

# Parents' knowledge of car safety and practices amongst school children in an urban community of Lagos, Nigeria

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## ABSTRACT

No fewer than 1.2 million deaths globally are attributed to road traffic crashes yearly, with low- and middle-income countries contributing disproportionately to these deaths. Children are a vulnerable road user group, and riding unrestrained is a significant risk factor for death and injury among child car passengers. This study aimed to determine child car safety knowledge and practices among parents of children attending a private school in an urban setting in Lagos, Nigeria. A descriptive study, using observations of child car safety practices, and a survey of parental knowledge and attitudes of child car safety, were conducted simultaneously amongst children 0-10 years riding in cars to school. Data was analysed using Epi Info Version 3.5.1. A total of 127 cars were observed as children were being dropped off at school. The proportion of child passengers aged 0 - 10 years restrained by any device was 6.3%, with only 2.4% of these children being appropriately restrained for age; 19.7% of observed child passengers rode in the front seat. Awareness of car safety seats among parents was high at 85%. However, less than 40% of respondents knew the correct age to commence use of child restraints, seat belts, or front seating. The reason most cited for non-use of child restraints was unavailability (24.1%). Despite the high level of awareness about car safety seats, parental knowledge of specific child passenger safety issues and practices were poor. Targeted interventions are needed to bridge the gap between awareness, knowledge and practice in this population.

**Keywords:** child, motor vehicle passenger, car restraints, adults, knowledge and attitude, road safety

## INTRODUCTION

Road traffic injuries persist as a global public health problem, with deaths attributable to road traffic causes persisting at an unacceptably high rate (World Health Organization [WHO], 2013). The global burden of road traffic injuries has been well documented, with no fewer than 1.2 million deaths being attributed to road traffic

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crashes yearly (Peden et al., 2004; WHO, 2013). It is also known that low- and middle-income countries suffer disproportionately from the burden of road traffic crashes, with approximately 85% of all deaths occurring in these regions (Adeloye et al., 2016; WHO, 2009).

Mortality rates from road traffic injuries in Africa rank among the highest in the world; the risk of dying from road traffic injuries in the African region was 24.1 per 100,000 in 2010 (WHO, 2013). However, Adeloye et al. (2016) in their systematic review reported pooled crash rates of 52.8 per 100,000 for the African continent. Extrapolations from a population-based survey in Nigeria, a lower-middle income country, estimated annual injuries and deaths from road traffic causes at approximately 4 million and 200,000 people respectively; the rate of road traffic injuries found in this study was 41 per 1000 population (Labinjo, Julliard, Kobusingye, & Hyder, 2009). Modelled figures indicate that Nigeria is one of ten countries in the world with the highest number of deaths from road traffic crashes (WHO, 2009). The rising trend of road traffic injuries in this region is attributed in part to economic growth leading to a rapid increase in motorisation, without a commensurate increase in road infrastructure and road safety measures (Adeloye et al., 2016). Pooled data from a systematic review showed that among various road user types on the African continent, four-wheelers had the highest injury and death rates, at 37.2 and 5.9 per 100,000 respectively (Adeloye et al., 2016).

There is paucity of data on road traffic injuries among children in Nigeria due to poor data collection systems and lack of disaggregation of injury data (Adeloye et al., 2016; Olufunlayo, Odeyemi, Ogunnowo, Onajole & Oyediran, 2011); however, a number of facility-based studies provide some data on injuries amongst child motor vehicle occupants. A prospective, facility-based study of paediatric trauma cases in Lagos, Nigeria showed that 43% of cases were due to road traffic causes, while in a paediatric trauma review at a teaching hospital in Jos, Nigeria, 41% of cases resulted from road traffic injuries (Gukas et al., 2006; Solagberu, 2002). Although child pedestrians were the largest sub-group injured in these studies, motor vehicle occupants experienced the highest severity of injuries reported in the emergency rooms where these studies took place.

Children are a vulnerable road user group since they are mostly dependent on adults to make an informed decision about how they are transported in cars. Previous research shows that riding unrestrained is a major risk factor for death and injury among child car passengers and that riding in the back seat is the safest place for a child (Staunton et al., 2005; WHO, 2004; Winston & Durbin, 1999). The WHO has identified the proper use of seat belts and child restraints as one of five key interventions for safer roads (Peden et al., 2004).

