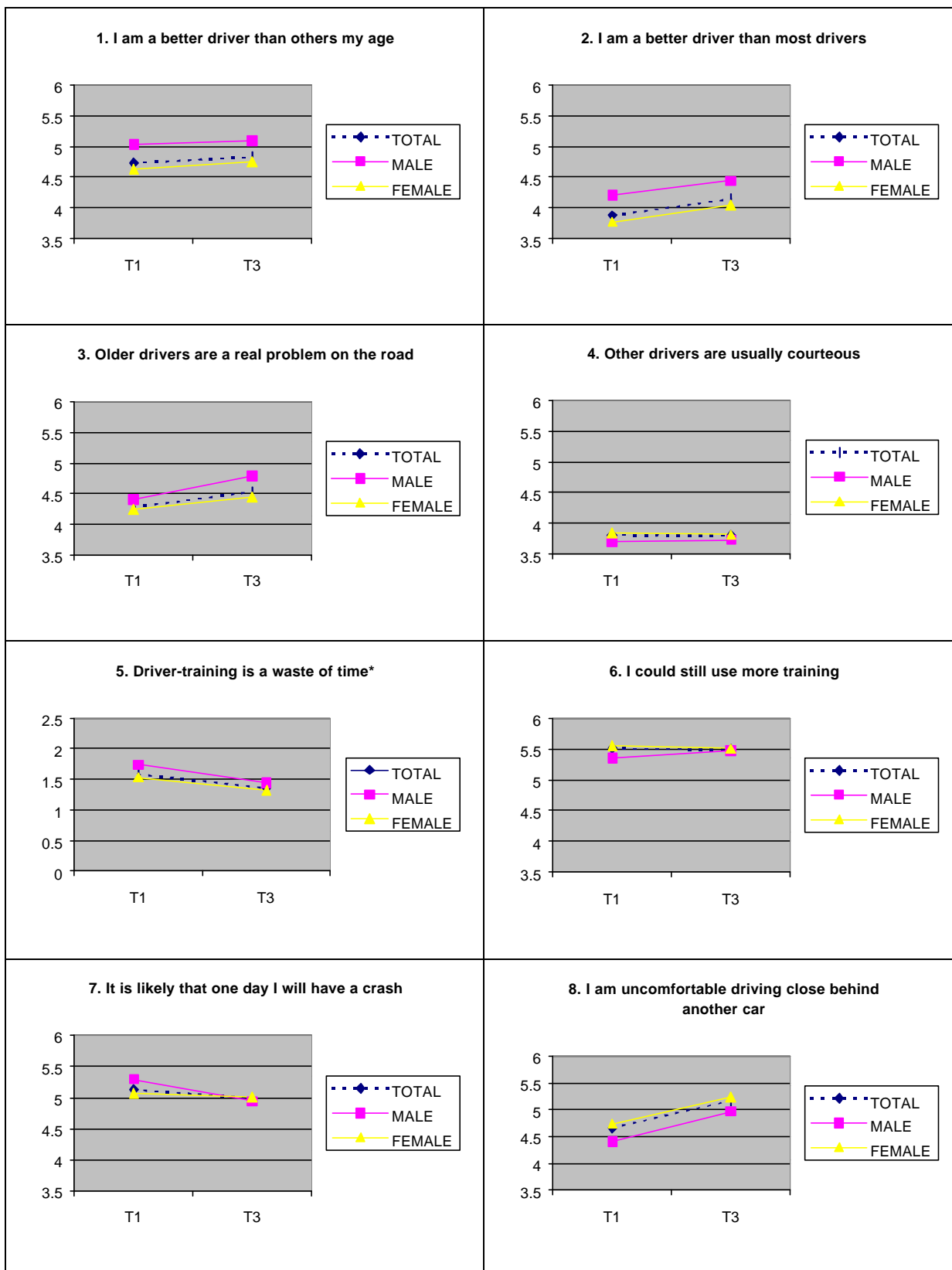
Overall therefore, there was some indication that male participants in the driver-training program reported that they were less likely to drive over the speed limit than previously, and perceived their chance of seeing a speed camera as somewhat reduced. The course may also have had a protective role in maintaining perceptions of the likelihood of being involved in a near miss or crash as fairly low, which otherwise increased for those who had not completed the course.

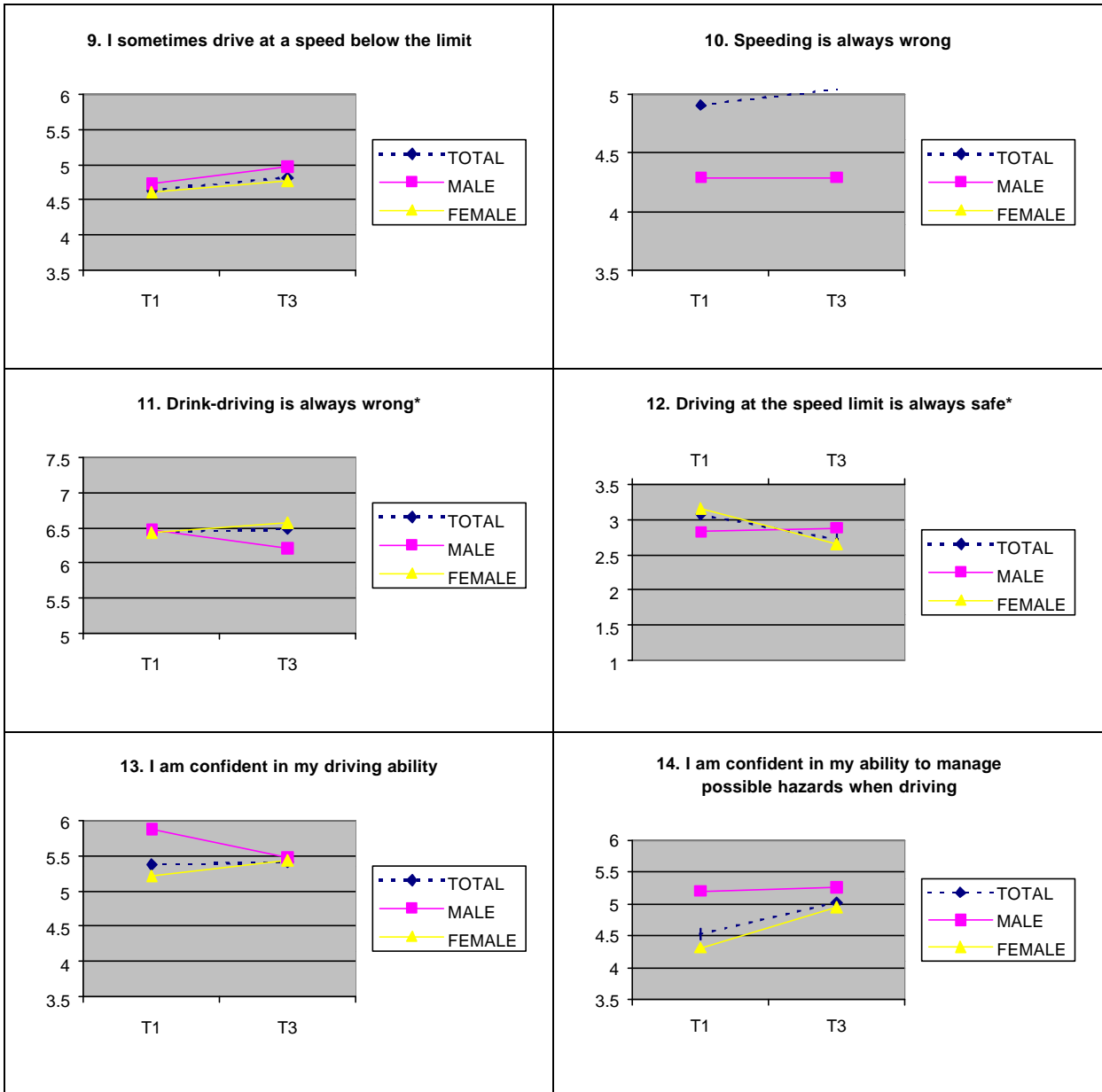
## APPENDIX 9      GRAPHS OF CHANGES IN DRIVER ATTITUDES AT TIMES 1, 2 & 3



