

IMPORTANCE OF SAFETY FEATURES TO NEW CAR BUYERS IN SOUTH AFRICA

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ABSTRACT

A key priority in South Africa is to improve safety of road users, and within this lies the need to encourage consumers who are engaged in buying new vehicles to choose safe vehicles. To enable this to progress, it is necessary to understand the extent to which new car buyers in South Africa currently prioritise vehicle safety features.

The research study aimed to investigate the factors that are important to consumers in the new vehicle purchase process and to assess the importance of safety in purchase decisions. Surveys were conducted with 176 recent car purchasers and 32 car salespersons in dealerships in Stellenbosch and Mthatha. The results showed that while private purchasers evidenced an interest in the safety performance of vehicles, overall both the individual safety features and the crashworthiness of vehicles were poorly understood. Reliability was the most significant factor for most buyers, with safety trailing behind other considerations such as cost and comfort. Most consumers relied heavily on information from dealerships to inform their purchasing decisions. Dealerships themselves were somewhat better informed about safety, but did not always convey this information to consumers, rather prioritising reliability, costs and other factors over safety performance.

1. INTRODUCTION

Advances in vehicle technology, particularly vehicle safety features, allow us to anticipate improved road safety for the future. The UN Decade of Action for Road Safety 2011- 2020 has highlighted improved vehicle safety as one of its pillars of action; recognising that changes in vehicle design and manufacture can not only prevent crashes in future, but also work to improve the safety of occupants when a crash becomes inevitable. Huge and productive investments have been made in vehicle technology in recent years with new features becoming more and more accessible to the average car owner. Vehicle safety features tend to offer more than their individual contribution in terms of overall vehicle safety. Adaptive headlights, for example, provide drivers with extended night vision and, if combined with active brake assist, give drivers the ability to see road obstacles or hazards sooner, and the ability to stop in time, avoiding a potentially life threatening collision.(Robyn et al. 2012). This principle can also be applied to anti-lock braking systems and electronic stability control systems.

Previous research studies show that citizens of countries such as Sweden and Spain rate safety as an important attribute in the new vehicle purchase process (Koppel et al. 2013, Koppel et al. 2008). However, little research of this topic has been carried out in low to medium income countries. This is particularly interesting given that these countries are responsible for 90% of total road deaths worldwide (NCAP 2015).

As reported in the Global Status Report on Road Safety 2013, approximately 1.24 million people die and 20 to 50 million people around the world sustain nonfatal injuries as a result of road traffic accidents annually. Road traffic related fatalities are estimated to be the eighth leading cause of death globally (World Health Organisation, 2013).

In order to respond to this crisis, governments across the world have embraced the importance of vehicle safety (among other factors including improved road user behaviour and safe roads) and are actively pursuing ways of facilitating positive driver behaviour. In part this includes empowering drivers to make informed decisions when purchasing new vehicles.

While there is international research which details the importance of safety to new car buyers abroad, no local research has as yet been carried out into consumer knowledge of safety features of different vehicles. It has thus not been possible until now to establish how well-informed South African consumers may be when compared to others internationally.

2. LITERATURE REVIEW

A literature review was undertaken to assess the current state of knowledge regarding the role and importance of vehicle safety in consumers' purchase decisions.

2.1 Road Safety in South Africa

South Africa is defined as a medium income developing country, and experiences a higher than expected road safety problem for its category, contributing around 40 deaths per day and 15 000 annually (*National Road Safety Strategy 2011-2020*). A recent study carried out by the International Transport Forum showed South Africa ranked worst out of 36 countries in the 2013 Global Road Safety Report (International Transport Forum, 2013). In 2006, road fatalities reached a reported 15 419 recorded road fatalities (International Transport Forum 2013). The South African Government has taken note of the above mentioned statistics and, as a result, various road safety campaigns have been launched and implemented over the years. Unfortunately, these campaigns have produced little improvement in the high number of deaths on South African roads (*National Road Safety Strategy 2011-2020*).