Before 2012, there was no law mandating restraint use or specifying the type of restraint and seating position for child car passengers in Nigeria. In December 2012 the lead road safety agency in the country published the 'National Road Traffic Regulations 2012'. This document states that vehicles should have seat belts and child safety seats fitted in the car, which should be used while the vehicle is in motion, and that the driver of the car takes responsibility for ensuring that child passengers use the child safety seats correctly (Federal Road Safety Commission, 2012). Data from the Nigeria country profile of the Global Status Report on Road Safety (WHO, 2013b) indicates that there is an existing law on seatbelt use, which is about 60% enforced (representing the perception of survey respondents on the effectiveness of enforcement in the country); but this law does not cover occupants in the back seats.

Anecdotal evidence and the few available studies locally have shown an unacceptably poor attitude and prevalence of the use of car safety seats and booster seats (Olufunlayo et al., 2011; Sangowawa et al., 2006). The factors responsible for this low level of use of child restraints have not been well documented in this region. This study sought to determine the child car safety practices of school children within an urban community in Lagos, Nigeria, and the knowledge of their parents on child car safety issues.



# RESEARCH DESIGN AND METHODS

## BACKGROUND OF STUDY AREA

Lagos state is the most populous state in Nigeria, with the highest proportion of urban dwellers. The city of Lagos is the financial, commercial and industrial nerve centre of Nigeria. (Lagos State Government, n.d.). Its estimated population in 2009 was 10.2 million; with an annual growth rate of 8%, Lagos is projected to rank among the top ten megacities in the world by 2030 (United Nations [UN], 2015).

The University of Lagos is a Federal Government institution with three campuses in Lagos, Nigeria. It was established by an Act of the Federal Parliament in April 1962 and is accredited by the National Universities Commission (University of Lagos, n.d.).

The University of Lagos Staff School is located within the main campus of the University of Lagos at Akoka, Yaba, and started operations in 1966 with 156 pupils. Presently the Staff School has two campuses with an enrolment of more than 1,500 pupils aged between 3 months and 12 years, and 57 teachers (University of Lagos Staff School, n.d). The majority of parents and guardians are teaching and non-teaching staff of the University of Lagos and its affiliated institutions.

The study site was the school premises located within the main campus at Akoka, Yaba. There is minimal parking space in front of the school, with parents dropping off and picking up children along the road leading to the school. Although there are speed breakers along the road to calm traffic, there was no pedestrian crossing in front of the school at the time this study was being conducted, making it hazardous for school pupils to cross the road during drop off and pick up.

## STUDY DESIGN

This survey employed a descriptive cross-sectional study design and was designed to be suitable as baseline data for assessing educational interventions to improve child restraint use. Consecutive cars arriving at the school car park in the morning were recruited, and the child passengers being transported were included in the observation study, until the desired sample size was reached. One parent/guardian present in the car at the time of the observation was simultaneously recruited into the questionnaire survey. Both aspects of data collection took place in May 2013.

Ethical approval was granted by the Health Research and Ethics Committee of the Lagos University Teaching Hospital, Lagos, Nigeria, in April 2013, and permission to conduct the study was obtained from the Parent-Teachers' Association of the school; exact dates of the data collection exercise were not disclosed to parents to prevent modification of their child car safety practices. Participants were assured of the confidentiality of the information obtained, and that data would only be used for research purposes.

Data was analysed with Epi Info Version 3.5.1 (2008). Data were presented as frequencies and percentages. The 'index passenger' was taken as the youngest child occupant of the car; this was done to reduce the 'clustering' effect, to enhance the accuracy of data obtained. The American Academy of Paediatrics (AAP) guidelines (2002)<sup>2</sup> for optimal protection of children in cars were used to define appropriate restraint measures in this study, summarised as follows:

<sup>2</sup> These guidelines were however updated in 2011, shortly before the time this study was carried out



- Rear-facing infant seats for use from birth until the attainment of at least one year of age or at least 9 kg in weight
- Forward-facing child car seats for toddlers between the ages of 1 and 3 years, with weights from 9 to 18 kg
- Booster seat for children aged 4 to 8 years, who on average weigh between 18 and 36 kg, and are less than 145 cm (4 feet 9 inches) tall, and
- Lap and shoulder seat belts for children above eight years, or who have outgrown the booster seat.

