

## **Fifty percent of parents are below average: Investigating the roles parents play in their children's road safety.**

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### **Abstract**

There are 260,000 children killed each year (and 10 million injured) as a result of crashes in all countries, and young drivers are over-represented in crashes across developed countries. There is therefore increasing interest in the potential for parents to play an active role in risk-reduction strategies and in the possibility of using parental involvement as an adjunct to other interventions, but little information available about how parents are currently involved in safety related activities with their children. This paper summarises key results from a survey of that aimed to assess their current role in relation to road safety issues. The on-line survey collected data from a sample of 328 parents with children in four situations – young children, pre-learner teenagers, learner drivers, and probationary drivers. The results indicated that it was possible to identify groups of parents who were low-level and high-level users of road safety information and materials, and that low-level users of information and other material were generally disconnected from involvement in road safety issues of concern to their children. The paper discusses the implications of the results for future interventions.

### **Keywords**

Children, Novice drivers, Learners, Parents

### **Introduction**

Children and young drivers are important target groups for road safety interventions. There is increasing interest in the potential for parents to play an active role in risk-reduction strategies and in the possibility of using parental involvement as an adjunct to other interventions, but little information available about how parents are currently involved in safety related activities with their children.

The RACV Ltd, through its Road Safety Research Fund, commissioned the author to undertake a study that incorporated a review of some relevant literature and a survey of the parents of children of different ages to assess the current role of parents in relation to road safety issues.

The review of recent literature (available in the project report when it is published) suggested the following important issues that need to be considered in the development and implementation of programs targeting parents:

- There is at least some empirical evidence that parents do play a role in safety outcomes, and can be influenced to improve their effectiveness.
- While some parents are likely to benefit from information campaigns, there is consistent evidence that parents do not generally respond to additional information by changing their behaviour in relation to safety and injury prevention.
- Parents' optimism bias or their belief in the 'immunity fallacy' in relation to their children's injury risk appears to be a critical factor. Parental optimism bias in relation to their children may lead them to ignore informational material about potential injury risks.
- There is a disconnect between parents' beliefs about potential injury risks and actual injury risks that may need to be addressed.
- Evidence about parental involvement in childhood pedestrian safety suggests that parents do not generally play an active role in helping their children to develop safe road-crossing skills.

- The failure of parents to have a strong, practical involvement in teaching road safety skills to their children:
  - May result from a perception that the risk, although present, is not high enough to justify the effort involved in actively teaching a new skill
  - Could in part relate to parents' beliefs in their own efficacy as teachers
  - Might be a consequence of laziness or procrastination on the part of parents where other motivational factors influence their behaviour.
- The research concerning parental involvement in injury prevention and road safety suggests, then, that the provision of information about safety, risks, and parental involvement is likely to be insufficient to generate behaviour change. Interventions will require additional content that generates one or all of a change in perceived risk, improved self-efficacy, and motivation to act.
- The ways in which parents influence road safety outcomes go beyond the direct influences arising from monitoring and supervision, however, and there is evidence now that role modelling or social learning appear to play a role. Parents appear to transmit some aspects of their own driving style to their young adult children.

It was in this broad context that the current survey of parents was conducted. It collected data from a sample of parents with children in four situations – young children, pre-learner teenagers, learner drivers, and probationary drivers. It should be noted at the outset that this was not intended to be (and could never have been) a survey of a representative sample of parents that would provide the final word on parental involvement in safety issues. The survey was conducted to provide some general guidance to the RACV in relation to parental involvement amongst a group of RACV members who were prepared to participate in the survey.

## **Method**

The survey was presented to participants as an online survey. The survey took between 10 and 20 minutes to complete. The survey instrument collected information concerning:

- Family structure and living arrangements
- Numbers and ages of children
- Exposure to road-related risk for children using different transport modalities
- Parent involvement in road safety issues with children in different age brackets, including talking about safety, practical involvement, use of different information sources, and information needs.

The study made use of the RACV membership database and participants were recruited by mail. The RACV managed the mail-out process to ensure the confidentiality of members was maintained unless they chose to take part in the survey and provide identifying information. It was not possible to identify parental status in the RACV database, so a large random sample (8,100) of members between 40 and 60 years of age was selected and a letter sent to them inviting them to take part in the survey if they met the participation requirements. Participants were invited to visit the survey website and to complete the survey. Those who did so were able to register their name and a contact number for inclusion in a prize draw for a gift voucher from a department store. Participants did not have to provide this information if they wished to remain anonymous. The identifying data were separated from survey responses.