2.2 Value of vehicle safety features in developed countries

2.2.1 Sweden

A survey carried out in 2007 by Monash University investigated the role of vehicle safety in the new vehicle purchase process in Sweden. A total of 1 012 questionnaires were completed by Swedish citizens. The survey showed that 67% of the surveyed participants were most likely to list a vehicle safety feature as their most important consideration when choosing amongst various vehicle features (Koppel et al. 2008). Participants were also asked to list factors that make a vehicle safe. Interestingly, the majority of the participants' listed specific safety features while only a small percentage (9%) mentioned general indicators of crashworthiness such as the crash ratings of Euro NCAP or other (Koppel et al. 2008).

In addition to these findings, a prior survey in Sweden in 2001 had attempted to identify the various factors considered when purchasing a new car. These results showed that 85% of participants rated safety to be a "Very Important" consideration (Johansson-Stenman & Martinsson 2006). Reliability was a close second at 79%. Dealerships were also surveyed, and results again showed that Safety and Reliability were the two most important characteristics considered by purchasers when buying a new vehicle (Johansson-Stenman & Martinsson 2006).

These results confirm the primacy of safety as a determinant of Swedish consumer decisions, and also indicate that vehicle reliability is an important attribute. It should also be noted that Swedish participants appeared to associate vehicle safety with specific safety devices such as airbags, braking systems and stability control systems rather than the overall crashworthiness of a vehicle.

2.2.2 Spain

The Monash research also considered the relative importance of vehicle safety during the new vehicle purchase process by consumers in Spain. Three hundred questionnaires were completed by telephonic interviews and results showed that up to 90% of participants were likely to list a vehicle safety feature as their highest priority when asked to explain their choices (Koppel et al. 2008). As with the Swedish sample, Spanish participants were asked to list safety factors/features that make a vehicle safe. Again most participants listed specific safety features as important while only 5% of the participants listed the crashworthiness ratings of a vehicle as important (Koppel et al. 2008).

3. METHODOLOGY

The market groups targeted for surveys included both private purchasers (who had bought vehicles within the previous five years) and dealerships. Dealerships were included as these play an important role in the new vehicle purchase process.

Questionnaires were distributed in two different cities, Mthatha (Eastern Cape) and Stellenbosch (Western Cape) respectively. Mthatha is a small town with relatively poor road infrastructure while Stellenbosch is a town with good and well maintained infrastructure. Demographic factors such as age, gender, marital status and education levels of the vehicle consumers were also considered in the analysis of results. A total of 176 (one hundred and seventy-six) surveys were carried out with private purchasers and a further 32 (thirty-two) surveys with dealerships.

4. RESULTS

4.1 Factors considered by South African consumers during the new vehicle purchase process

The study aimed to identify how important safety considerations are for consumers in the new vehicle purchase process. In order to do this it was necessary to determine what the wider range of factors may be, and then to assess how important safety was amongst them. Building on previous literature, the range of factors included the following: Purchase price, Country of Manufacturer, Fuel Economy, Performance, Euro-NCAP, Comfort, Reliability, Reputation, Resale Value, Running cost, Style/look/colour, Safety Features, Vehicle size/type and the availability of Warranty and Service Plans.

As shown in Figure 1, respondents were asked to rank the importance of these features to them in their deliberations. Of all the factors, reliability (selected as being of 'very high importance' by 89% of respondents) significantly outranked all other factors in both study areas. Factors such as the vehicle's comfort levels (66%), reputation (62%), warranty (62%) fuel economy (60%), and purchase price (59%) all rated more highly than safety considerations, which were indicated to be very important by only 53% of respondents.

