The Road Transport and Safety Agency

Department of Research and Statistics

Child Restraint Systems (CRS) Use in Zambia: A Baseline Study

Research Report

Tables and Figures

Summary

The lack of child restraint use is a primary contributor to child injuries and fatalities in the event of a Road traffic crash. Understanding the extent of child restraint use among child occupants is necessary for the development of road safety campaigns targeted at children. The aim of this study was to collect baseline Child Restraint System (CRS) usage rates for drivers in Zambia broken down by gender, vehicle occupancy, town and location.

An observational study was employed in which a total of 8,953 cars were observed in seven main towns in Zambia. Of these, 463 vehicles were carrying children and only 28 (6%) were using adequate child restraint systems. These findings indicate that child restraint policies and educational approaches are urgently needed in Zambia. There is need to implement child safety campaigns and other measures to inform and motivate members of the public to use CRS.

1.0 INTRODUCTION TO CHILD RESTRAINTS SYSTEMS.

Road traffic injuries are among the top three causes of death from unintentional injuries. The World Health Organization reports that Africa and the Eastern Mediterranean regions have the highest rates of child road traffic injury deaths (WHO, Global Status Report, 2018). Major improvements in motor vehicle design, such as increased strength of the passenger compartment, front-end crumple zones, and installation of airbags play an important role in preventing serious and fatal injuries for all vehicle occupants [1]. The use of safety equipment such as child restraint systems (CRSs) and seat belts (SBs) is recommended as for the protection of child occupants [2]. Seat-belts are not designed for children and do not offer the protection they give adults, but restraining them with adult seat-belts is preferable to letting them travel unrestrained. However, the best solution is to use age-appropriate child restraints. Children in an appropriate restraint are significantly less likely to be killed or injured than unrestrained children, and are also less likely to be killed or injured than children using adult seat-belts. The effectiveness of child restraints in reducing injury or death varies by type of restraint. Rear-facing restraints for babies and infants (under 1 year) have been shown to reduce the risk of death or injury by 90% compared to being unrestrained. Forward-facing child restraints reduce the risk of serious injury by almost 80% compared to children restrained only by seat-belts. Children in booster seats, generally aged 4 to 10 years, have a 77% reduced risk of being injured in a crash compared to unrestrained children [3].

The Road Traffic Act No 11 of 2002 stipulates the mandatory use of seat-belts by all motorists traveling in a vehicle in Zambia. Also, all vehicles must be fitted with seatbelts and a person shall not import into the country a motor vehicle that has not been fitted

with a seat belt. The Act further stipulates that any person carrying a child in a vehicle who is less than three years old shall ensure that the child sits on a child seat [4].

Adherence to seat-belt use varies greatly between countries, governed to a large extent by the type of laws that require seat-belts to be fitted in vehicles and cars, and the laws requiring them to be worn. Compliance levels are also dependent on the degree to which these laws are enforced. In many low-income countries there is no requirement for belts to be fitted or used, and rates of use are therefore correspondingly low. In addition, there may be cultural norms that negatively influence seat-belt wearing rates, particularly among young adult car occupants. In many high-income countries the use of child restraints is common – with usage rates up to 90% – but in other countries they are still very rarely used. Choosing and installing the appropriate child restraint system is important.

This study seeks to collect baseline indicators on the use of child restraint systems in Zambia. The study will further seek to determine the factors that affect the usage of child restraint systems use among vehicle occupants. The data collected will provide stakeholders with a clear understanding of the current situation in relation to child restraint use, legislation, manufacturing standards and the capacity for change. They also provide useful baseline figures against which the effectiveness of future actions can be monitored and evaluated. The data will also help stakeholders to identify any shortfalls in legislation or implemented road safety campaigns.

2.0 Objectives

To establish the Child Restraint System (CRS) usage rates for drivers in Zambia broken down by gender, vehicle occupancy, town and location.

3.0 Methodology

An observational study was conducted in selected towns of Lusaka, Central, Southern, Copperbelt and Eastern Provinces. The study was designed to cover a range of road types and locations. A team consisting of 5 observers was trained and subsequently deployed at each sampling point to ensure a consistent approach to data collection. The observations were done only in the daytime due to security reasons but observation times were spread out throughout the day.

Sites were chosen for the ease with which they allow the survey staff to observe and record the use of CRS by vehicle occupants. For example, sites where traffic lights are installed allow survey staff time to view vehicle occupants clearly.

This helps to ensure that results can be generalized to represent different vehicles and different journeys. This need to observe the car occupants is a limiting factor in carrying out surveys on high-speed roads such as motorways. Five sampling stations per town will be selected to represent the typical community. At each sampling station, every third car will be observed to check for compliance with CRS use as they park. A total of 8953 vehicles were sampled in seven towns. Data will be analyzed using Microsoft Excel and Statistical Package for Social Sciences Software (SPSS).

