

**PHYSICAL DISABILITIES INDUCED BY ROAD TRAFFIC  
ACCIDENTS AND THEIR EFFECT ON ACADEMIC  
ACHIEVEMENT OF SURVIVORS' CHILDREN IN KIAMBU  
COUNTY, KENYA**

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**E83 / 24899/ 2012**

**A RESEARCH THESIS SUBMITTED TO THE SCHOOL OF  
EDUCATION IN FULFILMENT FOR AWARD OF THE DEGREE  
OF DOCTOR OF PHILOSOPHY (SPECIAL NEEDS EDUCATION),  
OF KENYATTA UNIVERSITY.**

**AUGUST, 2021**

**DECLARATION**

I declare that this Thesis is my original work and has not been presented in any other university for consideration. This thesis has been complemented by referenced sources duly acknowledged. Where texts, data (spoken words), graphics, pictures or tables have been borrowed from other sources, including the internet, these are specifically accredited and references cited in accordance with anti-plagiarism regulations.

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**DEDICATION**

I wish to dedicate this work to my late mother Sabera Ndiara Ciomwenda Andrew,  
who was really a lover of education.

## **ACKNOWLEDGEMENTS**

First, I wish to thank the Almighty God for granting me good health, sufficient grace and opportunity to undertake all the processes that culminated to actualization of this thesis. Secondly, I am indebted to many individuals; top among them my supervisors Dr. Franciscah Irangi Wamocho and Dr. Beatrice Bunyasi Awori for their tireless guidance and support throughout my academic journey. I also wish to thank Mr. Peter Gichanga Kimani, head teacher Gitothua primary school, and his successor, Mr. Peter Kinyua Murithi who gave me a lot of peace and moral support during my period of study. Finally I am grateful to my family, my wife Rosallin being in the fore, my children Nelly, Pamela, Nelson and Uniter who always burnt midnight oil to make sure I emerge victorious in the production of this academic piece of work. May the Almighty bless you abundantly.

**ABBREVIATIONS AND ACRONYMS**

<b>CMSDU:</b>	China and Mongolia Sustainable Development Unit
<b>DALY:</b>	Disability-adjusted Life Years
<b>GDP:</b>	Gross Domestic Product
<b>KNH:</b>	Kenyatta National Hospital
<b>NEMIS:</b>	National Education Management Information System
<b>NGO:</b>	Non-Governmental Organizations
<b>NHTSA:</b>	National Highway Traffic Safety Administration
<b>NIMSS:</b>	National Injury Mortality Surveillance System
<b>PWPD:</b>	Persons with Physical Disabilities
<b>RTA:</b>	Road Traffic Accident
<b>SGRS:</b>	Speed Governors and Road Safety
<b>SGRSA:</b>	Speed Governors and Road Safety Association
<b>UK:</b>	United Kingdom
<b>WHO:</b>	World Health Organization

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## ABSTRACT

The purpose of this study was to assess the disabilities induced by Road Traffic Accidents (RTAs) and their effect on the academic achievement of the survivors' children in Kiambu County, Kenya. A descriptive research design was utilized involving both qualitative and quantitative techniques. The target population was 210 road traffic accident survivors, 420 children, one senior authority from the Ministry of Education and another official from the County Government of Kiambu. Purposive sampling method was utilized to sample survivors who had lived with the disability for a time of not less than 5 years. An aggregate of 126 participants were involved during data assortment. Questionnaires were used to collect data from the RTAs survivors and their children, interview guides were used to collect data from the senior official from the Ministry of Education and the county government official. Finally, document analysis was used to collect data on the academic performance of RTAs survivor's children. Quantitative information was analysed descriptively and inferentially based on need and relevance. Qualitative information was analysed through thematic prose conversations. Information was presented utilizing Tables and Figures. The discoveries show that majority (82.1%) of the learners had the option to proceed with their studies after the mishap, yet some needed to change their learning institutions because of unaffordable fee rates or had to move to upcountry. Further, the investigation findings likewise discovered that majority (88.1%) of guardians couldn't uphold their kids' instructive undertakings which saw a majority (88.89%) of the kids fail to accomplish their scholarly achievements. From the paired T-Test results, it was tracked down that the mean difference in scholastic results of the offspring of RTAs survivors prior and then after the accident was statistically significant at ( $p=0.000<0.05$ ). It was found that the majority (90.5%) of RTAs survivors and their youngsters got no type of help from any association, insurance agency or government offices. The investigator tracked down that the connection between the survivors and their youngsters with the local people turned out to be more terrible after the accident. It was also found that the majority (76.2%) of the respondents agreed that there were stereotypes associated with disabilities in general, but more specifically, there were those directly associated with RTAs. From the interview, it was discovered that there were no particular strategies focusing on RTAs survivor's kids for their instructive accomplishment. The investigation prescribes the Ministry of Education to foster a policy framework that guarantees RTAs survivors' children of continued education without disruption. It should make it compulsory that the offspring of RTAs survivors are deliberated when budgeting for allocation on special needs youngsters to guarantee that their schooling undertakings are accomplished.