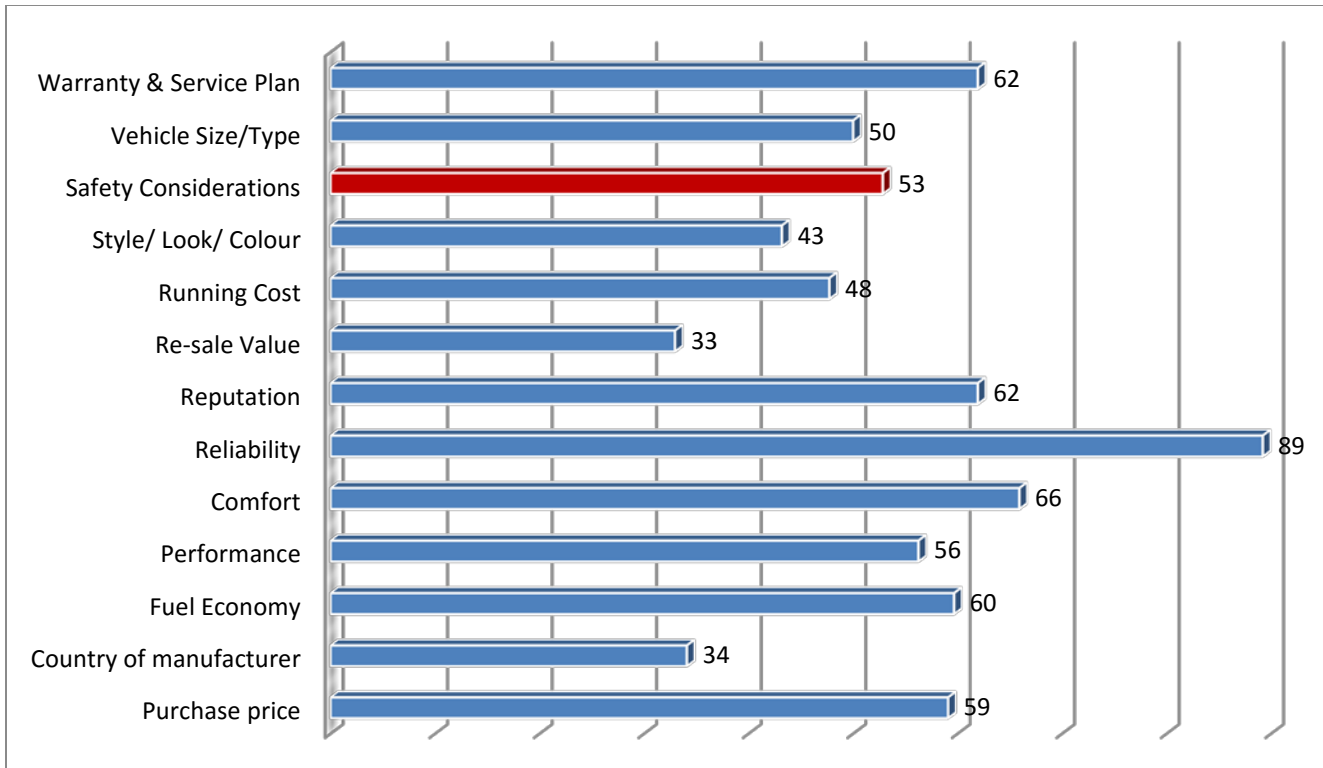


Figure 1: Factors rated as "Very High" by Private Respondents

From this study it is clear that vehicle safety is generally not the primary consideration in the new vehicle purchase process and is consistently outranked by other factors. Consistent with findings in Spain and Sweden, Euro NCAP ratings were not given high priority and ranked fairly low in the New Vehicle Purchase Process.

When the demographic aspects of the respondents were considered it became clear that those displaying more concern with safety were respondents with children (see Figure 2). Parents who were purchasing a vehicle for a son or daughter were surprisingly unlikely to rate safety as a concern.