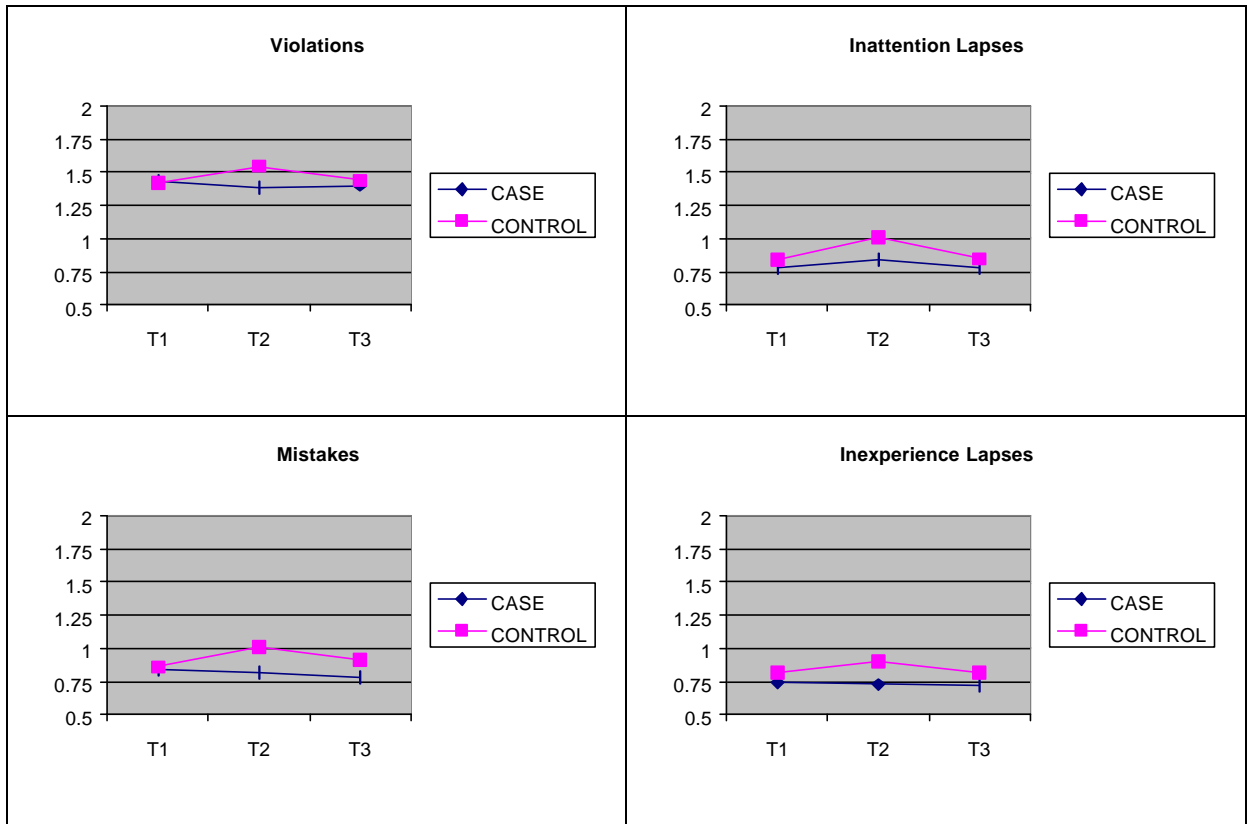


## APPENDIX 10 GRAPHS OF CHANGES IN DRIVER ATTITUDES AT TIMES 1 & 3



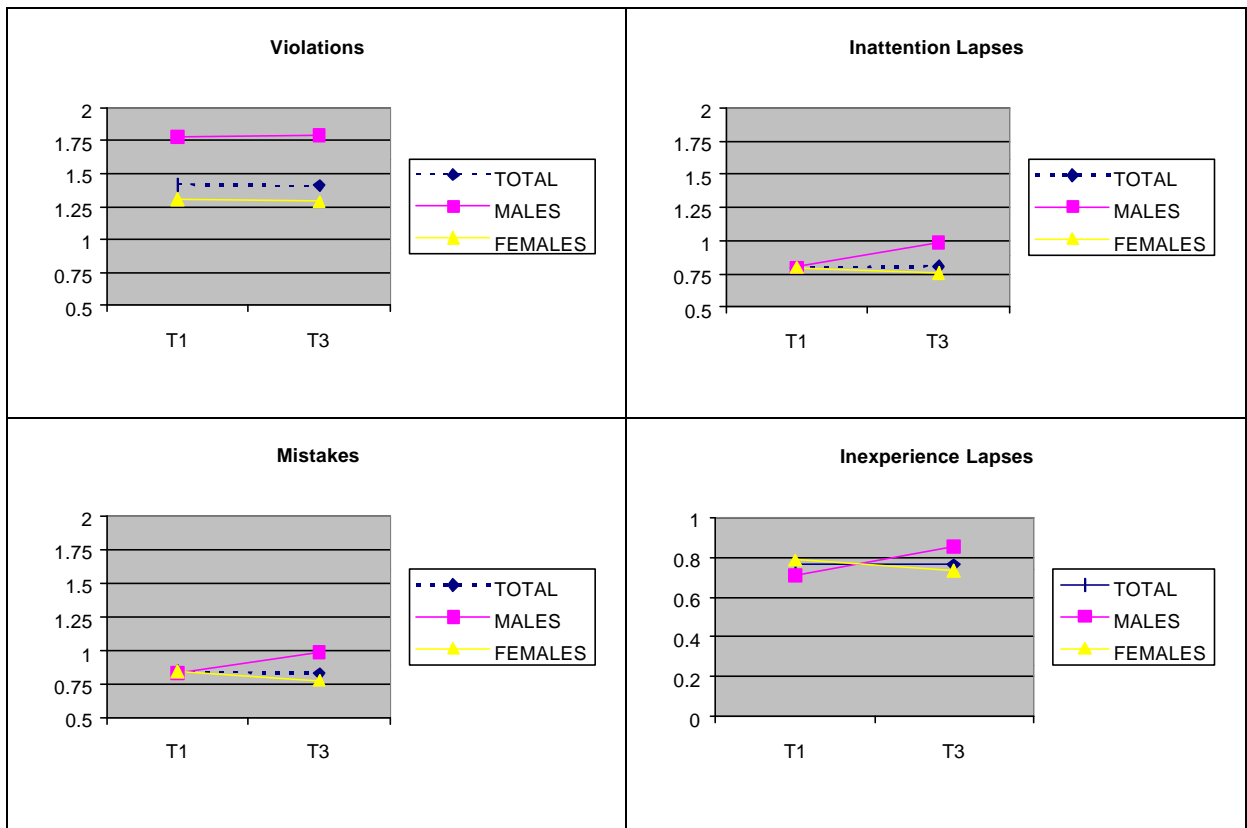


## APPENDIX 11 GRAPHS OF CHANGES IN DRIVER BEHAVIOURS AT TIMES 1, 2 & 3



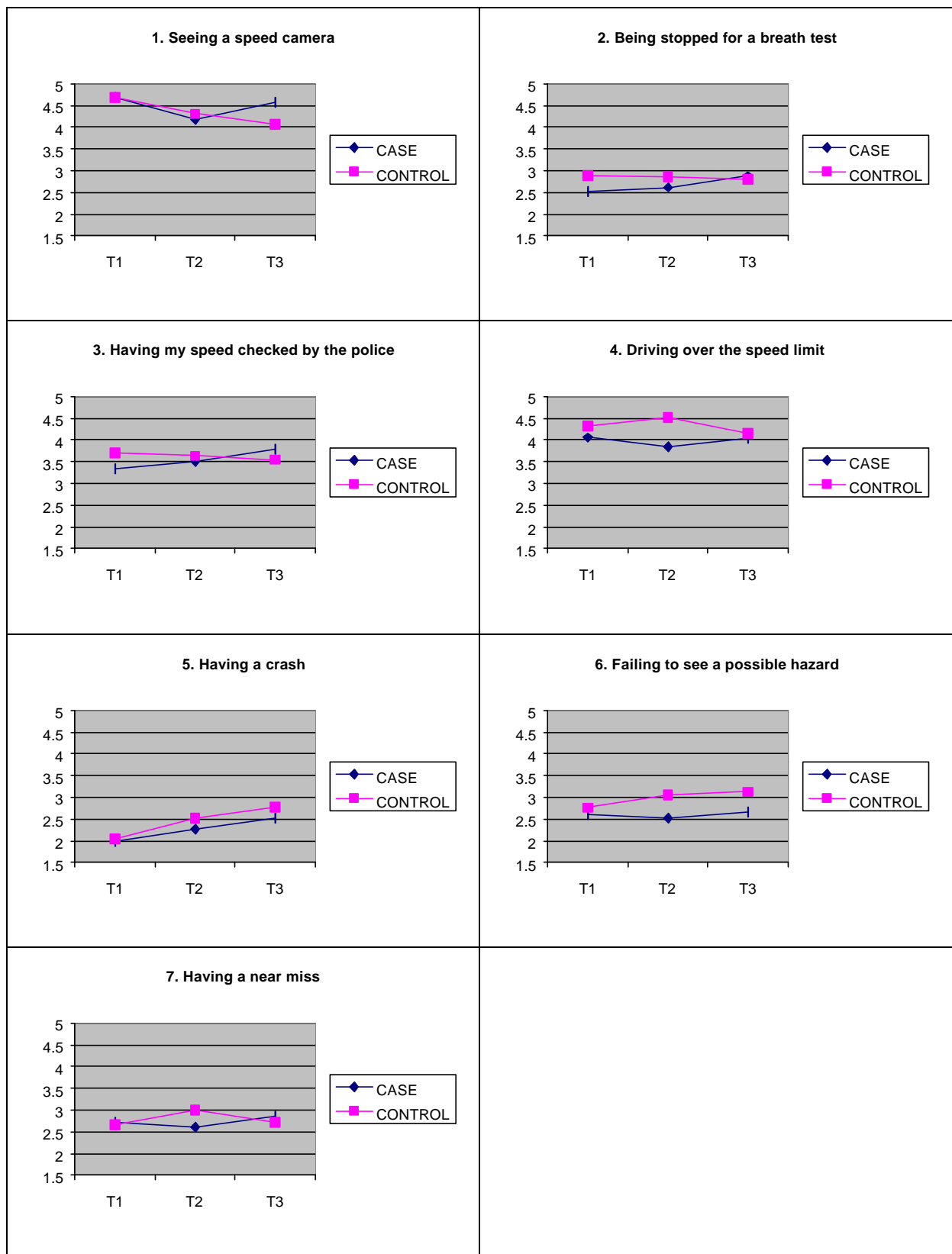


## APPENDIX 12 GRAPHS OF CHANGES IN DRIVER BEHAVIOURS AT TIMES 1 & 3



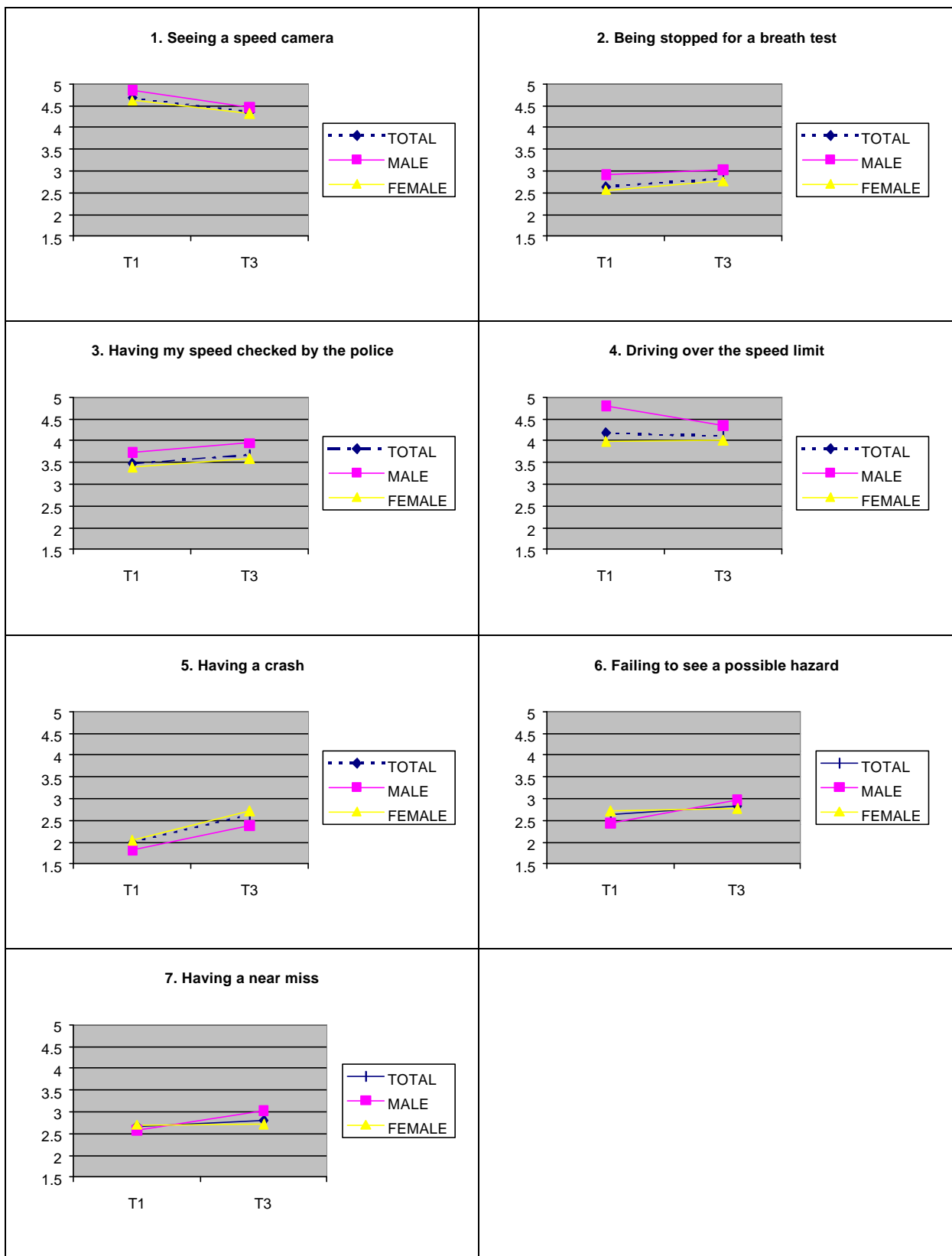


## APPENDIX 13 GRAPHS OF CHANGES IN PERCEPTIONS OF ENFORCEMENT AND CRASH RISK AT TIMES 1, 2 & 3





## APPENDIX 14 GRAPHS OF CHANGES IN PERCEPTIONS OF ENFORCEMENT AND CRASH RISK AT TIMES 1 & 3





## APPENDIX 15 RESPONSES TO QUALITATIVE ITEMS

## 15.1 WHAT PARTICIPANTS REMEMBERED MOST ABOUT THE COURSE

### Practical component

1. The driving tests.
2. Practice driving skills.
3. I remember doing the obstacle course and really testing the ability of my car.
4. Practical component.
5. The course was structured in a way that enabled us drivers the chance to enable our car to be the main subject in such activities.
6. Practical exercises on the track.
7. The driving part, completing all parts successfully without hitting 1 cone all day.
8. The practical driving - fantastic, should of been more.
9. The practical driving exercises purely to the fact I have used them in real life.
10. The on-the-road tests.
11. The driving practical experience.
12. The hands on practical stuff. Getting in the car and putting it and myself to the test.
13. The practical component of the course.
14. The driving activities and skills.
15. The Practical (the track set up and activities).
16. Driving course.
17. Patient teachers. Shock of learning what our cars can do.
18. The practical tests out on the track.
19. The practical side.
20. The hands on work in the car. Braking around corners, stopping quickly.
21. The practical sessions.
22. Practical component - learning distance versus speed.
23. The worthwhile practical work.
24. I remember the exercises we did outside the most.
25. The practical sessions.
26. The driving tours around the course.
27. The practical tests.
28. Taking part in the practical part of the course and watch other people lose control of their cars.
29. The practical driving on the outside course.
30. Practical part.
31. The practical sessions.
32. Going through theory in the classroom and then going into groups and being faced with possible hazards which we all took in our own cars.
33. The driving part. Because it was more fun than listening to the theory but I still learnt what I needed to as it made the theory clearer.
34. Practical - trying different skills.
35. Doing all the practical drives under different conditions.
36. Learning how to go round obstacles without doing damage to them or the car.
37. Crashing into witches hat, but having to remember it was a truck.
38. How hard it was to do the driving in and out of the cars.

## **Theory**

1. Going through theory in the classroom and then going into groups and being faced with possible hazards which we all took in our own cars.
2. The driving part. Because it was more fun than listening to the theory but I still learnt what I needed to as it made the theory clearer.
3. Theory - speed.
4. Classroom theory.

## Statistics

5. Some of the statistics.
6. Statistics on road training.
7. The statistics and knowing that I am in the most at-risk category.
8. That most accidents are nose to tail, so I sit a lot further back when cars are in front of me.
9. That a large percentage of accidents occur on the road because many driver's travel to closely behind other vehicles.
10. Rear end crashes are most common.