## **Results**

### Sample

There were 327 survey participants. It is not possible to report a response rate to the survey as there are no data available concerning the parental status of the 8,100 recipients of the invitation letters. It is therefore not possible to determine the actual number of invitees who were eligible to complete the survey.

Participants provided the postcode of their place of residence which was linked to percentile rankings of postcodes according to their relative socioeconomic advantage or disadvantage (ABS Census data)(with higher-percentile postcodes being relatively advantaged). There was a clear bias towards participants living in more-advantaged postcode areas; primarily a reflection of bias in the broader population that is then reflected in the membership of the RACV, rather than self-selection bias during recruitment.

The survey sample was strongly biased towards female participants – 63 percent of those with known sex were female, compared to 52 percent of the people who were sent invitation letters. The sample was also biased in relation to internet access as parents without internet access at home or at work would not have had good opportunity to complete the survey. The ABS estimates (online data) that 72 percent of Australian households have internet access, and that internet access at home is related to household income and to the presence of children under 15 years of age in the household.

Ninety percent of participants lived with their partner or spouse and participants reported a mean of 2.7 cars owned by members of their households. Table 1 shows the mean number of children reported by participants in each of the four groups of interest. Participants had an average of two children (excluding full licence holders), and children were evenly distributed across the groups. This paper summarises some of the results concerning teenagers (non-learner drivers), learners, and probationary drivers.

*Table 1: Number of children in each group of interest*

Group	Number of Children			
	Mean	Min.	Max.	Total
Under 12 years of age	0.41	0	3	137
12-18 years of age without a learner permit or driving licence	0.55	0	4	180
Learner drivers	0.44	0	5	147
P plate drivers	0.59	0	3	196
Total children	2.01	0	7	660

#### Road Safety and Pre-Learner Teenagers

Participants with teenagers who had not yet obtained a learner permit were asked about their child's exposure to road-related risk, and about their interactions with their child in relation to road safety. Where parents reported more than one child in this age group, they were asked to respond to the items in relation to the oldest of them. One hundred and thirty-eight participants (42 percent of the sample) reported that they had children in this age group.

The most common road-related activity was travelling as a passenger in a car. Participants' children spent more time as pedestrians near or on roads than they spend riding bicycles, suggesting that their greatest source of risk as a vulnerable road user is as a pedestrian rather than a bicyclist. Eighty percent of the teenagers did not ride a bicycle at all in the week preceding the survey.

Participants were asked if they had made use of some specific resources to help with road safety over the 12 month period preceding the survey. These data were used to identify groups of survey participants with similar self-reported levels of information use. Cluster analysis methods were used as follows:

- Responses (yes or no) to the information usage items were used in a tree clustering analysis to determine the best number of clusters. The cluster analysis used Ward's method to identify clusters and squared Euclidian distance as the distance measure. The best cluster solution was identified based on the amalgamation schedule and assessment of the tree diagram.
- K-means clustering was then used to assign participants to the number of clusters identified in the tree clustering analysis.

The pattern of information usage over the 12 months preceding the survey is shown in Figure 1.

- Cluster 1 members (53 participants) obtained some information from school newsletters, but all of them reported using information from media advertising and other media content (such as news and current affairs content).
- Cluster 2 members (16 participants) were generally similar to Cluster 1 members except none reported obtaining information from media advertising. They all reported obtaining road safety information from other media content.
- Cluster 3 members (52 participants) generally reported using none or almost none of the information sources to help them deal with road safety issues with their pre-learner children.
- Cluster 4 members (17 participants) made relatively high level use of all the information sources included in the survey. They had all already sourced information from the Learner Kit, and at least 60 percent had attended a Keys Please session.