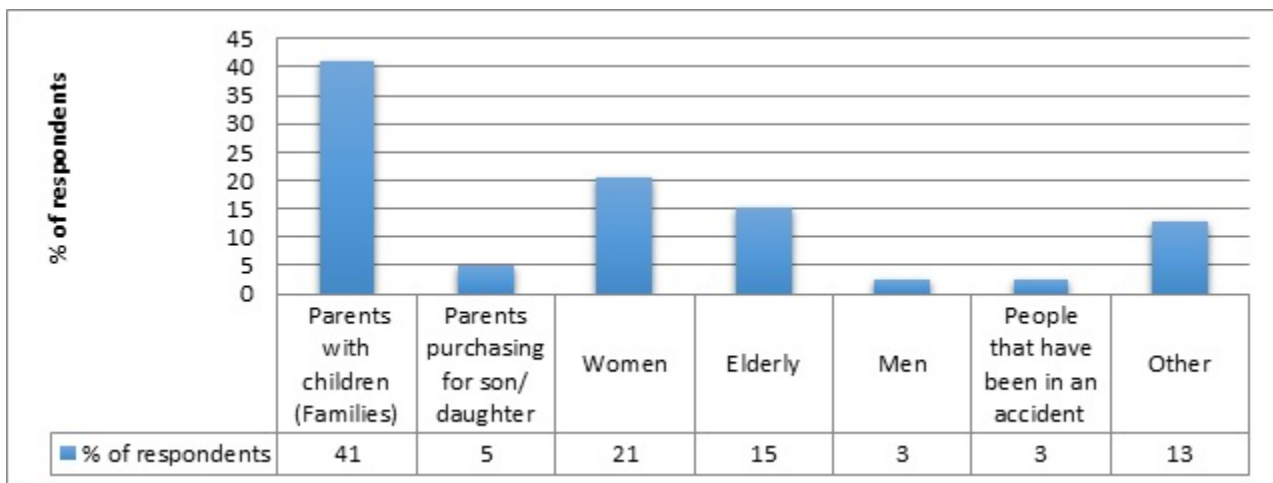


Figure 2: Respondents who ranked safety as a priority

Women and older people rated safety more of a priority than men. This was true for both the older age group (36-55 years) and the younger group (18-35 years). Elderly respondents were most likely to rate safety features more highly than younger age groups.

4.2 How do dealerships conceptualize safety?

Dealerships were approached and their salespersons surveyed, the results of which are shown in Figure 3. Here, the factor of reliability again stood out as the most highly rated factor, with every dealer confirming reliability to be “Very High” in terms of importance. Second most ranked features (jointly) at 84% were warranty (this is of course linked to reliability in that it affirms the mechanical condition of a car) and fuel economy. Resale value and comfort were jointly third at 81%. Safety was ranked third lowest in the list of thirteen factors at 61%). Only the country of manufacture, the Euro-NCAP rating and vehicle size/type scored lower than safety.