11. The statistics - young drivers, usually P platers involved in head and tail collision.

## **Headways**

1. Keeping your distance.
2. The distance you should leave between yourself and the car in front.
3. Keeping the distance.
4. Always maintain a safe distance between you and the car in front.
5. Distance.
6. How the instructor really emphasised how important it is to keep your distance when following another vehicle.
7. To keep a safe distance between cars while driving.
8. Don't travel too close to cars in front.
9. Keeping a safe distance in between you and the car in front.
10. Keep your distance.
11. Learning how to be a better driver. Keeping a distance from a car.
12. Importance of leaving a big gap.
13. The amount of time required to be able to stop behind a car suddenly braking.
14. It was very informative, a shock to realise certain things, like how quick you have to brake to avoid a crash, as far as the distance you have.
15. To keep distances between vehicles at all times.
16. The distance needed to stop safely, between 2 cars when travelling.
17. The distance required to stop without crashing into another car if it brakes heavily.
18. Allow enough room for you to brake if need be and keep distance at traffic lights.
19. The course increased my knowledge on stopping distances (which are greater than what I thought) and the distance that you should travel behind another car, which is very important in avoiding an accident.
20. The distance your car should be behind the car in front of you, to give you enough distance to brake suddenly.
21. Leave enough room between my car and the car in front of me- the faster I go, the longer the car needs to stop.
22. Learning safe distances between cars and how long it takes to brake at certain speeds.
23. The importance of learning (enough) the right space between me and the vehicle in front.
24. Reaction time and distance between vehicles.

25. Importance of sufficient distance to car in front.
26. To be aware of what's going on around you and to keep your distance.
27. Keeping a safer distance between me and other cars.
28. To keep your distance behind the car in front.
29. That it wasn't so much about learning driving techniques, it was about impressing on us how important distance and speed are in avoiding crashes. Ie. increase distance and decrease speed even a little to considerably reduce risk of crashing.
30. Speed and the gap (distance) between the car ahead are the two greatest factors that contribute to accidents.
31. Must keep distance from car in front to prevent accidental damage if you have to stop suddenly.
32. The brake-reaction time.
33. That most accidents are nose to tail, so I sit a lot further back when cars are in front of me.
34. That a large percentage of accidents occur on the road because many driver's travel to closely behind other vehicles.
35. Importance of speed and distance between cars.
36. Allow safe distance between cars.
37. How much speed and distance matters.
38. What space to leave between you and the car in front of you.
39. Keep your distance.
40. Keep your distance, it is a matter of being cautious, backing off, and slowing down.
41. Don't drive too close to the car in front. Leave a lot of space around your car.
42. The two main things are to slow down and to drive at a safe distance behind the car in front.
43. Don't drive close behind another car.
44. That you should slow down and sit back from the other drivers
45. Keeping a safe distance.
46. Distance between vehicles.
47. That it's better to stay back than drive close to other cars.