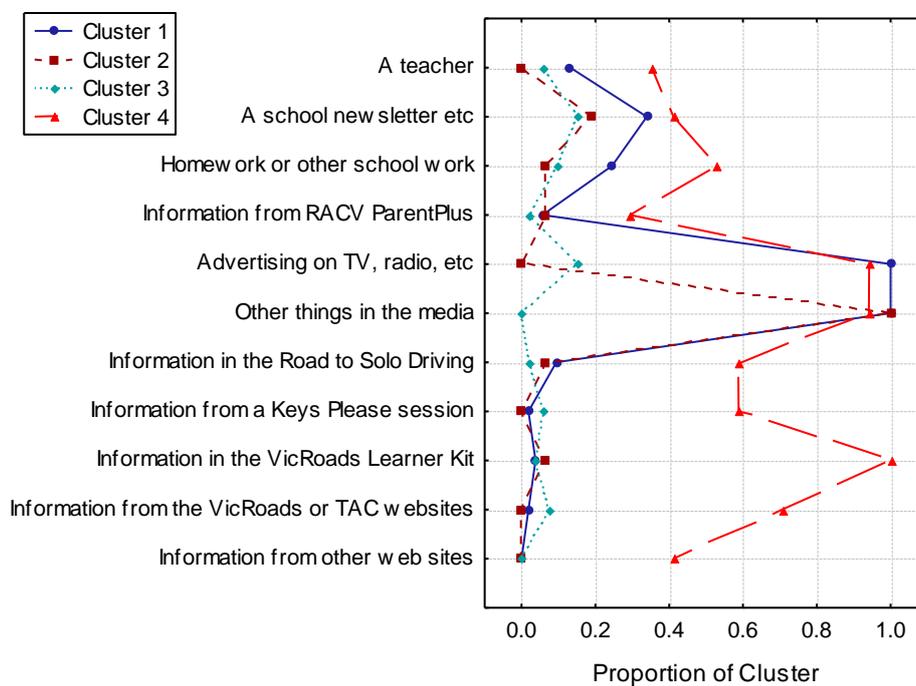


Figure 1: Clusters of participants and use of different information sources to help with their pre-learner teenage children

Cluster membership was not related to sex, total number of children, number of older children, number of cars in the household, or relative advantage/disadvantage.

Participants in Cluster 3 – the group of participants with relatively low levels of usage of all the information sources – were less likely than other participants to have talked to their children about most of the safety-related issues included in the survey. Participants in Cluster 4 were more likely to have talked to their children about these issues and were also likely to have modified their driving behaviour when their pre-learner child was a passenger in their car. They also expressed interest in further information on bicycle safety.

Participants in Cluster 1 – those who appear to rely on media advertising and other content for their road safety information – indicated that they would value information about aspects of the learner period more than other participants.

## Road Safety and Learner Drivers

Participants with learner driver children were asked about their learner's exposure to road-related risk, and about their interactions with their child in relation to road safety. One hundred and twenty-seven participants (39 percent of the sample) reported that they had children in this age group.

The most common road-related activities were travelling as a passenger in a car and driving a car. Use of public transport was also common, but bicycle riding was uncommon amongst this age group – only 15 percent rode in the week preceding the survey. It is of some interest that 25 of the participants' learner drivers did not drive at all in the week preceding the survey.

The cluster analysis method described earlier was used to identify groups of participants with learner drivers with similar patterns of information use. The relationship between cluster membership and the use of different information sources is shown in Figure 2.

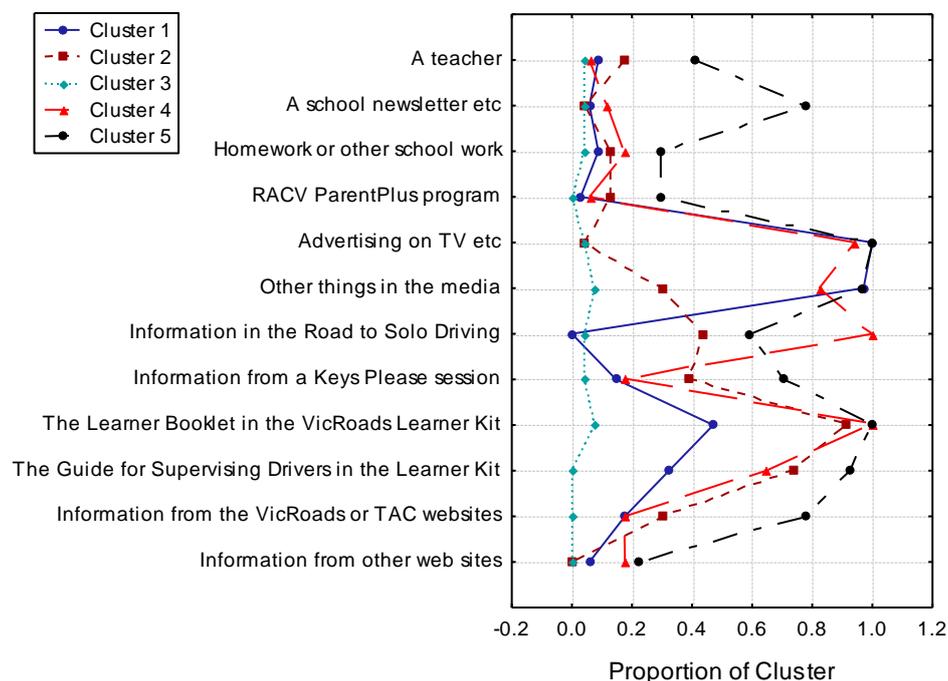


Figure 2: Clusters or Groups of participants and use of different information sources to help with their learner drivers