4.0 Results

4.1 Children in the vehicle

A total of 8953 vehicles observed during the study of which 463 (5%) vehicles had children under the age of three years. The children were either in the front passenger's seat or in the back of the vehicle.

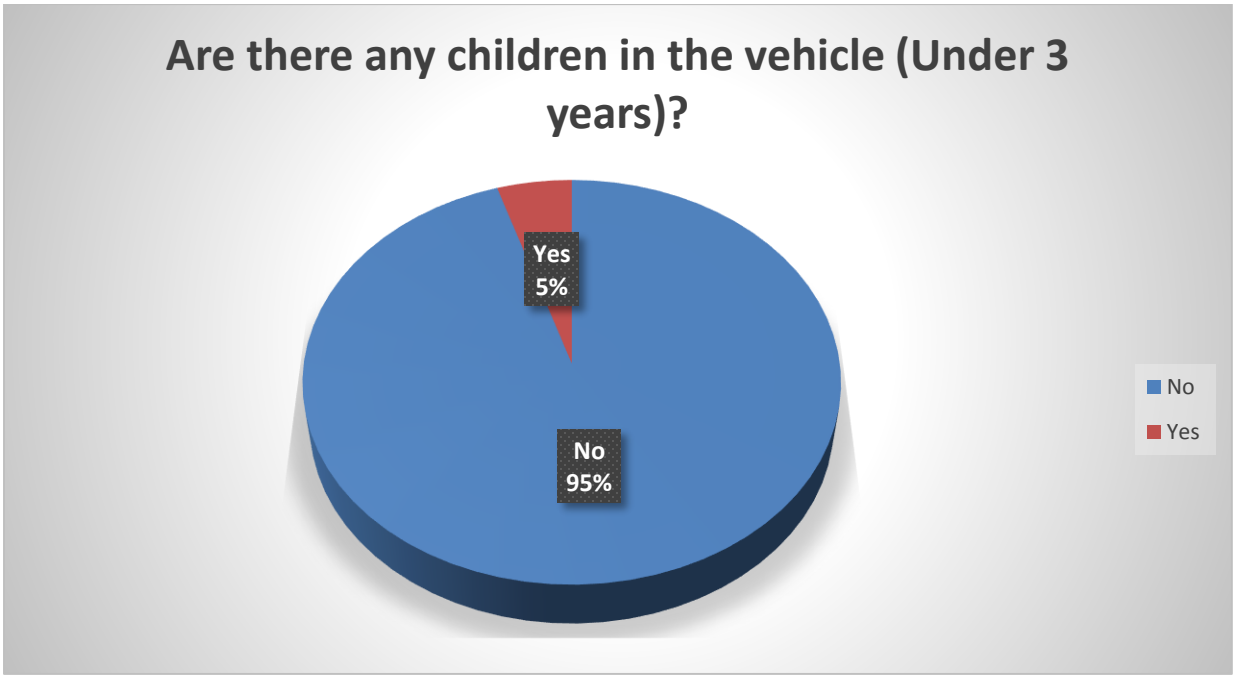

Figure 1: Percentage of vehicles observed carring children under the age of 3

4.2 Location of Children in the vehicle

Table 1: location of children in the car

Row Labels	Location of the Child
Back (with an adult)	65%
Back (Without an adult)	25%
Front (Sitting with an adult)	5%

Front (without an adult)	4%

Of the 463 vehicles with children, 65% of them were in the back seat accompanied by an adult, 25% were in the back seat unaccompanied, 5% were in the from seat accompanied by an adult and 4% were in the back seat of the vehicle unaccompanied by an adult.

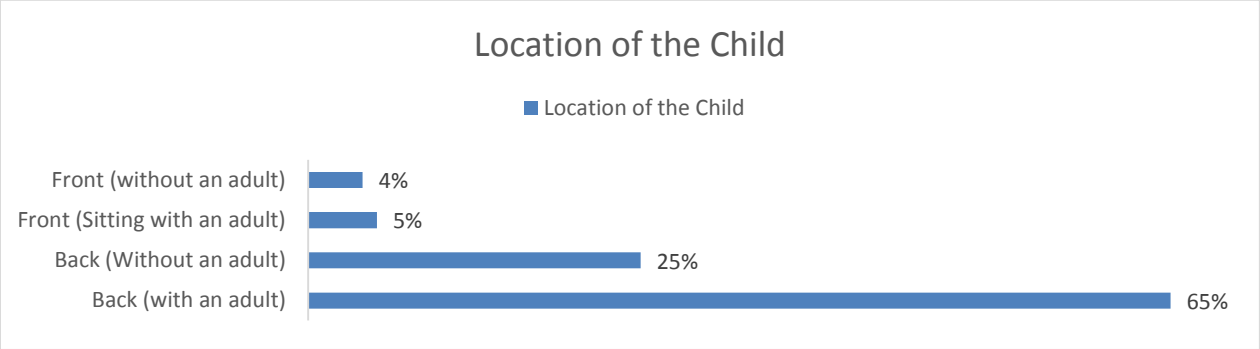

Figure 2: Location of the Child in the vehicle

4.3 CRS usage

Figure 3: Use of Child Restraint Systems or Car Seats by Motorists with Child passengers.