## **CHAPTER ONE**

### **INTRODUCTION AND BACKGROUND TO THE STUDY**

#### **1.0 Introduction**

The aim of this study was to examine disabilities induced by road traffic accidents and their effect on academic achievement of the survivors' children in Kiambu County. This section provides an overview of background to the study, purpose of the study, research objectives and research questions, significance of the study, scope and limitations, assumptions of the study, theoretical and conceptual frameworks and finally operational definition of key terms.

#### **1.1 Background to the Study**

Road Traffic Accidents (RTAs) have been increasing over years in the world, with the advent of geometric population growth, increasing use of vehicles and motorcycles as well as increasing negligence by road users. It was estimated that RTAs accounted for 75.5 million disability-adjusted life years (DALYs) worldwide in the year 2010 alone (Staton, Vissoc, Gong & Toomey, 2016). World Health Organization (WHO) (2004) report on prevention of road traffic accidents found that the vice has led to incalculable suffering to survivors and/or their children. Other than psychological suffering, RTAs survivors and their children endure various forms of disabilities, some of which completely affect their normal activities as well as their sources of income. At least 20 to 50 million people worldwide succumb to disabilities caused by RTAs (WHO, 2015). One of the major aspects of human development is education. When one's academic achievement and in general, education is affected, there is a high possibility that their socio-economic life will be affected as well. While much assistance that comes to road

traffic accidents survivors and their children is majorly based on material support, disabilities induced by such accidents may have long-lasting impact on the academic achievement of these individuals, and by extension, to the whole nation and the world at large. Traffic accidents continue to soar day in day out (WHO, 2015). This implies that, in countries that depend on education advancement as an avenue for socio-economic livelihood, survivors of RTAs and their children have been subjected to unexpected poverty.

In each mishap, there is a lamenting family or a youngster denied of adoration, warmth and backing from a parent. In each severe injury, there is a family that lives with the results and monetary expenses, which include hospital bills and keeping children in schools (WHO, 2011). Children in schools are most affected because the period spent at home makes them loose the content taught, hence lag behind in education. Further, RTAs leave families with psychological scars and post-traumatic stress. According to Said, (2014) the cost of injury due to road traffic accidents can be computed from treatment costs and lost productivity. This has been estimated to be equivalent to 1-2% of GDP of most countries. Its cost trickles down to the individual families, leaving them impoverished, grieving, disabled and others with psychological trauma. It means that their socio-economic lives will never be the same again, and they may not even be able to keep their children in school. Road traffic accidents thus can deny those children their right to education. World over, there were 57 million primary school-aged children who were out of school in the year 2011 (UNICEF, 2014). Out of this number, some were children of parents who were physically disabled and survivors of RTAs.