For ease of assessment, age and type of restraint used were the criteria used to classify child passengers into whether or not they were appropriately restrained.

The guidelines also recommend that children below 13 years of age should be restrained in the back seat of the car for optimum safety (AAP, 2002).

## TARGET POPULATION

The target population consisted of pupils of the University of Lagos crèche, nursery and primary school; and their parents. Inclusion and exclusion criteria were as follows:

### FOR CHILD PASSENGER

Eligible: Any child between the ages of 0-10 years of age, arriving at the school in a sedan/saloon car (cars having two rows of seats)

Excluded: Children arriving at the school in station wagons, private or commercial buses, or on a motorbike (cars having more than two rows of seats in the car were excluded to facilitate accurate observation of the child passengers at drop-off, and to enhance comparability of the assessment between vehicles).

### FOR ACCOMPANYING ADULT

Eligible: Parent or guardian of selected child who either drove or accompanied child in the car.

Excluded: Adult lacking authority over selected child and/or not in the position to provide accurate information about the child.

The sample size used was approximately 10% of the total population of pupils in the school's main campus, about 100. However, to allow for incomplete observations, this number was increased by 20% to one hundred and twenty pupils.

## DATA COLLECTION TOOLS AND TECHNIQUES

### A. OBSERVATION SURVEY OF CHILD PASSENGERS

Observations were carried out by the principal investigator and a team of six interviewers who had been trained before the study. The training consisted of a theoretical session on child passenger safety, and a hands-on session with the observation checklist both in the classroom and at a practice area within the hospital. The research assistants were doctors and para-medical staff of the University of Lagos, with a minimum educational qualification of a health diploma.



The observation tool was adapted with permission from a study conducted by the Harbourview Injury Prevention and Research Centre, USA (Ebel, Koepsell, Bennett, & Rivara, 2003). It obtained demographic characteristics of the driver and child passengers, their seating position, and mode of restraint.

The car occupants were observed for seating position and mode of restraint before obtaining consent to participate in the study, so as not to modify their behaviour; written consent was obtained following the observations and before collection of interview data. In instances where the adult occupant refused to grant permission for participation in the study following the observation, the data on seating patterns and mode of restraint were retained, but socio-demographics of the child occupants were not obtained; the observation data were analysed to reduce selection bias.

## B. PARENTS SURVEY

The questionnaire aspect of the study was conducted once informed consent had been obtained from a parent/guardian for the study, using an interviewer-administered questionnaire to determine the knowledge and attitude of parents towards child passenger safety. The questionnaire survey tool was adapted from a child car safety study conducted among Australian children (Bilston, Finch, Hatfield, & Brown, 2008). It obtained data on awareness of child car safety seats and specific knowledge on child car safety, including the recommended age for graduating a child to the use of adult seatbelt alone, and the recommended age for front seating. It also sought to enumerate reasons for non-use of child restraints. Data collection tools can be found in Appendix I.

# RESULTS

## SECTION A: OBSERVATION SURVEY

A total of 234 children in 127 cars were observed in this study; data for the index child (youngest child) in each car were analysed and are presented forthwith (n = 127).

In this study, 70% of drivers were male, and about 6 out of ten drivers were seen to be wearing their seatbelt at the time of observation. Nearly seventy percent of cars had two or more child passengers riding in them. A child restraint was observed in less than 10% of cars, and the device was in use in less than 3% of cars (Table 1). Almost half (46.5%) of the index children observed were between five and eight years (Table 2).