The resulting five clusters were as follows:

- Cluster 1 – This group of 34 participants obtained most of their information for helping their learner driver from advertising and other media content (such as news and current affairs programs). Almost all indicated that they had used these media sources for information, and about 50 percent had used the Learner Kit in the preceding twelve months.
- Cluster 2 – This group of 23 participants obtained most of their information from the VicRoads Learner Kit. Over 90 percent had used information from the Learner Guide, and 75 percent had used information from the Supervising Drivers' Guide. Forty percent had used the Road to Solo Driving, but usage of information from other sources was infrequent.
- Cluster 3 – This group of 26 participants appear to have obtained very little information from any of the sources included in the survey. No more than 10 percent of the group acknowledged any of the information sources.

- Cluster 4 – This group of 17 participants make strong use of advertising and other media content and printed resources such as the Learner Kit and the Road to Solo Driving.
- Cluster 5 – This group of 27 participants make relatively high levels of use of all the resources included in the survey, including those that require effort to access such as Keys Please, ParentPlus, and information on web sites.

Clusters 1 and 5 appear in general to have the strongest, most positive interaction with their learner drivers from a road safety perspective, while members of cluster 3 appear to have a consistently negative level of involvement and interaction with their learner drivers.

Cluster 1 participants make limited use of the Learner Kit, but all participants in this cluster make use of advertising and other media content to help provide information. Cluster 5 participants appear to be active in collecting information to help deal with learner driver issues. Cluster 3 participants (the least positive from a road safety perspective) appear generally to be disconnected from their learner driver's safety and skill development.

These differences are also present in relation to the value placed on specific information about the learner period. Cluster 3 members consistently gave lower ratings of the perceived value of this information, and Cluster 1 and 5 members were consistent in judging the new information as highly valuable or essential.

Cluster membership was statistically independent of relative advantage/disadvantage of the participants' residential postcode areas, and was generally unrelated to the number of children in different age groups, the total number of children in the family, family structure, sex, or the number of cars in the household. The only exception was that cluster membership was related to the number of Probationary licence holders in the family. Participants in Cluster 5 (the participants who appear to be more active when obtaining information to help with their learner driver) had significantly more P plate children than other participants (a mean of 0.9 older siblings with probationary licences compared to 0.5 across the rest of the sample).

Participants were asked how often they had talked to their learner driver about a number of road safety issues in the week preceding the survey and how often they had engaged in behaviours that may have relevance to road safety. Noteworthy findings include the following:

- The most common topics of conversation reported by participants included the amount of practice being accrued, safety-related actions of other drivers, general safety issues, and errors the learner made while driving.
- Very few participants reported modifying their driving behaviour when their learner driver was a passenger in their car.
- Forty to fifty percent of participants claimed that they had encouraged their learner driver to obtain practice in challenging driving situations in the week preceding the survey.
- Very few participants indicated that they had refused a practice session, and the most common reason for doing so was a general concern about the learner's skill level rather than specific characteristics about the driving context or situation.

#### Road Safety and Probationary Drivers

Participants with probationary driver children were asked about the P plater's exposure to road-related risk, and about their interactions with them in relation to road safety. One hundred and fifty-six participants (48 percent of the sample) reported that they had offspring in this age group.

The most common road-related activities were driving a car and travelling as a passenger in a car. Use of public transport and bicycle riding were infrequent.

The cluster-analysis approach described earlier was used to identify groups of survey participants with similar patterns of information use. Three clusters were identified, and their responses to these items are shown in Figure 3.