#### Two-second rule

48. Always keep a safe distance (no less than 2 seconds) behind the car in front of you.
49. Stay 2 seconds back.
50. Stay 2-3 seconds behind the car in front.
51. That you have to be at least 3 seconds behind the car at 50 kph to avoid an accident.
52. Leave 2 second gap.
53. The amount of space needed in between my car and the car in front to deal with a possible emergency, ie., braking/ load falling off truck etc... (2-3 seconds and more in wet/ fog etc).
54. That what one second really means.
55. Learning to keep 3 seconds distance between you and the car in front of you.
56. The main thing I remember about the course is, that it's a lot safer to leave a 2 or seconds distance between you and other cars.
57. How much more reaction time one second makes to avoid a collision.
58. Keep your distance (approximately 3 seconds from car in front).
59. The difference one second can make.
60. The difference between 1 second and 3 second to stopping distances.
61. That staying back 2 seconds or more makes all the difference.
62. The difference that a couple of seconds makes.
63. 2 second rule.
64. To hang back for space (minimum reaction/stopping time is 2 seconds).

65. To keep at least 2-3 seconds behind the car in front of you.
66. Keeping a distance when following cars of 2-3 seconds.
67. Taught you to keep at least 2 seconds between the cars which I now make sure I do.
68. That you need more than one second to be able to do something about something happening in front of you.
69. The gap between cars needs to be 2 seconds in ideal conditions but preferably more.
70. I also remember being taught by the instructor in the car to stay at least two seconds behind the car in front.

### **Importance of speed**

1. Slower is safer.
2. Drive slowly.
3. Importance of speed and distance between cars.
4. Not to speed, drive at a safe speed.
5. How much speed and distance matters.
6. What space to leave between you and the car in front of you and what speed can do.
7. Keep your distance and don't speed.
8. Keep your distance, it is a matter of being cautious, backing off, and slowing down.
9. Don't drive over the speed limit. Speed can make the difference (to stop).
10. The two main things are to slow down and to drive at a safe distance behind the car in front.
11. Don't speed.
12. That you should slow down and sit back from the other drivers
13. Speed.
14. The slower you are going, the more time you have to react.
15. How speed can affect reaction time.
16. Speeding.
17. Theory- speed.

### *Speed and control of the vehicle.*

18. Getting scared when we were travelling around a corner too fast.
19. Driving around the course at low speed but still losing control.
20. Differences in ease of performing manoeuvres between higher and lower speeds.
21. That speed makes a difference. Lowering your speed enables you to handle your vehicle more effectively/ safely. The sign "ten km's less saves lives" is really true, I never believed it before but it could easily make the difference.
22. How easy it is to lose control of a car when travelling too quickly.
23. How my vehicle handles under different driving conditions and speed.
24. How much speed can affect driving skills.
25. Attempting to dodge the witches hats on the circuit and realising how difficult it is.
26. I remember the way I always thought you could go faster than you could without losing control.
27. The feeling of being out of control of my car.
28. What speed is safe to go around corners.
29. How quickly and easy it is to lose control of your car and how simple it is to prevent it.
30. Taking part in the practical part of the course and watch other people lose control of their cars.
31. That increasing speed slightly makes a big difference to stopping distance and to the control you have over the car.

32. Speed and how it affects control of the car.
33. How speed is a huge factor in regards to control of the car.  
The difference that just 5 or 10 kph can make to the control of the car.
34. The difference that 5 kph makes to handling.
35. Even 5 kph over the speed limit makes a huge difference.
36. Being in situations where you find yourself swerving and braking, and realising that just 10 kph makes a difference.
37. Being out of control at 40 kph but okay at 35 kph.
38. How easily accidents can happen, especially caused by speed (5km can make a difference).

Speed contributes to accidents.

39. That speed does matter and can really make a difference when a hazard arises.
40. The difference that speed makes in contributing to crashes.
41. That it wasn't so much about learning driving techniques, it was about impressing on us how important distance and speed are in avoiding crashes. I.e., increase distance and decrease speed even a little to considerably reduce risk of crashing.
42. Speed and the gap (distance) between the car ahead are the two greatest factors that contribute to accidents.
43. How easy it is to cause an accident by speed.
44. Speeding makes a huge difference, you never realise you could kill or be killed at 40.
45. How easily accidents can happen, especially caused by speed.

**Stopping distance**

1. That more stopping distance is needed than realised.
2. How much further it took to stop than was estimated.
3. How to judge stopping distances.
4. Braking distance (this was really drummed in).
5. Stopping distance.
6. How far you can stop at different speeds you are doing.
7. Stopping distance.
8. That a slight increase/decrease in speed makes a huge difference to stopping distance.
9. The distance covered before the car actually stops after braking.
10. The practical sessions. This showed me about distances required to stop.
11. The estimated speed of stopping and how we as drivers always misjudge the distance.
12. Stopping distance, missing hazards with reaction time.
13. The amount of time required to be able to stop behind a car suddenly braking.
14. It was very informative, a shock to realise certain things, like how quick you have to brake to avoid a crash, as far as the distance you have.
15. Stopping distances.
16. The distance needed to stop safely, between 2 cars when travelling.
17. The distance required to stop without crashing into another car if it brakes heavily.
18. Allow enough room for you to brake if need be and keep distance at traffic lights.
19. The course increased my knowledge on stopping distances (which are greater than what I thought)... which is very important in avoiding an accident.
20. The distance your car should be behind the car in front of you, to give you enough distance to brake suddenly.
21. Leave enough room between my car and the car in front of me- the faster I go, the longer the car needs to stop.

22. Learning safe distances between cars and how long it takes to brake at certain speeds.
23. Learning about braking distance and safety margins. The importance of learning (enough) the right space between me and the vehicle in front.
24. Reaction time and distance between vehicles.
25. The difference between 1 second and 3 second to stopping distances.
26. How many metres it takes to stop at various speeds.
27. Practical component- learning distance versus speed. Must keep distance from car in front to prevent accidental damage if you have to stop suddenly.
28. The faster you are travelling, the longer it takes you to stop.
29. How effective 5km means when braking.

#### Stopping distance at 40 kph

30. How long it took for my car to stop when going 40 kph (and I never drive at 40 kph).
31. The huge braking distance required for speeds of 40 kph or lower.
32. That my stopping distance when driving at only 40 kph was very long (~16m) so I need to keep my distance. Also that increasing speed slightly makes a big difference to stopping distance and to the control you have over the car.
33. Braking distance at 40 kph.
34. Braking distances required from 40 and 60 kph.

### **Driving skills**

#### Braking and stopping

1. Braking heavily.
2. The breaking [*sic*] suddenly in one of the road courses because it's something I don't normally do.
3. The hard braking section.
4. Practice runs in stopping
5. The course showed me that even though I spend a long time at the wheel each year, there are several situations which they showed me where I was surprised how I reacted. Eg., braking technique.
6. The practical driving on the outside course, especially the sudden braking ones.
7. Stopping exercise.
8. Doing all the practical drives under different conditions (eg., sudden braking).
9. Braking around corners.
10. Braking and tyres.
11. Emergency controlled braking.
12. Braking techniques.
13. I remember the exercises we did outside the most- the one where we had to come to an abrupt stop.
14. The braking capability of the car.
15. Braking in my car. It has a lot of ware and tear.

#### Skidding

16. Learning how to use a skid to help me try and avoid an accident.
17. Doing all the practical drives under different conditions (eg., skidding).

#### Cornering

18. Practical part- especially quick turns.
19. What speed is safe to go around corners.
20. Practice runs in corners.

21. Turning corners.
22. Acceleration around corners.
23. Choosing a safe and comfortable speed to take corners.
24. I remember the exercises we did outside the most - the one where we had to go around a bend quite fast.
25. Controlled corners.
26. Braking around corners.
27. Cornering exercise.

#### Steering

28. Drive with both hands on the wheel.
29. Defensive steering / evasive steering.
30. Holding the steering wheel properly.
31. Evasive steering.
32. Evasive steering techniques.

#### Driver skills to prevent a hazard or potential accident

34. Learning techniques on how to avoid an accident or how to get out of hazardous situations.
35. Important factors in accidents. Necessary skills to avoid or lessen the effect of accidents.
36. Learning how to use a skid to help me try and avoid an accident.

### **Driving environment**

#### Being aware of the surroundings and the unpredictable nature of the road

1. Slow down in areas where unpredictable hazards are possible (ie., shops, schools).
2. To be aware of what's going on around you and to keep your distance. Don't rely on other vehicles on the road and people can't read minds.
3. Keeping a safer distance between me and other cars and being alert as to possible hazards and what other drivers are doing.
4. Be aware of the cars around you in case you need to make diversion to avoid a crash.
5. It isn't just what you do on the roads, it's also the other drivers.
6. Anything can happen on the roads.

#### Looking ahead in the traffic

7. To look more than just one car ahead.
8. To look ahead, where you're going, as opposed to the ground in front of you (especially when you're going round a hair-pin like corner).
9. Emphasis on looking into the distance, even in emergency situations, as an accident prevention measure.

### **Inexperience**

1. That I was a better driver than most others present.
2. We are not as good as we think we are.
3. How bad I was and how hard it was to do the driving in and out of the cars.
4. That I am an inexperienced driver.

## **Other**

1. One of the guys that had to go because of a court order against him.
2. Good course.
3. How it teaches us to be careful on the roads.
4. It was good that the instructor was in the car with you, giving you tips.
5. It was great fun. Fantastic instructors.