**Table 1: Characteristics of observed cars**

	Frequency (n = 127)	%
<b>Driver characteristics</b>		
Male	85	66.9
Wearing seatbelt	75	59.1
<b>Number of children in car</b>		
One	40	31.5
Two	51	40.2
Three	30	23.6
Four	3	2.4



	Frequency (n = 127)	%
Five	3	2.4
Mean number of children in car: 2.04		

**Table 2: Index child characteristics**

	Frequency	%
<b>Number of index children observed</b>	127	100
<b>Age (years)</b>		
<2	7	5.5
2-4	45	35.4
5-8	59	46.5
9-10	16	12.6
Total		
Mean age: 5.5 years $\pm$ 4		
<b>Gender</b>		
Male	64	50.4
Female	54	42.5
Missing observations	9	7.1

The proportion of index child passengers using any form of restraint (including adult seatbelt) was 6.3%, with only 2.4% being appropriately restrained for age (Table 3). The characteristics of restrained children are presented in Table 4; 37.5% of those restrained (3 children) were seated in the front of the car. The five children who were restrained using an adult seat belt were between 2 – 5 years of age. Approximately 1 in 5 index child passengers (19.7%) were observed to be riding in the front seat of the car; the highest proportion of front seaters were aged 2 – 4 (10 children, 40%), followed by the age-range 5 – 8 years (9 children, 36%) (Table 3). Four (16%) of those seated in front were either carried on the lap of an adult or standing up while the car was in motion (data not presented).

**Table 3: Observed restraint and seating patterns among index child passengers**

	Frequency (n = 127)	%
<b>Child restraint device in car</b>		
Child restraint device observed in car	8	6.3
Child restraint device in use	3	2.4
<b>Child restrained in car</b>		
Child Restrained (including use of adult seatbelt)	8	6.3
Appropriately restrained for age	3	2.4
Riding in the front passenger seat	25	19.7

	Frequency (n = 127)	%
Age of front seat passenger (years)		
0 – 1	1	4.0
2 – 4	10	40.0
5 – 8	9	36.0
9 – 10	5	20.0

**Table 4: Characteristics of restrained children (n = 8)**

S/N	Type of restraint used	Child's age	Sex	Seating
1.	Lap & shoulder belt	2	F	Front seat
2.	Lap & shoulder belt	5	M	Back seat
3.	Lap & shoulder belt	3	F	Back seat
4.	Lap & shoulder belt	5	F	Front seat
5.	Lap-only belt	4	F	Front seat
6.	Forward-facing toddler seat	1	M	Back seat
7.	Forward-facing toddler seat	2	-	Back seat
8.	Forward-facing toddler seat	4	F	Back seat

## SECTION B: QUESTIONNAIRE SURVEY

About 40% of parent respondents were between the ages of 40 and 49, with a male to female ratio of 3:2 (Table 5). Awareness of the existence of child car safety seats was high at 85%; the most common source of information was from friends and relatives (41.7%), followed by personal observation (25.9%). The hospital/health worker was cited as a source of information by the lowest proportion of respondents (3.7%) (Table 6). Fewer than 40% of respondents knew the correct age to commence use of child restraints, seat belts, or to sit in the front seat (Table 6). There were no significant gender differences in the awareness and knowledge of child car safety issues in this study (data not presented).

The reason most commonly proffered by parents for not using child restraints while driving their children in cars was non-availability (24.1%) followed closely by thoughts that the child was too old or too big for a car seat (15.7%). Slightly more than 10% of respondents felt that a child in the back seat did not require a restraint (Table 6).

**Table 5: Socio-demographic characteristics of parent respondents**

	Frequency (n = 127)	%
Age (years)		
20-29	6	5.2
30-39	42	36.5
40-49	54	42.5
50-59	10	7.9



	Frequency (n = 127)	%
60-69	3	2.4
Missing data	12	9.5
Mean age: 40.8 years $\pm$ 7.9		
<b>Gender</b>		
Male	77	60.6
Female	48	37.8
Missing data	2	1.6
<b>Level of education attained</b>		
Primary	2	1.6
Secondary	20	15.7
Tertiary	55	43.3
Postgraduate	40	31.5
Other	2	1.6
Missing data	8	6.3

**Table 6: Knowledge of child car safety among parents**

	Frequency (n = 127)	%
<b>Ever heard of Car Safety Seats</b>		
Yes	108	85.0
<b>Source of information on child car safety (n=108)</b>		
Friends/relatives	45	41.7
Seen around /everywhere/in other countries	28	25.9
Electronic media	25	23.2
Books/magazines	13	12.0
Internet	13	12.0
From Road Safety/drivers' licensing office	8	7.4
Hospital/health worker	4	3.7
Other	4	3.7
<b>Age to commence use of child restraints</b>		
0-3 months	38	29.9
<b>Age to commence use of adult seatbelt</b>		
> 8 years	47	37.0
<b>Age to commence front seating</b>		
13 years and above	33	26.0