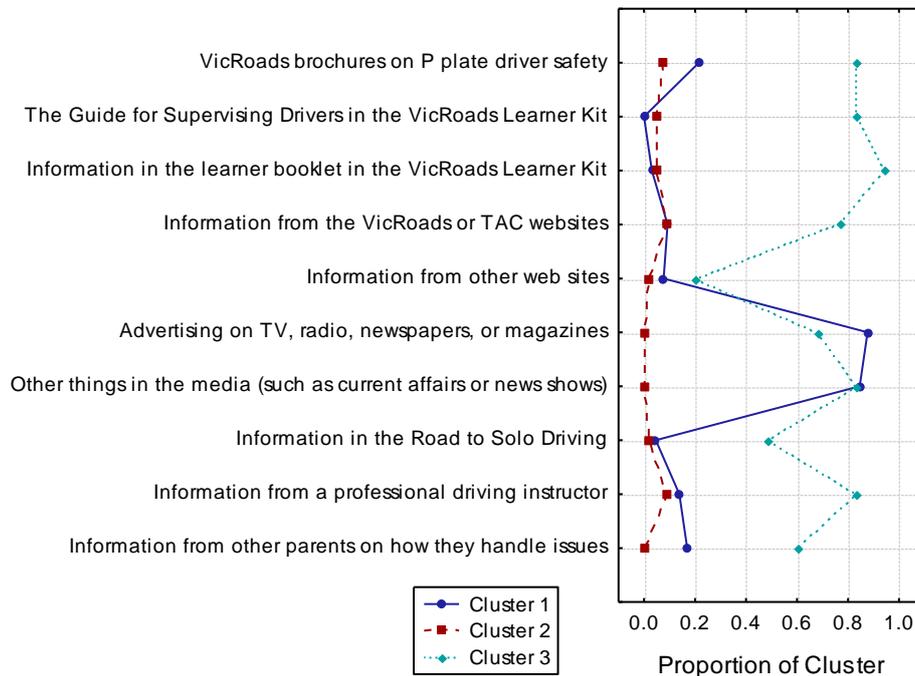


Figure 3: Clusters or Groups of participants and use of different information sources to help with their probationary drivers

- Cluster 1 participants (65 members) made use of media (advertising and other) as a source of information concerning their probationary driver’s safety, but made little use of any other information sources.
- Cluster 2 participants (56 members) made little use of any information in relation to the safety of their probationary driver.
- Cluster 3 participants (35 members) made relatively high levels of use of most information sources. The time scale of these items (the 12 months preceding the survey) would allow for some participants to have recently-licensed Probationary drivers, and it is possible that the high level of information source usage in this cluster reflects their information use when their current P plate driver was a learner driver.

Participants were asked how often they had talked to their probationary driver about a number of road safety issues in the week preceding the survey and how often they had engaged in behaviours that may have relevance to road safety. Noteworthy findings include the following:

- The most common topics of conversation reported by participants included speed, alcohol and driving, and road safety issues in general.
- Participants were very unlikely to report:
  - Driving the P plater somewhere to reduce exposure to risk
  - Modifying their own behaviour if the probationary driver was in the car with them
  - Refusing to allow their probationary driver access to a car for safety-related reasons.

## Discussion

This project focused on the role of parents in improving road safety outcomes across childhood and into young adulthood. Organisations involved in road safety in Victoria (such as VicRoads, the TAC, the Victoria Police, and the RACV) produce road safety materials for children, adolescents, and their parents and have a strong involvement in the development of programs and materials used in schools. This ongoing development of new programs and road safety material for parents in particular is occurring in an information vacuum. There is little data available in Victoria to inform the development of road safety content for parents – we know very little about what parents do with their children in relation to road safety across childhood and into adolescence, and we know very little about what parents believe they need in order to have an effective role in this area.

There is at least some empirical evidence that parents do play a role in safety outcomes, and can be influenced to improve their effectiveness. The broader injury prevention literature reviewed earlier suggests that encouraging parents to take a more-active role in improved safety outcomes is a complex challenge. Parents' optimism bias or their belief in the 'immunity fallacy' in relation to their children's injury risk appears to be a critical factor. Parental optimism bias in relation to their children may lead them to ignore informational material about potential injury risks, and is therefore a factor that needs to be addressed in developing and implementing injury reduction programs that target parents.

It was in this broad context that the current survey of parents was conducted. It collected data from a sample of parents with children in four situations – young children, pre-learner teenagers, learner drivers, and probationary drivers.

Cluster analyses of parents in each of these groups based on information about their use of different road safety information sources suggested that there were clear differences between parents. It was possible to identify subgroups of parents that were unlikely to use any of the road safety information sources included in the survey, and subgroups that were high-level users of most of the materials and that appeared likely to seek out information. Figure 4 shows the percentage of parents in each group in the high and low information use clusters.