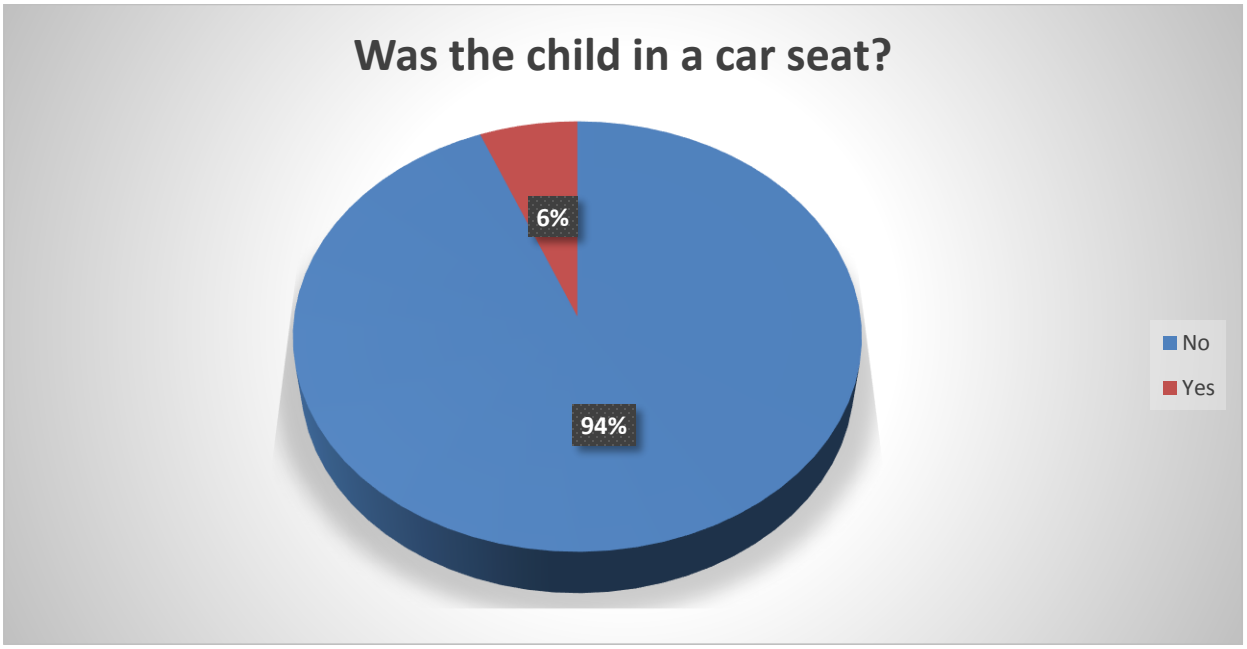

Figure 3 above shows that of the 463 vehicles which were observed, only 28 vehicles had children who were using child restraint systems. This number represents 6.1% usage rate of child restraint systems in the country.