**Table 7: Reasons for not using car safety seat**

	Frequency (n = 108)	%
CSS not available /parent does not have	26	24.1
Child too big/old for car seat	17	15.7
Unnecessary for child in back seat	12	11.1
Child does not like/refuses to sit in CSS	6	5.6
Not enough space/too many children in car	4	3.7
Not used for short trips/when in a hurry	4	3.7
CSS not necessary at all	3	2.8
CSS not affordable	2	1.9
Not in Nigerian tradition/culture to use CSS	2	1.9
Other reasons	8	7.4

## DISCUSSION

Use of any restraint by child passengers in this study (including adult seat belt) was dismally low at 6.3% when compared with usage rates in more developed countries. This study adds to the evidence from the few available published studies in Nigeria on the poor child car safety practices prevalent in this environment and confirms an urgent need for public health measures targeted at increasing child restraint and seat belt use.

An Australian study reported overall restraint rates by child passengers of 99% (Brown, Hatfield, Du, Finch, & Bilston, 2010), a study in the USA covering 15 states had overall child restraint use of 63% (Winston, Chen, Elliott, Arbogast, & Durbin, 2004), a study among a native American Indian population reported 59% restraint use (Lapidus, Smith, Ebel, & Romero, 2005), and an observational study conducted in Gabarone, Botswana, found children restrained in 21.4% of cars surveyed (Monteiro, Balogun, Tlhabano, & Pheko, 2013). The proportion of children restrained in this study is, however, comparable to that found in previous studies among school children in Lagos and Ibadan, both cosmopolitan Nigerian cities (8.5% & 4.1% respectively: Olufunlayo et al., 2011; Sangowawa et al., 2006), and also in a study conducted in Bloemfontein, South Africa, in which only 8.8% of child passengers were restrained (Hallbauer et al., 2011); in a study among children 0-12 years old in Shanghai, China, only 6% of observed children used any form of restraint (Pan et al., 2011).

Car safety seats were observed in less than 10% (6.3%) of cars in our study; one of the contributory factors for the low restraint rate may, therefore, be the seeming and reported unavailability of car seats and booster seats. This was corroborated by parents in the knowledge survey, as one of the reasons given for not restraining their child was the inability to obtain a car seat due either to the high cost or it not being available for purchase. Previous injury prevention research based on a health promotion framework cites the importance of convenient access to affordable safety products such as car seats for the adoption of healthy behaviour (Gielen & Sleet, 2003).

Also important to note in this study is the low proportion of children being restrained by adult seatbelt alone. Parents who could not afford or access car seats could have restrained their children using seatbelts alone, although this would have been sub-optimal for most children in this study due to their ages; the overall prevalence of seatbelt use was however very low across all age groups (3.9%). On the other hand, about six of every ten drivers observed were using their seat belt in this study (59.1%). Although many adults riding in cars protected themselves by using their seat belts, they largely neglected to provide safety protection for their children. This



finding may not be unconnected with the erroneous belief of some parents that it was unnecessary to restrain children riding in the back seat of the car. This study did not assess the presence or otherwise of seatbelts in the back seats; however, due to car importation regulations in Nigeria, it is expected that most cars would be equipped with seatbelts in both the front and back seats. Other parents perceived their children as being 'too old' or 'too big' for a car safety seat. These findings suggest that many parent respondents may have a reduced perception of the risk associated with their children riding unrestrained in cars, referred to as the 'immunity fallacy' by some researchers (Will, 2005).

The very low proportion of children appropriately restrained for age in this study (2.4%) is in tandem with the overall rate of restraint use by child passengers, which is below 10%. A similar proportion of children (2.7%) were found to be appropriately restrained for age in the earlier study conducted by Olufunlayo et al. (2011) in Lagos, indicating the need for concerted action by all stakeholders. Previous studies on the use of booster seats concluded that the determinants of wrong use or non-use of child restraints included parental factors such as level of risk perception, personal beliefs, and style of parenting (Will, 2005).