The Association for Safe International Road Travel reports that more than 38,000 people die every year in roadway crashes in the U.S with a fatality rate of 12.4 deaths by 100,000 inhabitants. An additional 4.4 million sustain serious injuries. According to National Highway Traffic Safety Administration (NHTSA) (2015), 32,999 people were killed while 3.9 million were subjected to various levels of disability through road traffic accidents in the United States of America in the year 2010 alone. The children of the survivors were mainly affected by the accidents, leading them to stop schooling for a while or change schools to accommodate their new financial status. Subsequently, \$23 billion loss of household productivity was incurred. The report found that disabilities caused by RTAs in the country had affected the normal life of the survivors and their children. For instance, it was estimated that two-thirds of those subjected to disabilities were youths and middle-aged persons, who were either breadwinners in their families or were actively continuing with their own educational endeavors.

Further, some of the victims of RTAs induced disabilities were unable to continue with their education completely, others had been forced to prolong their education while others had been forced to move to lower cadre learning institutions. However, the country has many Non-Governmental Organizations (NGOs) and other faith-based institutions that endeavor to support survivors of RTAs. There is no known government policy in the US that provides guidelines for supporting academic achievement of survivors of RTAs and that of their children.

Over 37,000 people succumb to total disability while 272, 500 escape with partial disabilities induced by RTAs in the UK annually (Ameratunga, Hajar & Norton, 2006).

Moreover, one out of three persons in the country is at risk of experiencing RTAs induced disabilities mainly caused by public transport vehicles and motorcycles. At least 42% of the accidents were attributed to drunk driving (WHO, 2013). However, at least 20% RTAs are expected to reduce per year if all the stakeholders commit to implement the European Enhanced Vehicle Safety Committee (Smith & Smith, 2017). It was estimated that over 60% of the survivors of RTAs are youths and middle-aged persons in the age bracket of 35 to 50 years. Moreover, at least 10% are estimated to either prolong their education or discontinue all together. Out of these, most primary and secondary school learners end up performing dismally in their national examinations, while those in post graduate programmes end up dropping out or discontinuing for a long period.

Over 28% of RTAs are predicted to come from Asia and Pacific region by 2020 (Vodopivec, 2018). In fact, by the year 2003, China accounted for 18% of all RTAs in the world with over 220, 000 fatalities in a year (Vodopivec, 2018). The report further indicates that most of those affected are China's vibrant youths who are in different levels of education and other activities of national importance. However, the government of China has taken a raft of measures that are aimed at addressing the problem of RTAs. Some of these includes: Inter-Ministerial Road Safety Forum that was implemented in 2003, and the Road Traffic Safety Law that came into force in 2004. Though the subsequent 2005, 2008, 2010 and 2013 reports have shown a continued decline of RTAs, China continues to experience high levels of RTAs largely due to its high population growth and influx of substandard unroadworthy vehicles, motorcycles and their accessories (China and Mongolia Sustainable Development Unit (CMSDU), (2014). Nevertheless, the country does not have a policy to support survivors of RTAs and their

children in terms of academic achievements. Such support has been left to the inconsistent and unregulated faith based institutions and NGOs.

Over 90% of all the RTAs in the world come from low income countries. In South Africa, 9.3% of unnatural deaths in 2008 were attributed to RTAs (Statistics South Africa, 2009). A study by Norman *et al.* (2007) found that disabilities caused by RTAs in South Africa were double the world average. Furthermore, the Kenya Traffic Police, (2014) report shows that the rate of RTAs is increasing over time and is attributed to increased ownership of vehicles coupled with low infrastructural developments. Most of the survivors of these accidents are people who are depended upon in their families as parents or guardians while others are young people in schools. There are few records on how the academic achievement of such people is affected in South Africa. Though, the government has formulated various laws and policies to reduce the rates of RTAs, there is no mention of a support system for educational endeavors of the RTAs survivors' children or that of the survivors themselves. This happens despite a 2016 report by the department of gender and social development which reported that persons with disabilities were living in absolute poverty.

In Egypt, which has one of the highest road traffic fatalities in the Eastern Mediterranean, road fatality rate is 42 deaths per 100000 people. Further 1.8 percent of all deaths and 2.4 percent of all disabilities are attributed to RTAs (Puvanachandra *et al.* 2012). Many patients who sustain injuries through RTAs become disabled as a result of amputation, head injury or spinal cord injury (WHO, 2013). Again, the country does not have a framework or any legislation that recognizes academic achievement of RTAs survivors or

that of their children. Basically, only data on deaths and injuries is available in the data base of the Ministry of Roads and Transport.