## **15.2 WHAT PARTICIPANTS BELIEVED SHOULD BE ADDED TO THE COURSE**

### **Nothing**

- 1.-50. No.
- 51.-53. Not really.
54. No, I wouldn't know.
55. No, it was excellent.
56. No-it was very effective.
57. No, the course covered most important preventative measures for avoiding accidents.
58. No- I thought it covered enough in the time we had.
59. Nothing. It was well structured and informative.
60. Not that I can remember.
61. Not that I can think of. It was very helpful and useful.
62. I think the course covered the main hazards on the roads.
63. I think it's quite complete.
64. Mostly effective.
65. Possibly- but nothing comes to mind. The course was very well covered.

### **Different road surfaces**

#### *Wet or slippery conditions*

1. Maybe- doing activities on different surfaces. Being from the country this would be very helpful.
2. Maybe wet conditions.
3. Slippery surfaces, wet roads etc.
4. Different surfaces eg., water, oil.
5. Possibly more practical work in different areas, like weather conditions if that was possible.
6. Driving in wet conditions. Maybe they could wet the road and do some of the exercises that way to demonstrate the dangers of speeding in the wet.
7. Wet weather practice/techniques.
8. Wet conditions-as they are always more hazardous than dry.
9. Maybe had water or oil put on the road to show the results of surface conditions and the way you drive.
10. More skilled driver exercises and more focus/emphasis on what to do in certain situations such as wet roads, tyre braking, steering failure.
11. Wet weather driving.

12. Being able to handle possible situations, eg., slippery conditions.
13. Driving in wet road conditions.
14. Not really, when we did the stopping distance test at the beginning of the day, maybe you could do something similar with a wet road, to really alert us P platers to slow down.
15. It would have been good to do the practical tests on wet roads as well as dry roads to see the difference it makes.
16. Wet surfaces.
17. More could be included on handling your car in wet weather / bad conditions.

#### Additional dirt or gravel conditions

18. On road training in wet, on gravel, dirt.
19. Driving on different road surfaces, eg., wet road, gravel road.
20. As well as braking and skidding on different road surfaces ie., gravel, wet etc.
21. More practical experience on wet or dirt road surfaces.

#### Skidding and braking in the wet

22. Maybe some braking in wet conditions.
23. Wet weather driving, braking in the wet.
24. What to do when you get into skids in the wet and dry.
25. Skids in the wet.
26. Wet weather skids- I believe water should have been put on the track for some of the lesson.
27. Being able to handle skidding in the wet.
28. More handling the car skills. For example, stopping in wet and controlling your car.
29. More driving practice at different situations (eg., wet roads and stopping).
30. A wet weather simulation/practical session to really register the difference regarding traction and car control in an emergency.

### **Advanced driver techniques**

1. More detailed explanations of why and how to master the techniques shown.
2. Yes. Instructors could advise drivers of the easiest and most correct way to hold and manoeuvre the steering wheel when doing the weaving in and out of cones exercise or just in general.
3. Driving tips e.g. correct way to turn, especially in tight corners.
4. Defensive driving techniques. Like correct braking to stop in the minimum distance.
5. Advanced driving techniques.
6. Driving at higher speeds.

#### Skids

7. How to get out of a skid.
8. How to handle skids.
9. Techniques on getting out of skids.
10. What to do when your car starts to skid.
11. Being able to handle possible situations, e.g., skids and unexpected road conditions.
12. Skid control.
13. I would have liked to go through what happens if you get yourself into a skid. That is just as important as learning how to prevent accidents.
14. Some tips (theoretical and practical) on how to get out of skids.

### Hazards

15. Skills for handling the car in hazardous conditions.
16. More practical exercises on road hazards and how to avoid them.
17. Could add how to handle a situation if one occurs.
18. I thought it would be a little more on if an accident was to occur, how to prevent it, even though what was taught was helpful.
19. More accident scenarios.
20. Stuff about looking around and being aware of where others are, especially at intersections (I nearly got flattened by a truck driving there).
21. Perhaps two day course to cover more hazardous situations.
22. How to handle the car in a dangerous situation, what you can do to try and regain control.
23. Maybe there should be an extra part on how to control your car if something does go wrong (eg., tyre blow out).
24. What to do if your tyre blows. Emergency situations.
25. A little more practical on learning how to handle your car in an emergency braking or swerving situation
26. I would have liked to go through what happens if you get yourself into a skid or even a tyre blow out. That is just as important as learning how to prevent accidents. Skids in the wet.
27. How to control the car on a turn called drifting.

### **Practical component**

1. More driving.
2. Possibly more practicals. Looking at different aspects of possible situations.
3. More of the practical component.
4. Yes, more obstacle courses.
5. More emphasis on the practical skills.
6. More experience from the practical course.
7. A second attempt at the first braking manoeuvre (accelerating to 40 kph and stopping suddenly).
8. Braking techniques and safety manoeuvring techniques.
9. Emphasis on car control during the manoeuvres in the obstacles

### **Course length**

1. I think that the driving period should be longer and a little more theory.
2. More practice.
3. Perhaps two day course to cover more hazardous situations.
4. No- the intensity of the course doesn't leave room for more information. Maybe another course later could address other issues encountered on the road.
5. More time- had so much to learn. An extra few days to teach more practical skills.
6. Perhaps a 2/3 day course with more driving experience in such situations that may happen. These skills obviously can not be practiced until a situations occur on the road
7. Maybe more sheets to take home or fill in.

## **Real people and images**

### Crash survivors

1. Real stories of real people explaining how road accidents changed / destroyed their lives.
2. Real life accident situations.
3. Maybe get speakers in to talk about true life incidents like somebody who lost their licence for drink driving.

### Scare tactics

4. Scare tactics about speeding and accidents.
5. More gruesome images of car crashes to scare people more.

## **Other**

1. Basic road side first aid.
2. Perhaps to be taught more about the workings of the car, eg., basic mechanics.
3. I found the classroom session quite slow and boring. There must be a better way to get people to retain the information you're trying to give them. Also, perhaps find a venue that is less isolated, stark and depressing.
4. Maybe plastic people or children to create more real feelings while braking or going around corners in the practical part.
5. Possibly a fatigue factor as I hear so many crashes involve some kind of fatigue.
6. I think everyone who applies for their licence should have to do the course.
7. Driver attitude.
8. Perhaps a bit more about driver attitudes? I think that's really more of a general problem though (not that speeding and leaving space aren't).

## **15.3 ASPECTS OF THE COURSE THAT WERE CONSIDERED THE MOST PERSONALLY IMPORTANT**

### **Practical component**

1. Manoeuvring.
2. Practical exercises.
3. Gaining confidence in my car by doing the practical exercises outside.
4. Gaps between cars and the practical work.
5. Practical exercises emphasised lessons more than classroom teaching.
6. On-road training.
7. Practical experience.
8. The driving component.
9. The practical component.
10. The on-road experience of what distance the car needs to stop in times at different speeds.
11. The practical component was important because it illustrated just how inadequately my car and myself could handle potentially hazardous driving situations.
12. The Practical session.
13. The actual practical experience in simulated situations.

14. Practical application of ideas and theories.
15. Having the chance to drive around obstacle courses in a safe environment.
16. Getting out and driving.
17. Actually getting into the car and being shown/ doing that at 40 you can have a major accident.
18. Practical experience.
19. The actual driving tests and an experience being a passenger in another vehicle.
20. The practical session. It made me realise how easily you can lose control of a car and how hard it is to stop a car in an emergency situation. Reality really hits home- it can only take a second to have an accident.
21. The practical work.
22. Practical lessons- fantastic idea of having the trainer go through everything with you in theory and then go with you in the practical tasks.
23. Practice
24. Driving
25. The practical/ driving bit.
26. The practical component.
27. The driving part.
28. Practical activities.
29. Hands on experience, it makes all the difference, to really understand what you are being taught.
30. The practical demonstration.
31. The driving.
32. Applying the theory out onto the car track. How just being 5-10 km's over (40 kph) can be dangerous. It was a real eye opener. I consider myself very fortunate to have done the course.
33. Speed, incredible teaching. Not knowing that even 45 kph is a dangerous speed. Putting theory into practice-awesome stuff (It was necessary).
34. The driving part was really valuable to me.

### **Theory**

1. Applying the theory out onto the car track.
2. Putting theory into practice-awesome stuff (It was necessary).
3. Both the driving and writing part was really valuable to me.
4. Theory of why people get involved in accidents.

### **Statistics**

1. When the trainer explained about the risks involved in driving and the responsibility of the driver.
2. Controlling the car and statistics.
3. All the statistics.
4. Knowing the statistics.

### **Headways**

1. Realising how I need to stay back from the car in front.
2. Keep my distance from other cars.
3. Distance between cars.

4. Learning about how real the dangers of the road are. It has made me very aware of the car in front of me.
5. The distance required between yourself and the car in front, for you to be safe.
6. Being taught the correct distance needed to stop in time between 2 cars.
7. Understanding and being able to experience just how much 1 second can make the difference between crashing and surviving. Learning to keep more distance and be alert.
8. Knowing that keeping a distance between you and the car in front can prevent accidents and deaths.
9. The distance required to stop without crashing into another car if it brakes heavily.
10. The distance between cars- the course showed me that I can't stop the car as quickly as I thought I could.
11. Learning to keep a safe distance from the car in front.
12. Keeping a distance from the other cars reduces chances of collision.
13. The realisation of how important it is to keep a distance from other drivers.
14. Realising how little time you have to react if you are too close to the car in front.
15. The distance factor.
16. Reminding me about the gap and how just 1 second can mean a lot when driving.
17. Gaps between cars and the practical work.
18. The on-road experience of what distance the car needs to stop in times at different speeds.
19. Learning to keep distances.
20. Learning what a difference a little extra space between vehicles or a little less speed can make. Do not tailgate.
21. It reinforced how important it is to give yourself plenty of space.
22. Keeping a safe distance was also important.
23. What happens if I don't travel keep a safe distance behind the car in front.