A fifth of all index child passengers observed was riding in the front seat of the car. This rate is higher than that found in the earlier study conducted in Lagos but lower than the Ibadan study (14.8 and 25.2% respectively) (Olufunlayo et al., 2011; Sangowawa et al., 2006). Our study also found lower front seating rates than the study conducted in Bloemfontein, in which nearly 40% of all observed passengers were seated in the front (Hallbauer et al., 2011), while the rate for front seating in the study conducted in Botswana was 32.4% (Monteiro et al., 2013). In the face of increasing motorisation and heavy mixed traffic in a megacity such as Lagos, there is urgent need to provide interventions which not only provide knowledge of the risks of premature graduation to front seating but also translate to a personal recognition of their child's vulnerability to injury when seated in front.

Majority of parents surveyed were male (60.6%) between 40-49 years old (79%) and had at least tertiary education (74.8%). More than eight out of ten respondents had heard of child car safety seats before (85%), but less than 40% had accurate knowledge of specific child car safety issues. Only one-quarter of the parents (26%) knew that a child should not be graduated to the front seat until after the age of 12. Gender differences did not impact significantly on their knowledge ( $p=0.91$ ). The 'knowledge-gap hypothesis' postulates that having knowledge about a specific hazard does not necessarily translate into protective health behaviour; several factors are postulated to interact and impact on behaviour, including level of motivation to implement the protective/positive behaviour, risk perception, perceived 'self-efficacy' to carry out the targeted behaviour, and socio-economic status (Will, 2005).

It is worthy of note that the health facility/health workers were least cited as sources of information on child car safety issues (3.7% of respondents). This can be seen as a 'missed opportunity' in the Decade of Action for Road Safety, and should be a focus for interventions such as transfer of road safety knowledge and skills through international partnerships (Bliss & Breen, 2012). Health workers should be actively involved in providing accurate information on child car safety to their clients and the general public through antenatal, delivery and postnatal clinics, and other health promotion programmes.

As low- and middle-income countries such as Nigeria continue to experience economic growth, it is anticipated that the proportion of road traffic injuries and deaths among child car occupants are likely to increase, following the trend of most high-income countries (Adeloye et al., 2016; Ameratunga, Hijar, & Norton, 2006). The findings from this study point to a number of much-needed interventions to improve child car safety practices. These include: improving the availability and affordability of child restraint devices through domestic research and international cooperation; linking the message on the importance of child restraint in cars with seat belt use in adult drivers and thereby increasing the perception of risk by parents; reorienting and building the capacity of



health workers to provide accurate child passenger safety information to clients; and enforcement of the child passenger safety aspects of the recently-enacted national road traffic regulations in Nigeria. The study, therefore, calls for concerted action by all stakeholders to contribute positively to progress towards the goals of the UN Decade for Action on Road Safety.

## STUDY LIMITATIONS

This study was carried out in a University Campus setting, which provided a fairly safe environment for conducting the car observations. The University Staff School is a Government-funded school for basic education and attended by children from varying socio-economic strata. However, the findings from data obtained from consecutive sampling units at a single study site may not be generalizable to groups outside the study setting. Nonetheless, due to the paucity of studies from this environment and the increasing threat to child passenger safety posed by rapid urbanisation in the city, the authors thought the study was worth doing to help characterise child car safety behaviour.

The number of observed children below two years of age was inadequate for robust inferences to be made concerning this age group who are appropriately restrained using a rear-facing car seat. Future studies should target this age group, as they are highly vulnerable to injury in a crash as a result of their body structure. In addition, this study used age as the sole criteria for determining whether a child was appropriately restrained or not and did not use other recognised criteria such as the child's weight and height. This may have inadvertently misclassified some of the participants in this study as inappropriately restrained for age; however, it was done in this way to reduce the time for data collection with the child-adult pair, and thus improve response rates in the study. Inferences in this study on children who were 'appropriately restrained for age' were made using an earlier version of the recommendations on child passenger safety (AAP, 2002).

## CONCLUSION

This study observed a very low prevalence of child restraint use among observed child passengers and a relatively high prevalence (one in five children) of front seating among 0 - 10-year-olds who should still be riding in the back seat of the car. Also, although a high proportion of the parents had heard of child passenger safety seats, parental knowledge of specific child passenger safety issues was below average. One out of ten parents felt it was unnecessary to have children restrained in the back seat.