In Kenya, about 3,000 people lose their lives in RTAs every year (Odero, Khayesi, & Hedo, 2003). RTAs are also a major cause of morbidity. The WHO projects that RTAs worldwide would be one of the leading causes of disabilities adjusted lifestyles by 2030 (Zimmerman, Mzige, Kibatala, Museru, & Gurrero, 2012). Kenya has one of the greatest street casualty rates corresponding to vehicle proprietorship on the planet. It has a mean of seven deaths from the 35 street crashes that happen each day (Zimmerman et al. 2012). This means 68 deaths for every 10,000 enrolled vehicles. Street Traffic Accidents are the third driving reason for death after malaria related ailments sickness and HIV/AIDS and it was a significant general medical issue as far as bleakness, incapacity and the related medical services costs. This fundamentally affects the financial prosperity of the people in question and their families.

Road Traffic Accidents were estimated to cost Kenya as much as \$ 38 billion annually (Odero *et al.* 2003). In mid-2014, the number of people who had lost their lives was 1,280 with another 2,336 suffering serious injuries while 1,639 incurred slight injuries. In the preceding years of 2012 and 2013, a total of 15,612 and 14,324 persons were involved in RTAs respectively (Kenya traffic police records by 18th June, 2014). There are 1,330,312 persons with various disabilities out of which 413,698 have physical disabilities in Kenya (Kenya National Census, 2009). This is the most prevalent type of disability in the country resulting from RTAs. Regionally, Central Kenya has the second

highest rate of RTAs induced disabilities with a prevalence of 5.8% (National Agency for Population and Development (NCAPD), 2008).

A study carried out by Said (2014), shows that injuries caused by RTAs have continued to be the biggest component trauma burden at Kenyatta National Hospital (KNH) and they are associated with a significant mortality and disability. This leaves the family members with a big financial burden, considering that the victims of RTAs are at the peak of their productive life. RTAs affect individuals who are in the economically productive age group of 15-44 years (Puvanachandra *et al.* 2012). This may affect education of the victims' children among other needs; hence the need to explore the situation in Kiambu County to document the current status of the survivors of road traffic accidents induced disabilities.

A study conducted in Thika and Naivasha sub-counties by Bachani *et al.* (2012) on road safety in Kenya revealed that the incidence of RTAs is quite high. This was attributed to speeding, with the study citing 69.45% of vehicles in Thika; as committing this offence. The study further revealed that RTAs were on the increase in Kenya, an indicator that even RTAs induced disabilities could be on the rise.

Kiambu County, as per the Kenya Traffic Police, has more black spots than any other county in Kenya (Kenya Traffic Police, 2014). These black spots are in Limuru (Uplands section), Thika road (at blue post), Makongeni (along Thika -Garissa road) and Kiambu-Muthaiga road. Kiambu County has the second highest coverage of tarmac roads in Kenya with 906.3 kilometers (Ndurya, 2014). However, these studies have not

concentrated on education achievement of RTAs survivors' children and little is known on what happens to them after a period of agony.

## **1.2 Statement of the Problem**

Road traffic accidents have been a global concern for decades. They are responsible for the death of more than 3,000 people daily, over 1.3 million annually and leave more than 50 million with injuries or disabilities (UN, 2010). In every RTA, a family is left grieving or a child is deprived of love, the warmth and support of the parent. In the event of a serious injury or disability, a family is left to live with the consequences and the financial costs as 80% of those injured or disabled are bread winners; furthermore, 40% of the survivors are unable to undertake their former economic activities while yet another 20% are not able to undertake any economic activity altogether. This situation may plunge the family into poverty. Thus, they are unable to keep their children in school (Speed Governors and Road Safety Association (SGRS), 2013).