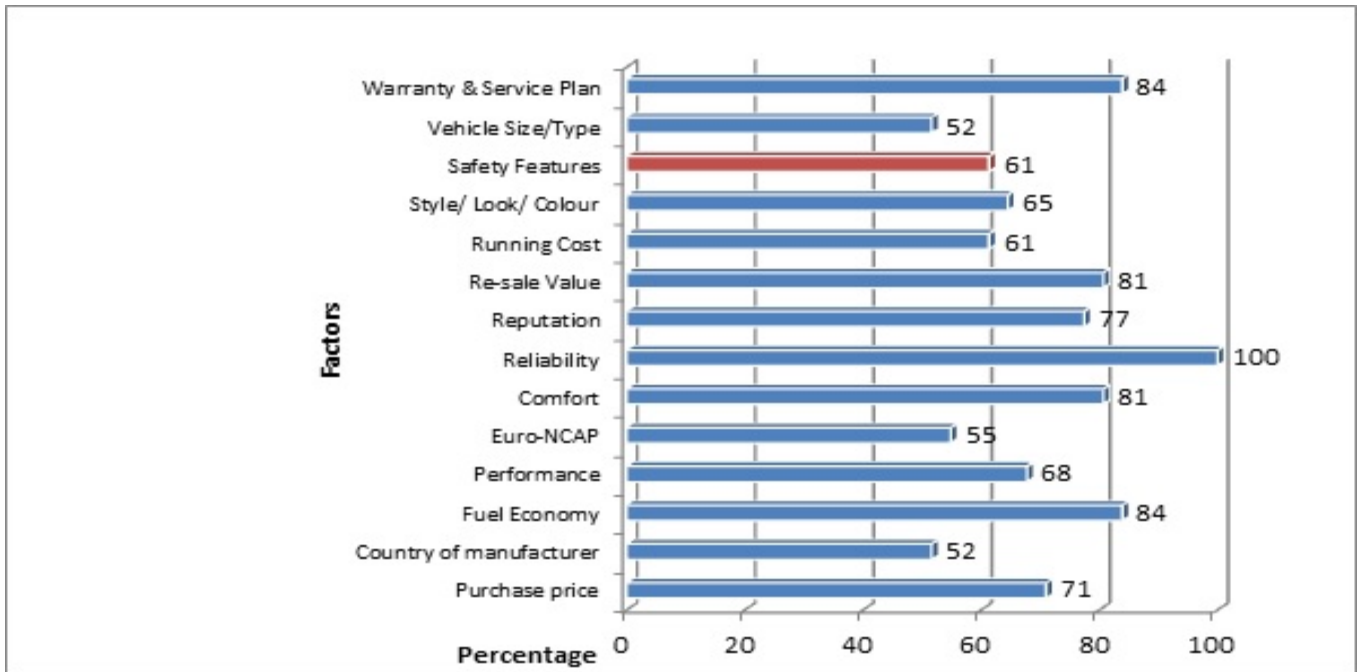


Figure 3: Factors rated as "Very High" by Dealership respondents

From subsequent questions it became clear that while dealerships ranked safety low, they were in fact fairly well informed about Euro NCAP ratings. The results in Figure 3 suggest, however, that many dealers are not personally convinced of the merits of safety rankings as a key consideration for consumers. If that is true, it is unlikely that they make it a priority to educate customers or advise them on the available safety features and safety options.

4.3 The role that safety considerations play among South African consumers

Private respondents and Dealership respondents were asked to list the specific features they felt that make the vehicle safe and were considered when purchasing a new vehicle. As listed in Figure 4, the participants appeared to be well versed in the language of safety features; in equating safety with airbags, advanced braking systems and so on. In spite of this familiarity with the safety features the majority of respondents had ranked reliability higher than safety in terms of overall importance. It appears that car purchasers do have some level of knowledge about safety features among car purchasers, but that the broad messages about the importance of safe vehicle is not fully communicated. It could also be possible that even though many respondents indicated safety to be important they also took it for granted, believing that all new vehicles to be safe.