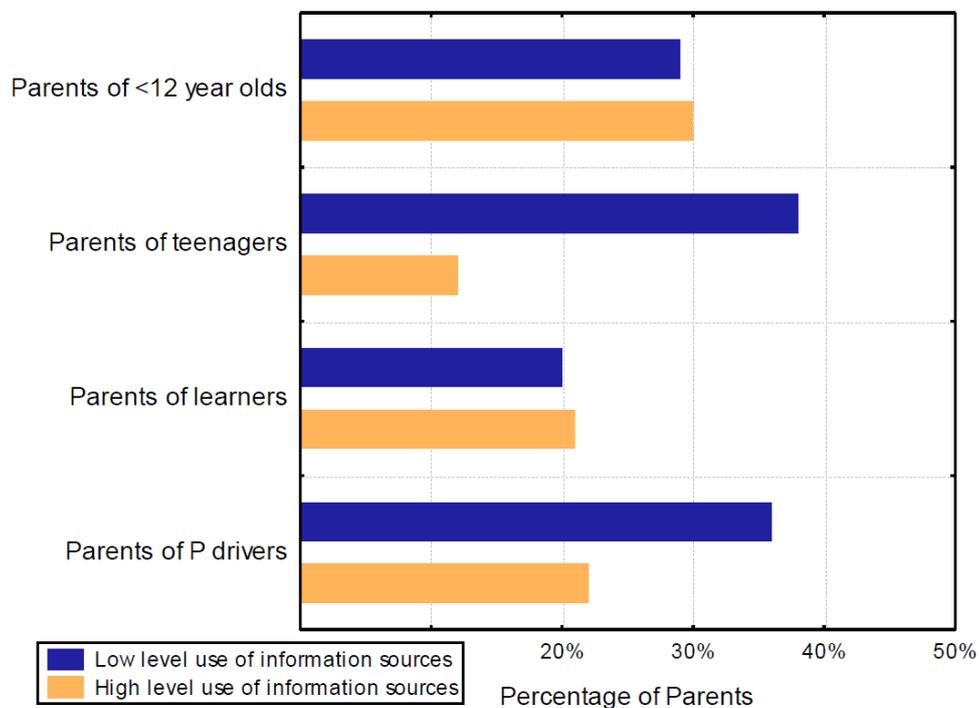


Figure 4: Cluster membership – Clusters with high and low information use

Between 20 and 40 percent of parents in each group made very little use of road safety resources to help deal with safety-related issues with their children. This would not be a significant concern on its own, except that these survey participants were also generally disconnected from involvement in dealing with road safety issues with their children. The failure to make use of different road safety information sources appears to reflect a general lack of interest in getting involved in road safety issues with their children.

Parents in this survey who did not make use of road safety information were also less likely to talk about safety-related issues with their children and were less likely to do things with their children that relate to safety outcomes. Improving the involvement of these parents in road safety is likely to require more than the provision of information.

It is likely that the survey data underestimate the proportion of parents in this low-involvement group. The recruitment method ensured that parents knew the survey was about road safety issues as they related to their children, and the items were consistent in their focus on parental involvement in their children's road safety. Self-selection biases would be expected to act during the recruitment process, and these along with the likely social desirability influences would be expected to bias the survey towards parents and responses implying strong involvement in road safety.

Parents of learners and probationary drivers were consistent in their low level of interest in information from other parents. This argues against the use of peer-education approaches and the use of shared experiences as the basis for providing information and advice to parents.

There is a clear difference in the amount of road safety related discussion between parents of learner drivers and parents of probationary drivers. Apart from some discussion about three key safety issues (alcohol, speed, and night-time driving), most parents of P platers reported few if any instances of talking to their children. The discussions about the three road safety issues may not have been detailed, and are likely in many cases to have been parental comments or advice rather than discussions.

Two major recommendations flow from the literature review and survey:

- There is a need for more research to understand the specific efficacy, risk awareness, and motivational factors that currently act to block parents from higher levels of involvement in road safety issues. Research of this type would be specific to particular children's ages and the road safety problem of interest.
- There is a clear need to improve parental involvement in road safety issues. While international research suggests concerns in relation to child restraints and helmets (that would also apply here), the survey suggests some specific concerns in relation to role modelling while driving (across all child age groups), encouraging learners to practice in challenging situations, talking to probationary licence holders about the broad range of risks they face, and actively controlling probationary drivers' exposure to risk.