#### Two-second rule

24. Stay 2 seconds back.
25. Learning to leave 3 seconds between you and the car in front, and the importance of that (ie., how hard it is to stop in time and not hit them if you have to).
26. Actually experiencing having to brake with little amount of time to react at a low speed (50 kph). It gave a real implication of how unpredictable the road is and that you should be at least 2 seconds away from the other cars.
27. Learning to leave a 2 second gap between me and the car in front.
28. Stay far back from the car ahead (2 seconds). The slower you are going, the more time you have to react.

### **Speed**

1. Learning what a difference a little extra space between vehicles or a little less speed can make. Do not tailgate and do not speed.
2. Realising what speed can do.
3. Learning the difference that a few seconds and a few kilometres an hour can make.
4. To see how I handled the different situations which we were confronted with, including the speeds which we were travelling and the fact that I have never had the opportunity to experience this before.
5. It reinforced how important it is to give yourself plenty of space and to stay within the speed limit.
6. I learnt that 10 kph of speed can make a huge difference.
7. Speed makes the difference.

8. The slower you are going, the more time you have to react.
  9. Learning that speed is really important.
  10. The effect of speed on stopping, to avoid hazards, turning corners.
  11. What happens if I don't travel at a safe speed and keep a safe distance behind the car in front.
  12. Speed versus distance. Stopping distance is slowed when speeding.
  13. Learning about speed- how long it takes (in meters and seconds) to stop. The faster, the longer it would take to stop.
  14. Experiencing my car spin 45 degrees through dirt.
  15. To witness first hand what "could happen". To see the proof of what would happen if I took a corner at x' speed and so on.
  16. Noticing the differences in speed (ie., 10 kph).
  17. Learning about the limits of my car when speeding, cornering and turning.
  18. Seeing how hard it was to control a car when going to fast.
  19. Seeing what my car can and can't handle (ie., speed in turns and stopping distance).
- Speed and its contribution to accidents

20. Learning about the dangers of speeding.
21. The realisation at how much damage could be done at low speeds, let alone high speeds.
22. Learning how driving just 5 kms faster can mean losing control of the car in a risky situation when otherwise you would not have.
23. It showed us the limits of a car (braking etc) and showed us that no matter how good a driver we are, speed increases the chances of having an accident.
24. Applying the theory out onto the car track. How just being 5-10 kms over (40 kph) can be dangerous. It was a real eye opener. I consider myself very fortunate to have done the course.
25. Speed, incredible teaching. Not knowing that even 45 kph is a dangerous speed. Putting theory into practice-awesome stuff (It was necessary).
26. It made me realise how easily you can lose control of a car and how hard it is to stop a car in an emergency situation. Reality really hits home- it can only take a second to have an accident.
27. Learning about the dangers of driving and realising the small amount of speed that can be fatal.

### **Stopping distance**

1. Braking distances.
2. The braking distance.
3. How long it took for the car to stop (ie., how far brakes locking when stopping quickly).
4. Showing me that the distance required to stop is more than expected.
5. Seeing the actual distance of stopping in various situations improved my awareness.
6. Realising how long it takes to stop.
7. Knowledge of my capability to stop in a hazardous situation and the reaction time.
8. Observing that braking distance was greater than expected.
9. Seeing how far it took for me to brake suddenly.
10. Learning how much distance your car takes up when you need to brake suddenly, even if you're only driving at 40 kph.
11. The space you need in order to stop safely.
12. The practical session. It made me realise how easily you can lose control of a car and how hard it is to stop a car in an emergency situation.

13. Seeing what my car can and can't handle (ie., stopping distance).
14. The effect of speed on stopping.
15. Being taught the correct distance needed to stop in time between 2 cars.
16. The distance required to stop without crashing into another car if it brakes heavily.
17. The distance between cars- the course showed me that I can't stop the car as quickly as I thought I could.
18. Learning to leave 3 seconds between you and the car in front, and the importance of that (ie., how hard it is to stop in time and not hit them if you have to).
19. Actually experiencing having to brake with little amount of time to react at a low speed (50 kph). It gave a real implication of how unpredictable the road is and that you should be at least 2 seconds away from the other cars.
20. Speed versus distance. Stopping distance is slowed when speeding.
21. Learning about speed- how long it takes (in meters and seconds) to stop. The faster, the longer it would take to stop.

### **Driving skills**

1. A reminder of certain basic skills and refresher to things I learnt seven years ago when getting my licence.

#### Braking and stopping skills

2. To see how my car handles when it comes to sudden braking.
3. Braking.
4. Emergency stopping.
5. Effective braking techniques.
6. The braking aspect.
7. Being able to see the hazardous effects of not braking when needed and seeing what occurs out of it with your own vehicle.

#### Skidding skills

8. How to handle skidding. I have become more confident in this kind of situation.
- Cornering and turning skills

9. The quickly turning lanes.
10. Braking into a corner.

#### Handling & control skills

11. Handling abilities
12. Handling the car. Zigzagging through witches hats.
13. Controlling the car.
14. Realising that I don't have as much control as I thought.

#### Driver skills to prevent a hazard or potential accident

15. Learning how to handle the car to possibly avoid an accident.
16. Learning more techniques on how to avoid or get out of various situations while driving.
17. Being able to hopefully get out of an accident before it occurs.
18. Gave me more confidence in my driving ability, I feel confident that I could handle most unforeseen hazards/accidents.
19. Being in a dangerous (relatively dangerous) situation and learning how to control the car.
20. Learning how to get out of situations.

21. Being shown what to look for to avoid an accident.
22. By knowing how to react in different emergency situations.
23. Learning how to prevent a crash and how to control my own car.

### **Own vehicle**

1. Practical driving with my own car.
2. Learning about certain situations in my car.
3. The hands on experience in own car.
4. Gaining confidence in my car by doing the practical exercises outside.
5. The Practical session. Knowing your own car.

#### *Learning the limits and handling of one's own vehicle*

6. Learning limitations of my vehicle.
7. Learning my cars limits.
8. Learning how to prevent a crash and how to control my own car.
9. Being able to see the hazardous effects of not braking when needed and seeing what occurs out of it with your own vehicle.
10. Seeing what my car can and can't handle (ie., speed in turns and stopping distance).
11. Being able to see the limits of my car and myself in practical situations.
12. Know different speeds you can push your own car and how to control your own car.
13. To know your own and the cars capabilities.
14. Made me better aware of how my car and driving ability handles in certain driving situations.
15. Learning how to handle my car in various situations.
16. Finding the capabilities of my car.
17. Having the experience and practise of trying these skills using your own car was worthwhile and should be encouraged for all ages.
18. Learning how my car handled in a controlled environment
19. Finding the limitations of my car and my driving skills.
20. Managing my car.
21. The way I realised what my car can do and what I need to do to stop an accident.
22. Learning how to handle my car better.
23. Understanding my limits and my cars and what my car can handle. (Not asking too much).
24. Learning about the limits of my car when speeding, cornering and turning.
25. The practical component was important because it illustrated just how inadequately my car and myself could handle potentially hazardous driving situations.

### **Personal limits**

1. Understanding how I reacted in the car to seeing a situation in front of me and knowing how I reacted.
2. Realising that I don't have as much control as I thought.
3. Being able to see the limits of my car and myself in practical situations.
4. To know your own and the cars capabilities.
5. Made me better aware of how my car and driving ability handles in certain driving situations.
6. Finding the limitations of my car and my driving skills.

7. The way I realised what my car can do and what I need to do to stop an accident.
8. Understanding my limits and my cars and what my car can handle. (Not asking too much).
9. To see how I handled the different situations which we were confronted with, including the speeds which we were travelling.
10. Knowledge of my capability to stop in a hazardous situation and the reaction time.
11. The practical component was important because it illustrated just how inadequately my car and myself could handle potentially hazardous driving situations.

### **Unpredictable nature of driving**

1. Forcing me to realise how easily accidents can happen.
2. Awareness of what could happen on the road.
3. Seeing how easy it was to have an accident.
4. Realising the consequences of some commonly made mistakes by deliberately making them.
5. Realising just how dangerous driving can be when you aren't aware of hazards.
6. Actually getting into the car and being shown/ doing that at 40 you can have a major accident.
7. Learning about the dangers of driving and realising the small amount of speed that can be fatal.
8. Understanding and being able to experience just how much 1 second can make the difference between crashing and surviving.
9. Learning about how real the dangers of the road are. Learning how driving just 5 kms faster can mean losing control of the car in a risky situation when otherwise you would not have.
10. It made me realise how easily you can lose control of a car and how hard it is to stop a car in an emergency situation. Reality really hits home- it can only take a second to have an accident.
11. Becoming aware of a lot more.
12. Actually experiencing having to brake with little amount of time to react at a low speed (50 kph). It gave a real implication of how unpredictable the road is and that you should be at least 2 seconds away from the other cars.

### **Confidence managing hazards**

1. Being more confident while in a panic situation.
2. How to handle skidding. I have become more confident in this kind of situation.
3. Gave me more confidence in my driving ability, I feel confident that I could handle most unforeseen hazards/accidents.
4. Gaining confidence in my car by doing the practical exercises outside.
5. Also building confidence with the great instructors was important and beneficial for my driving.

### **Instructors**

1. Driving with the instructor giving tips.
2. The instructors- they were great, constantly telling you what you were doing wrong and how to correct it.