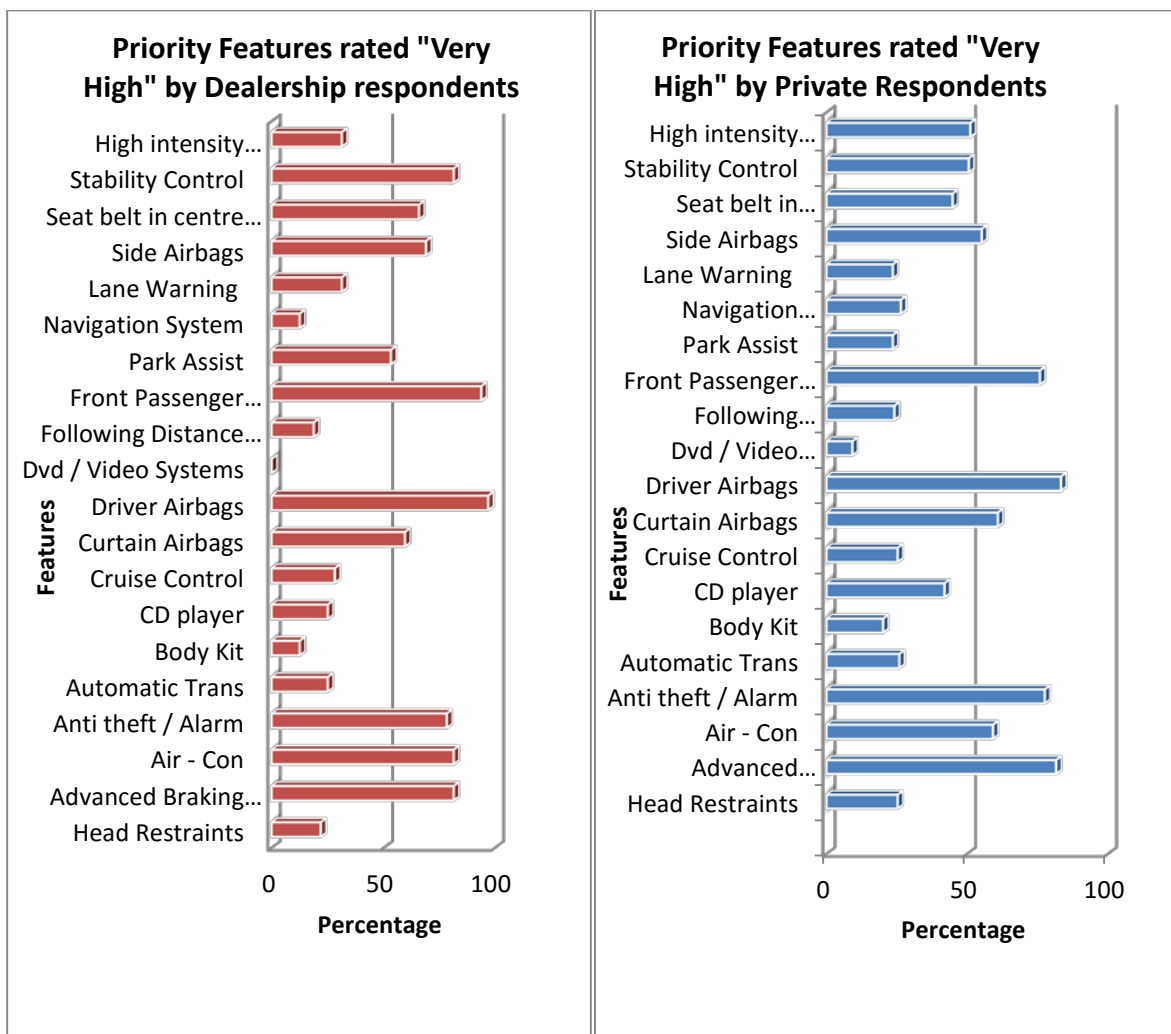


Figure 4: Priority Features rated "Very High" by Private and Dealership Respondent

4.4 Gender differences

Respondents were asked to indicate the three factors that they believed made the greatest contribution to vehicle safety. ABS (braking systems) stood out as a primary factor in both cities, and across both genders. The second highest factor was airbags (also across both genders). The third ranked factors differed between the genders, as shown in Table 1:

Table 1: Gender differences in safety feature prioritisation

Safety Factors	Male			Female		
	First N= 77	Second N= 76	Third N=70	First = 90	Second N= 90	Third N=88
	% of Resp.	% of Resp.	% of Resp.	% of Resp.	% of Resp.	% of Resp.
Advanced-Braking Systems	25	16	14	30	19	8
Stability Control	3	4	9	2	6	5
Airbags	18	29	17	24	27	15
Antitheft	0	4	3	7	9	9
Wheels/Tyres	4	9	7	6	4	17
Suspension (Handling)	3	1	3	2	2	5
Seat Belt	16	14	19	7	12	14
Manufacturer	5	1	3	3	3	2
Size and weight	17	9	6	10	6	5
Other	10	12	20	9	12	22

The results above indicate that women rate Advanced Braking Systems (30%) as their first most important factor, followed by Airbags (27%) and Wheels and Tyres (17%) as their third most important factor. Men rated ABS (25%) as their first most important factor, followed by Airbags (29%), with Seatbelts (19%) as their third most important factor. Seatbelts were accorded a surprisingly low rating by females.

However, women gave precedence to wheels and tyres which is possibly a result of their vulnerability when faced by a damaged or malfunctioning tyre.

4.5 Respondents' views of their own vehicle's safety

Respondents were asked to rate the safety level of the vehicle they eventually decided to buy, on a scale of 1 (not safe) to 5 (extremely safe). In Table 2, it can be seen that 71% of respondents in Mthatha and 60% of respondents in Stellenbosch, believed that the vehicle they had bought rated 4 or above out of 5.

Although these respondents were in the majority they still leave a surprising number of respondents who were unconvinced about the safety levels of their vehicles.

Table 2: Perceived safety of the purchased vehicle

Scale	Mthatha		Stellenbosch	
	No. of respondents	% of respondents	No. of respondents	% of respondents
1	1	1%	0	0%
2	6	7%	6	7%
3	19	22%	28	33%
4	41	47%	31	36%
5	21	24%	21	24%

Many of the respondents who did not rate their vehicle with a rating of 4 or 5 explained that additional safety features were not available as an optional extra. A number of respondents also mentioned that the safety of the vehicle is dependent on the driver and that no vehicle is completely safe. A number of respondents who gave their vehicles high safety ratings made reference to either the manufacturer or country of manufacturer as their reason for their confidence.