4.3.1 CRS usage by town

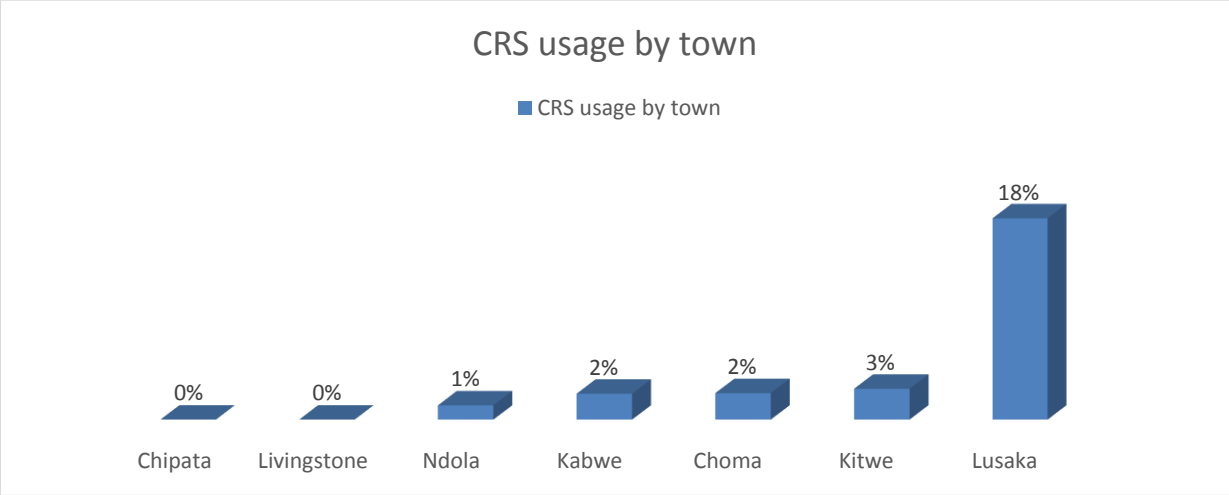

Figure 4: CRS usage by town

The data also showed that Lusaka City had the highest CRS usage rates. Figure 4 above shows that 18% (n=24, N=112) the vehicles observed to be carrying children use car restraint systems. Kitwe was second with 2%, Choma and Kabwe were second and third with around 2% usage rates. Ndola had a 1% child restraint systems usage rate. There were no vehicles using CRS in Livingstone and Chipata.

4.3.2 CRS usage by gender

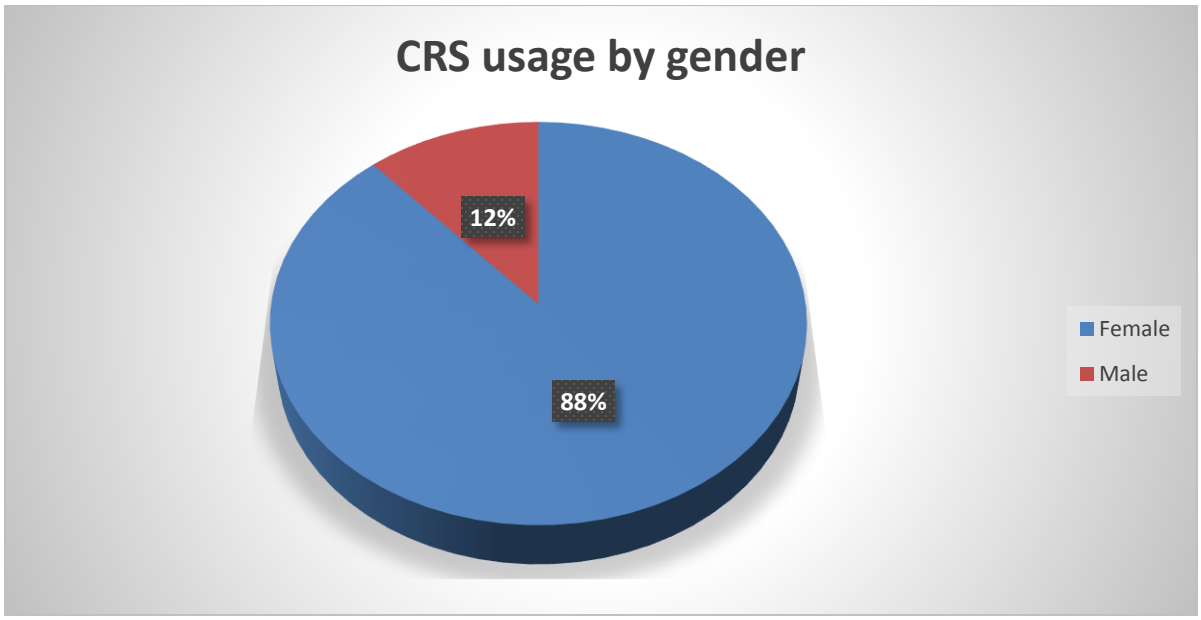

Figure 5: CRS usage by gender

Figure 5 above show that female drivers are more likely to use CRS systems than male drivers. The data shows that 88% (n=21, N=129) of vehicles driven by female drivers were observed to use CRS systems compared to the 12% (n=7, N=330) male drivers.

5.0 Discussion and Recommendations

Results of the study shows a 6% CRS usage rate in the country. This extremely low when compared CRS usage rates in developed countries. Zambia has put in place legislation which stipulates that all children in a motor vehicle should be adequately restrained. However, legislation should be accompanied by campaigns to raise public awareness of the benefits of the use of CRS and to provide information on the requirements of the law. Further, strong enforcement, campaigns are also required in order to ensure compliance

Our results demonstrate that continued efforts are needed to increase the use of CRS and to improve understanding among the driving population of individual safety precautions while driving with children in the motor vehicle.

The study recommends the following;

1. Increased awareness and education activities on the importance and the correct use of CRS must be undertaken in all the provinces.
2. Enhance enforcement activities to encourage CRS use.
3. Policies should be put in place to make CRS more affordable for the general populous in order to encourage wide spread use use.

6.0 References

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