3. Having the course trainer in the car while we were doing the driving exercises. They had quite a lot of good driving safety tips to tell us about the correct way to handle our vehicles.
4. Advice from trainer/instructor in-car.
5. Practical lessons- fantastic idea of having the trainer go through everything with you in theory and then go with you in the practical tasks.
6. Also building confidence with the great instructors was important and beneficial for my driving.

### **Other**

1. Nothing.
2. Everything.
3. Don't know- All of it.
4. Think about driving habits.
5. Just reminding me- saying out loud what we all knew and took for granted really made it hit home.
6. The way I get so upset when cars overtake and then slow down or cut me off- sometimes that anger could lead to accidents.
7. To reaffirm better driving techniques.
8. Can't really single out one thing.
9. Not sure.
10. Learning.
11. Honestly, the saving on insurance (as I don't earn all that much), but also insight into driving problems.
12. The results it showed.
13. Changing my attitude towards driving.

## **15.4 PERCEPTIONS OF WHETHER OR NOT THE COURSE CHANGED THE WAY PARTICIPANTS DRIVE**

### **Positive Changes:**

#### **Headways**

1. I stay back from the car in front of me, in case I need to brake unexpectedly.
2. Leave more space between me and the car in front.
3. Keep further behind the car in front.
4. I now keep a further distance from the car in front.
5. Always stay 2 seconds back.
6. Distance from vehicles in front.
7. I am more aware of the distance I keep between my car and especially the car in front of me.
8. I pay a conscious thought to all/most hazards and keep my distance from cars, am more alert.
9. Keep much longer distances between myself and the vehicle in front of me.

10. I drive further back from other cars now.
11. More emphasis on sufficient distance between myself and the car in front.
12. Allow a lot more space between the car in front.
13. I stay further back from the car in front.
14. The distance I travel at behind other vehicles.
15. I'm more conscious of my speed and distance between vehicles.
16. More cautious with speed and distance between vehicles.
17. I don't sit as close to other cars.
18. Keeping distance.
19. I'm more aware of my speed and distance from other vehicles and I also know my car better.
20. Leave a bit more space.
21. How closely I follow another car.
22. More gap between my vehicle and the car in front. I am always conscious of a minimum 2 seconds gap.
23. I look at distance between me and driver in front.
24. I leave a bigger gap between myself and the car in front.
25. I am a lot more careful on the road and I don't drive so close to people.
26. Space left between me and the car in front.
27. I now keep more distance between me and the car in front.
28. Try not to speed. Keep at least 2 seconds between me and the car in front.
29. Learnt to keep more space from other cars.
30. I pay even more attention to the road, especially the distance and cars generally around me.
31. Don't drive too close to the car in front, ie., leave a least 2 car spaces in front of my and the car.
32. Sit further back from the car in front.
33. I keep a safe distance from other cars.
34. I keep a greater distance between me and the car in front of me when driving.
35. More cautious of how close I sit behind other cars and the speed I am going.
36. Leave more (and bigger) gaps.
37. Made me more aware of the importance of keeping your distance from other cars and the need to be so careful of speed.
38. I don't drive so close to the car in front of me and I slow down in the wet.
39. More careful about the distance between car in front and myself.
40. I've increased my gap when I drive, allowing plenty of space. It's funny to measure my distance using trees.
41. Just a bit in the sense that I am more aware of vehicle distance and every time I am near a truck I think of the exercises we did,
42. I take it a bit slower and hang back more when in traffic.
43. Leave more room behind the car in front.
44. Leave a bigger gap.
45. I don't drive as close to cars as I used to.
46. Keeping a greater gap between moving vehicles and slowing down a bit.
47. I drive more carefully, don't drive so close to the car in front.
48. Leaving more space between my car and the car in front when driving. The higher the speed- the more space I leave.
49. Slow down. Leave 2-3 seconds behind the car in front
50. Not speeding as I use to. Not tail-gating any more.
51. Keep back and a lot more cautious. (Not so confident in the ability of my car).

52. I am more cautious and allow more leeway with other drivers.
53. I drive further behind other vehicles.
54. I leave a bigger gap between me and the car in front.
55. I've slowed down and don't sit as close to the car in front, am more aware of possible hazards.
56. I leave braking distance between cars and find myself braking a lot earlier than I used to when the driver in front is braking.
57. I don't sit right behind other cars, I give myself enough braking distance.
58. I leave more space between my cars and others.
59. I keep my distance from the car in front.
60. I have increased the distance at which I travel behind other vehicles.
61. Leave more space between me and the car in front and tell other people to do the same.
62. Keep more distance between cars. Drive slower. Take less risks.
63. Slow down. Increase gap between you and the vehicle in front.
64. Slower in built up areas, eg.. schools. Keep a safe distance from the car ahead.
65. At a safe distance.
66. Don't drive as close to cars in front
67. To be cautious and keep distance.
68. I have reduced my speeding , and stay back from cars in front of me, when I drive.
69. I'm more aware of the dangers of speeding and tail-gating.
70. Leave more space. Speed less.
71. I keep at least 3 seconds in between me myself and the car in front which if I need to stop in a hurry there is plenty of distance.
72. Keeping distance.
73. I am constantly measuring my distance from the car in front.
74. I leave more room and have slowed down.
75. Keep greater distance behind cars whilst moving at traffic lights.
76. More distance between car in front and myself.
77. More conscious of how fast and how close I travel to another car.
78. Don't drive as close to vehicles in front of me.
79. Driving further back from others.
80. I am far more aware of the distance I leave between my car and the one in front.
81. Stay back from car in front..
82. I drive further back from the car in front.
83. Increase distance between myself and the car in front.
84. Space.
85. I leave more space between the car in front and my car.
86. Counting the 3 second brake.
87. I'm obsessive about the gap. I'm always checking it, it drives me insane.
88. I now travel at a much safer distance than before I did the course.
89. More conscious of my distance I keep from vehicles in front of me.
90. More careful of the car in front of me.
91. I don't speed as much and leave more room between my car and the one ahead.
92. I now make a conscious attempt to distance my car from the car in front.
93. Much more cautious of other drivers, drive a little slower, and leave a bit more room.
94. Ensure I have a safe distance between me and the car in front.
95. Don't sit as close to the car in front.
96. The distance I travelled behind other vehicles.
97. I back off a fair way from the car in front..
98. I always make sure to leave two seconds distance between my car and the one in front.

99. I am a lot more cautious with cars ahead or around me and has made me drive with enough distance to brake easily.
100. I drive further behind cars.

## **Speed**

1. It taught me to slow down and to watch for traffic hazards.
2. It's not worth speeding at all.
3. I didn't realise how easy it was to have an accident. I don't drive over the speed limit, like I used to.
4. Slow down.
5. Drive slower.
6. Drive slower.
7. Don't speed as much.
8. Has made me appreciate speed limits.
9. I'm more conscious of my speed and distance between vehicles.
10. More cautious with speed and distance between vehicles.
11. I'm more aware of my speed and distance from other vehicles.
12. Try not to speed.
13. More cautious of the speed I am going.
14. Made me more aware of the need to be so careful of speed.
15. To take corners slower as speed will make the car become out of control.
16. I take it a bit slower.
17. Slowing down a bit.
18. Slow down.
19. Not speeding as I use to.
20. I've slowed down.
21. Drive slower.
22. Slow down.
23. Slow down when necessary.
24. I have reduced my speeding.
25. I'm more aware of the dangers of speeding.
26. Speed less.
27. Have slowed down.
28. More conscious of how fast I travel.
29. Less speeding.
30. I don't speed as much.
31. Drive a little slower.
32. I try not to speed.
33. Speed less.

### *Slower in potentially hazardous situations*

34. I have learned to take it easy and not to rush into getting somewhere. Also to take it easier on the roads in different weather conditions.
35. I now think a little more about the consequences of speeding. More likely to slow down even more than before in areas with pedestrians.
36. I drive slower in residential areas.
37. Slower in built up areas, eg., schools.

38. I slow down in the wet.
39. Drive slower, more cautious driving in wet weather.

### **Stopping distance**

1. More aware of required stopping distances and more alert for potential hazards.
2. It made me concentrate more of braking times.
3. Stopping distance
4. Stopping distance
5. I stay back from the car in front of me, in case I need to brake unexpectedly.
6. I don't sit right behind other cars, I give myself enough braking distance.
7. I keep at least 3 seconds in between me myself and the car in front which if I need to stop in a hurry there is plenty of distance.
8. Leave more braking distance.
9. Has made me drive with enough distance to brake easily.

### Use controlled braking

10. Not that I'm never alert when driving, but alert of the braking, stopping when required.
11. I now brake a lot earlier before I need to stop at traffic lights and intersections.
12. Controlled braking.
13. I leave braking distance between cars and find myself braking a lot earlier than I used to when the driver in front is braking.

### **Driving environment**

1. Awareness of other cars on the road.
2. I always look at what's going on the road ahead, not just at the car in front of me.
3. Also looking more widely around as I turn corners.
4. I am more observant to my surroundings.
5. Being more aware on the road.
6. Have become even more aware of my surroundings.
7. Because I am more aware of things around me.
8. Being more observant of happenings around the car while driving.
9. Just to always watch everything.
10. I now look around for a "planned escape route" in case the car in front suddenly stops and there is no time to stop.
11. It has made me more aware of my surroundings while driving.
12. More aware of what is happening around me.
13. I am more aware of people around me.
14. I am a lot more cautious with cars ahead or around me.
15. I am more aware now, more alert.
16. I pay even more attention to the road.
17. More alert in wet weather.
18. More alert and aware.

### More aware of other drivers

19. I look more at other drivers and I never trust them.
20. I also have less faith that other drivers won't crash into me and that I must be cautious of them.
21. Much more cautious of other drivers.
22. I try to be more aware of other drivers making mistakes and being prepared for this.