4.6 The use information in consumers' purchase decision processes.

Buying a car is an important investment and it is unlikely that consumers would find all the information they need in a single source. However, as shown in Figure 5, the study showed that respondents rely a great deal on dealerships to provide them with information.

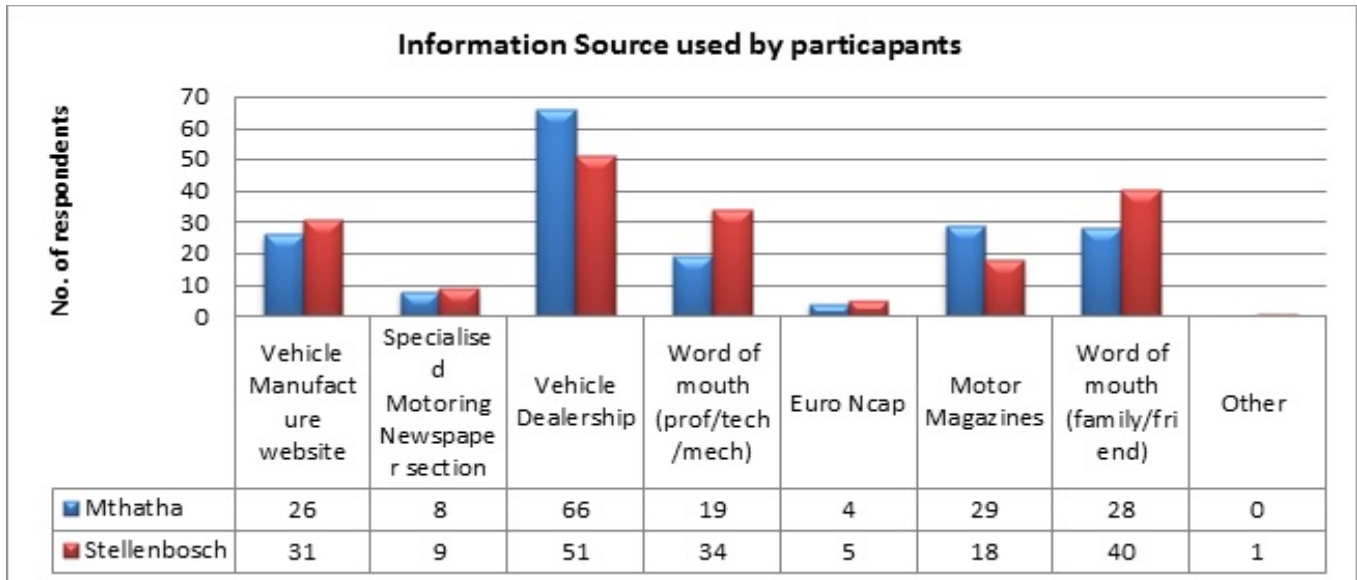


Figure 5: Information sources used by participants when researching new vehicles

4 DISCUSSION

Reliability is the degree to which a vehicle is mechanically sound and is unlikely to break down. Reliability and safety were the two main factors in the Swedish and Spanish studies so it is not unsurprising that it featured in the SA surveys. What was notably different, however, was the relative importance – in the SA survey safety was outranked by many other factors. In South African society it is perhaps unsurprising that reliability is a primary concern, as exposure to street crime is increased when a car is malfunctioning, and lack of private transport opportunities mean that many people are dependent on functioning vehicles to get to work. Given these exigencies it is logical that vehicle reliability should be a primary concern for vehicle purchasers. However the relative deprioritisation of safety is at odds with the high level of crash risk that South African road users face on a regular basis. Somehow, crime or the threat of inconvenience are concerns that are more compelling to car buyers than the risk of crashes.