## COMPETING INTERESTS

The authors declare that there are no competing interests.

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# APPENDIX I

## BASELINE SURVEY OF CHILD CAR SAFETY PRACTICES AMONGST PRIVATE SCHOOL CHILDREN IN AN URBAN COMMUNITY OF LAGOS, NIGERIA

### STUDY INSTRUMENT

CAR # \_\_\_\_\_

#### SECTION I: OBSERVATION CHECKLIST

1. Observer Initials/code \_\_\_\_\_
2. Date \_\_\_\_/\_\_\_\_/\_\_\_\_
3. Site \_\_\_\_\_
4. Gender of driver
  - a) Male
  - b) Female
5. Driver wearing seat belt?
  - a) Yes
  - b) No
6. Number of children being transported in the car \_\_\_\_\_
7. a) Is there any child safety seat present within the car?    i) Yes                            ii) No  
 b) Position:    i) Front seat                    ii) Back seat  
 c)    i) Used                            ii) Not Used

#### Child Passenger #1

S/N \_\_\_\_\_

8. Sex
  - a) Male
  - b) Female
9. Seating position of child (circle one):

FRONT OF CAR		
D		2
3	4	5
BACK OF CAR		

10. Is child restrained in the car?
  - a) Yes
  - b) No



11. If restrained, circle type of restraint used:
- Rear facing infant seat
  - Forward-facing toddler seat with harness
  - Booster seat with seat belt
  - Lap + shoulder belt
  - Lap belt only
12. If not restrained, how is child being transported in the car?
- On the lap of parent/caretaker
  - Seated on his/her own
  - Other (please specify) \_\_\_\_\_
13. Name of child: \_\_\_\_\_
14. Age of child (yrs.) \_\_\_\_\_
15. Class: \_\_\_\_\_
16. Relationship of **driver** of car to child:
- Parent
  - Other relative
  - Caretaker/ minder
  - Driver
  - Other (please specify) \_\_\_\_\_

**Child Passenger #2**

**S/N** \_\_\_\_\_

8. Sex
- Male
  - Female
9. Seating position of child (circle one):

<b>FRONT OF CAR</b>		
<b>D</b>		<b>2</b>
<b>3</b>	<b>4</b>	<b>5</b>
<b>BACK OF CAR</b>		

10. Is child restrained in the car?
- Yes
  - No
11. If restrained, circle type of restraint used:
- Rear facing infant seat
  - Forward-facing toddler seat with harness
  - Booster seat with seat belt
  - Lap + shoulder belt
  - Lap belt only
12. If not restrained, how is child being transported in the car?
- On the lap of parent/caretaker
  - Seated on his/her own
  - Other (please specify) \_\_\_\_\_
13. Name of child: \_\_\_\_\_



14. Age of child (yrs.) \_\_\_\_\_

15. Class: \_\_\_\_\_

16. Relationship of **driver** of car to child:

- a) Parent
- b) Other relative
- c) Caretaker/ minder
- d) Driver
- e) Other (please specify) \_\_\_\_\_

**Child Passenger #3**

**S/N** \_\_\_\_\_

8. Sex

- a) Male
- b) Female

9. Seating position of child (circle one):

<b>FRONT OF CAR</b>		
<b>D</b>		<b>2</b>
<b>3</b>	<b>4</b>	<b>5</b>
<b>BACK OF CAR</b>		

10. Is child restrained in the car?

- a) Yes
- b) No

11. If restrained, circle type of restraint used:

- a) Rear facing infant seat
- b) Forward-facing toddler seat with harness
- c) Booster seat with seat belt
- d) Lap + shoulder belt
- e) Lap belt only

12. If not restrained, how is child being transported in the car?

- a) On the lap of parent/caretaker
- b) Seated on his/her own
- c) Other (please specify) \_\_\_\_\_

13. Name of child: \_\_\_\_\_

14. Age of child (yrs.) \_\_\_\_\_

15. Class: \_\_\_\_\_

16. Relationship of **driver** of car to child:

- a) Parent
- b) Other relative
- c) Caretaker/ minder
- d) Driver
- e) Other (please specify) \_\_\_\_\_