23. More aware of others.
24. Are more aware of other drivers.
25. Aware of other drivers, slow down when necessary.
26. I am more cautious and most times can judge what another driver will do.
27. Heightened awareness of what other drivers may be anticipating to do.

#### Look ahead more in the traffic

28. To look more than just one car in front.
29. Also, I look more into the distance.
30. I look ahead.
31. Look further into the distance.
32. Looking ahead for other problems on the road.
33. I always look at what's going on the road ahead, not just at the car in front of me.
34. I look well into the distance for hazards.

#### Hazards

35. Not so much the way I drive but I am more aware of the potential dangers associated with every day driving.
36. It has made me more aware of the hazards that are on the roads.
37. More aware of some potential hazards.
38. Aware of the risks involved in driving.
39. It taught me to slow down and to watch for traffic hazards.
40. More alert for potential hazards.
41. More cautious and aware of potential hazards when driving.
42. More cautious and aware of dangers.
43. I pay a conscious thought to all/most hazards.
44. I look well into the distance for hazards.
45. I am more aware of what can happen when driving.
46. Looking ahead for other problems on the road.
47. Am more aware of possible hazards.

### **Attitudinal and affective changes**

#### Caution

1. I am more cautious.
2. Try to be more careful.
3. Has made me more cautious when driving behind other vehicles.
4. Drive more carefully.
5. More cautious.
6. More cautious and aware of potential hazards when driving.
7. More cautious.
8. More cautious and aware of dangers.
9. Safer.
10. Make me more cautious of how I drive.
11. It has made me more cautious and aware as a driver.
12. I am a lot more careful on the road.
13. I'm a safer driver and more aware of others.
14. Bit more cautious.
15. I drive more carefully.
16. Keep back and a lot more cautious.
17. I am more cautious and allow more leeway with other drivers.

18. To be cautious.
19. I'm more cautious when driving in harsh conditions.
20. More cautious.
21. More cautious on corners.
22. More careful of the car in front of me.
23. Take less risks.
24. I am more confident and cautious on the road.

Patience / aggressivity

25. Being patient.
26. Not as aggressive and a bit more patient.
27. I find I am more patient and tolerant now that what I was before the course.
28. Less aggressive.
29. Not so aggressive.

Moods

30. How different moods can alter one's driving.
31. Also I'm more aware of the way I'm feeling at the time and can think more beneficially about how to react to changed driving conditions.

**Vehicle limitations**

1. I am a lot more aware of what me and my car are capable of.
2. I understand my car and what its limits are.
3. Also found a good feel of my car.
4. I also know my car better.
5. Not so confident in the ability of my car.

**Other**

1. Only how to turn right from a side street to a main road.
2. Recently I had been involved in a skid and I handled it well, thanks to the course. Otherwise I would have panicked and swerved. Instead I kept control of my car.
3. I had already done the Jim Murcott course and that initially changed my driving to being more careful- the AAMI course reaffirmed this.
4. Don't know.

**No Change:**

**Ability**

1. It reinforced what I was hopefully doing. A lot of what is in the course should be common knowledge to most people, who are sensible when they are driving a car.
2. I'm already a careful driver- Don't tailgate etc... (areas which the course targeted).
3. I don't deliberately speed anyway and I don't drive right behind other cars-which seemed to be the main points of the course. It did reinforce why I drive like I do (and not like pretty much everyone else).

## **Habit**

1. I still sometimes drive a bit too fast, but I know that I shouldn't, and no amount of training would change this. It's too tempting to speed to get to places more quickly.
2. Because I drive such a long distance to work, time/ traffic/ impatience plays a bigger role and forces me to forget these issues.

## **Other**

1. I still basically drive the same way, the course was not so eye opening that I felt my driving was unsafe.
3. Not necessarily things you would apply everyday in the course of driving.

## **15.5 ADDITIONAL COMMENTS**

### **A good initiative**

#### *Course was beneficial and worthwhile*

1. Although the course was a lot of fun, it was still educational.
2. I found the course helpful overall.
3. In my opinion, the course was more than valuable experience.
4. I think this has been a good idea.
5. Worthwhile for every driver.
6. It was a great course.
7. I learnt things about driving and also ways of being a better driver.
8. The course was great.
9. Great course.
10. I think this driving skills training is a great thing to have. It made a huge difference to my driving.
11. Very worth while course.
12. It is worthwhile doing not only for the cheaper insurance but because it reinforces what most parents and driving teachers should be teaching you before you get your licence.
13. It was a worthwhile course. Plenty of teaching in it.
14. Good learning experience.
15. The course is terrific. I could learn several things which are very valuable for my driving skills.
16. It was a valuable course.
17. The AAMI course was fantastic.
18. I know it changed the way I drive and a number of people.
19. I'm definitely a better driver for having done the course, I'm more confident and so I find I learn something new every time I take the car out.
20. The instructors were great.
21. The driver instructors were excellent, very patient, and had great sense of humour, for our retard driving behaviour.

22. I thought the course was very well run and very organised-which definitely means that people will take it more seriously.
23. Great to see AAMI being socially responsible and pro-active, genuinely trying to save young lives.

#### Appreciation

24. Thank you for the opportunity.
25. Thank you AMMI and Monash University.
26. Thankyou for giving me the opportunity to complete the course
27. Thank you also for allowing me to take part.
28. I'd just like to say a big thank you for the way the course was run. Many thanks.
29. I appreciated being able to participate in the course.

#### **Recommended**

1. I think it should be a compulsory course when you get your probationary license.
2. I think that everyone who gets their licence should be made to do a course like this.
3. I strongly think that everyone who drives should do a skilled drivers course. It should be mandatory because I didn't know 80% of that information and I'm sure others are the same. This information could save a life.
4. I now strongly believe that everybody should do a course like this before they obtain their licence.
5. I think it should be compulsory for all drivers to undertake a skilled drivers course. Drivers are not aware of how dangerous speed can be.
6. It should be compulsory to do a course with in 12 months of getting a licence.
7. The skilled driver course should be compulsory for all drivers (Not just P-platers).
8. I think everyone who applies for their licence should have to do the course.
9. Should be compulsory
10. Recommend it and enforce it to all P platers.
11. I highly recommend that all drivers, regardless of age and gender, do the skilled drivers test.
12. I recommend that more drivers, old and young, do some kind of driving course.
13. I recommend it to all new drivers.
14. I believe that it should be compulsory for all probationary/learner drivers.
15. Worthwhile for every driver.
16. It should (or a similar one) be mandatory for all drivers before getting their license.
17. A course similar to this should be a requirement to enable you to gain your licence.
18. The course was great and should be included in driving tests or be made compulsory for all drivers.
19. Great course, should be compulsory!
20. I think this driving skills training is a great thing to have, it should be compulsory for all learning drivers. It made a huge difference to my driving.
21. It was a valuable course that I think all 18-25 year-olds should be encouraged to participate in.
22. Such a course could have 'real benefit' as a part of getting your P plates.

#### Refresher courses could also be recommended

23. I believe that all new drivers should be made to undertake this or a similar driving course as part of becoming a licensed driver. And every 5-10 years take the course again as a refresher- this would help to reduce accidents.
24. I think courses like this one and more advanced ones should be part of having your probationary licence and should be as soon as you get it and then a couple of years later.

25. Such courses SHOULD be compulsory in obtaining a licence. Refresher courses should be undertaken by drivers routinely (every 10 yrs?). Government intervention, ie., lowering the average car age on the road.
26. There should also be a course for people 25+ years and should be compulsory for people 60+ years.

## **Changes**

### More of the practical component

1. More practical and less theory.
2. The skilled training should be more intense and a lot more exercises related to practical situations.

### More instructors

3. More instructors as a lot of time was spent swapping cars.
4. Perhaps more instructors so people can get through more quickly.

### More widely publicised

5. These courses should be more widely publicised to the greater community. I drive 90,000 kilometres per year and see many drivers making stupid manoeuvres. These course could perhaps educate them better and make the roads a safer place.
6. I believe that more information needs to be given to people. I was only aware that the course was available to me when my mother told me about it.

## **Evaluation worthwhile**

1. I think this evaluation is a good idea.
2. PLEASE send me results of the research, I am interested, Thanks.
3. And I have enjoyed and am glad to help with the research. I hope the results are what you set out to get.
4. Good-luck with the investigation, and thank-you for including my views, experiences, and input.
5. Good luck with collating the results.

## **Not beneficial**

1. The first few weeks after the program, my driving really changed. I drove a lot slower (on the speed limit), with a big gap between cars. After a while though, I got sick of driving that slow and went back to my old habits, but I still leave bigger gaps.
2. I don't believe that the course taught me that much. It's a bit of a waste of time. Good driving only comes with experience and time, not because of an advanced drivers course.

## **Other**

1. The defensive driving techniques should be at the level of driver training (ie. Vic Roads level), to get the most effective safe driving mentality.
2. The course personally needs to be more graphic because to a new young driver the day would be like a game and not be taken as a life saving and skill enhancing procedure.
3. Perhaps show tips or common mistakes

4. The course should also put in how to use the emergency hand brake in an emergency.
5. The final questionnaire should have been sent out much sooner after the course while everything is still fresh in the students mind. Also the questionnaire should be anonymous so that people are honest with their answers.
6. Too many surveys.
7. Instructors shouldn't be so critical about drivers abilities. The gentlemen that I had decided that because I couldn't weave in and out of the cones, that I couldn't do the corner exercise when in actual fact I could.