The results also showed that factors such as price and comfort outweighed safety considerations in the new vehicle decision making process. Again, these criteria may be a function of the rationalisations that many South Africans make – after all, new cars in South Africa cost significantly more in real terms than they do in many other countries, and cost savings are important to consumers. Yet again, the fact that there are a number of vehicles on the SA market with poor safety records allows potential customers to believe that these are ‘safe enough’. The new Datsun GO is a case in point. This vehicle entered the market at a selling price of R89500 as an entry level model vehicle. For many consumers this is an attractive price, however, neither this entry level nor the highest specification model is equipped with ABS Brakes or Airbags, not even as an optional extra. Recent crash test results, released by the Global NCAP, indicates that the Datsun Go received a zero-star safety rating in NCAP tests carried out in India (Global NCAP 2014). The vehicle performed very poorly in protecting vehicle occupants from crash injuries, as the vehicle design itself paid insufficient attention to crash deformation and the integrity of the passenger cabin. Results also indicated

that the presence of a driver airbag would be pointless due to the poor structural strength of the vehicles frame. Despite this, the demand for the vehicle has been high, leaving consumers impressed with the low price and affordability of this new vehicle.

With this concern in mind, further investigation was necessary to investigate whether there were other vehicles on the South African Market that do not have safety features. Surprisingly a number of passenger vehicles were discovered that do not have ESP, ABS and Airbags as standard (for example Ford Ranger, Isuzu KB and Toyota Hilux). South African consumers do not appear to see this as a safety problem. It is possible that they believe all vehicles in SA roads to have met a minimum level of safety, and have false confidence that any car they buy will give them the protection they need.

The findings of the surveys indicated a high dependency of the public on dealerships to provide them with necessary and appropriate information regarding the factors they should consider. This places a high level of responsibility on dealers as the first and primary line of information. It highlights the need to educate dealerships about vehicle safety in the new vehicle purchase process. In addition, vehicle safety information, such as Euro NCAP results or crash test results need to be promoted more widely and put into effect so that they play a more prominent role in the new vehicle purchase process.

5. CONCLUSION

From the current study, findings suggest that vehicle safety is not the primary consideration in the vehicle purchase process and has been outranked by various other factors such as Reliability, Performance, and Price. It can also be concluded that there is a knowledge gap about the importance of safety features among Private and Dealership participants. Some recommendations for improving the situation are as follows:

- a. South Africa is signed up to the Decade of Action for Road Safety and to the Safe Systems approach. In terms of this, safer vehicles are acknowledged to be a cornerstone of a safer road system. Vehicle safety standards of all new vehicles entering the SA market need to be improved as a matter of urgency. The National Regulator for Compulsory Specifications (NRCS) subjects all new vehicles in South Africa to relevant compulsory specifications in the process of homologation, which is described in SANS 10267 *Homologation of motor vehicle models*. This is expected to be aligned with international practice. Given the fact that some vehicles are tolerated in the SA market that would not be accepted in many other countries, some of the safety standards accepted in South Africa are clearly due for revision.

- b. Educating private vehicle customers on the new car purchasing process may be achieved by introducing a Buyer's Brochure Guide and Buyer's Safety Checklist. This Brochure and Checklist could outline important factors in terms of safety, star ratings and what each star means, different safety options and features and characteristics of each safety feature. It could be implemented as a compulsory measure in the purchase process and signed by the customer to acknowledge that information was provided. This would assist customers in making informed choices when purchasing a new vehicle and at the same time help educate customers on the role that safety should play in the new vehicle purchase process.
- c. Government regulations should be put in place to have Dealerships include and have the most highly summarized information provided on a vehicle label that includes a simple graphical display of comparative crashworthiness and performance information as well as a checklist of crash avoidance features. Vehicle information is already provided in terms of price, fuel economy, monthly payment options and vehicle features, and this has proved to be very useful in the buying process. This is another way to educate car buyers and assist in the vehicle purchasing process and decision making.
- d. Finally, the role of safety features in preventing crashes and reducing injury severity needs to be more widely disseminated to South African road users more generally. Media reports on crashes largely give the impression that surviving a crash is a matter of luck. However, SA consumers need to know that their own purchase decisions can have a direct influence on their own chance of survival in the event of a crash.

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