**Child Passenger #4**

S/N \_\_\_\_\_

8. Sex
- a) Male
  - b) Female

9. Seating position of child (circle one):

<b>FRONT OF CAR</b>		
<b>D</b>		<b>2</b>
<b>3</b>	<b>4</b>	<b>5</b>
<b>BACK OF CAR</b>		

10. Is child restrained in the car?

- a) Yes
- b) No

11. If restrained, circle type of restraint used:

- a) Rear facing infant seat
- b) Forward-facing toddler seat with harness
- c) Booster seat with seat belt
- d) Lap + shoulder belt
- e) Lap belt only

12. If not restrained, how is child being transported in the car?

- a) On the lap of parent/caretaker
- b) Seated on his/her own
- c) Other (please specify) \_\_\_\_\_

13. Name of child: \_\_\_\_\_

14. Age of child (yrs.) \_\_\_\_\_

15. Class: \_\_\_\_\_

16. Relationship of **driver** of car to child:

- a) Parent
- b) Other relative
- c) Caretaker/ minder
- d) Driver
- e) Other (please specify) \_\_\_\_\_

## SECTION II: QUESTIONNAIRE

### INSTRUCTIONS TO RESEARCH ASSISTANT:

**PROCEED WITH THIS QUESTIONNAIRE IF THE RESPONDENT HAS ONE OR MORE CHILDREN/ WARDS BETWEEN 0 – 10 YEARS OF AGE.**

**CIRCLE THE APPROPRIATE RESPONSE OR FILL IN THE BLANK SPACE.**

### SOCIODEMOGRAPHIC DETAILS OF PARENT/GUARDIAN

1. Age (years) \_\_\_\_\_
2. Sex:
  - a) Male
  - b) Female
3. Educational background
  - a) No formal education
  - b) Primary
  - c) Secondary
  - d) Tertiary
  - e) Postgraduate
  - f) Other (please specify) \_\_\_\_\_
4. Occupation \_\_\_\_\_

### KNOWLEDGE OF CHILD CAR SAFETY

5. Have you ever heard about child car safety seats?
  - a) Yes
  - b) No
6. If yes, where did you hear about them from? (multiple responses allowed)
  - a) Friends/relatives/colleagues
  - b) Radio/television
  - c) Books or magazines
  - d) The Internet
  - e) Hospital/clinic
  - f) Other (please specify) \_\_\_\_\_
7. Which position do you think is safest for your child(ren) to sit in while the car is in motion?

<b>FRONT OF CAR</b>		
<b>D</b>		<b>2</b>
<b>3</b>	<b>4</b>	<b>5</b>
<b>BACK OF CAR</b>		

- a) Front passenger seat [position 2]
  - b) back outboard seats [position 3 or 5]
  - c) back centre seat [position 4]
  - d) Other \_\_\_\_\_
8. Should children be restrained within a passenger car for optimum safety while driving?
    - a) Yes
    - b) No
    - c) Not sure

9. From what age should a child be using a child restraint (car seat, booster seat)? \_\_\_\_\_
10. From what age is it appropriate for a child to start using an adult seat belt? \_\_\_\_\_
11. From what age can a child ride in the front passenger seat of the car? \_\_\_\_\_
12. How often do you restrain your child(ren) in the car while in motion?
- Always
  - Most of the time
  - Occasionally
  - Never
  - Other (please specify) \_\_\_\_\_
13. If you do not always use a child car safety seat in restraining your children aged 0-8 years, what is/are your reason(s)? (code below) \_\_\_\_\_
- Do not have a car seat
  - Car seat is lost/spoilt
  - Child is too big/old for car seat
  - Car seats are not available
  - Car seats are not affordable
  - Child does not like to/refuses to sit in the car seat
  - Not enough space in the car for the car seat
  - Do not use car seat for short trips
  - I don't think they are necessary for transporting child(ren)
  - I never heard about car seats before now
  - Too many children in the car
14. How frequently do you use your seat belts when you are driving?
- Always
  - Most of the time
  - Occasionally
  - Only to avoid sanction by law enforcement agents
  - Never

Respondent's email address \_\_\_\_\_

Respondent's phone number \_\_\_\_\_

Index child/ward's name \_\_\_\_\_ Class \_\_\_\_\_

**THANK YOU FOR YOUR PARTICIPATION!**