Despite Kenya having a traffic act which was revised in the year 2009 and was amended three years later, RTAs continue to kill, injure and cause permanent disabilities to her citizens. Furthermore, despite global and national efforts to curb the menace of road carnage, people continue to lose lives, to be injured and disabled on the roads. Despite various studies conducted pertaining to road accidents, information surrounding road accidents and their consequences on education of the survivors, their children and other dependants is obscure.

Educational attainment of children is critical for their life-long achievement as well as that of the society and the economy as a whole. For children who face constraints such as limited financial assistance and lack of resources, their academic attainment may be further constrained. Indeed, academic achievement is the hallmark of participation in education endeavours; hence failure to reach the expected achievement may result to education wastage. The literature has revealed that road traffic accidents contributed to significant challenges to the families including economic constraints. However, little is available from literature showing how RTAs induced disabilities has affected education endeavours of survivors' children. Moreover, no formal support system is known, that targets such people. It was in light of this reality that this study explored the effects of road traffic accidents induced disabilities on academic achievement of survivors' children in Kiambu County, Kenya. This is despite Kiambu County having the highest number of black spots in the country (Kenya Traffic Police, 2014). Kiambu County has the second highest coverage of all-weather roads in Kenya (Ndurya, 2014). Two of the three major highways which serve other parts of Kenya from Nairobi pass through Kiambu County (Kihuria, 2011). Kiambu County had 210 road traffic accident survivors with disabilities and the children of the survivors performing poorly and dropping out of school (Kiambu Level Five Hospital, 2015).

### **1.3 Purpose of the study**

The purpose of this study was to assess the effects of physical disabilities caused by road traffic accidents on the academic achievement of survivors' children in Kiambu County, Kenya.

#### **1.4 Research objectives**

The objectives of the study sought to:

- i. Analyze the academic achievements of RTAs survivors' children before and after occurrence of accidents in Kiambu County, Kenya
- ii. Examine the educational support systems available for RTAs survivors' children in Kiambu County, Kenya
- iii. Evaluate the effect of societal perceptions on RTAs induced disabilities and its effect on academic achievement of survivors' children in Kiambu County, Kenya
- iv. Examine the implementation of available policy frameworks on academic achievement of RTAs survivors' children in Kiambu County, Kenya

#### **1.5 Research questions**

- i. What is the state of academic achievement of RTAs survivors' children before and after the accident in Kiambu County?
- ii. What education support systems are available for RTAs survivors' children in Kiambu County?
- iii. How do the perceptions of the society on RTAs induced disabilities affect academic achievement of survivors' children in Kiambu County?
- iv. How have the available policy frameworks been implemented to support academic achievement of RTAs survivors' children in Kiambu County?

#### **1.6 Significance of the Study**

It was hoped that the study findings may benefit the ministry of education, ministry of transport, infrastructure, housing, urban development and public works, ministry of

public service, youth and gender affairs, ministry of health, at both the local and the national level. The study may also inform other stakeholders such as Association of the Physically Disabled of Kenya (APDK), National council for Persons with Disabilities (NCPWD) and the general public of the existence of the challenges facing such road traffic accidents survivors. In particular the ministry of education may benefit by becoming aware of the existence of such learners in schools. The concerned ministries may collaboratively develop comprehensive policies to address issues surrounding road accidents, disabilities, education and poverty.

Additionally, it was hoped that the findings would be useful to the transport and infrastructure industry in coming up with policies and measures to curb the increasing cases of RTAs by highlighting the severity of the consequences not only on the RTAs survivors, but also on their children.

## **1.7 Limitation and Delimitation of the Study**

### **1.7.1 Limitation of the Study**

The study encountered challenges in tracing the whereabouts of PWPDs as a result RTAs in Kiambu County, due to the fact that there is no known institution that specifically deals with disabilities caused by RTAs. The researcher faced financial challenges in the endeavour to traverse the county in pursuit of these individuals. Time constraints were also a challenge since the researcher was self-funded. Furthermore, some survivors of RTAs were learners in different institutions that the researcher was interested in visiting or getting credible information from them at whatever cost and means.

Obtaining the academic performance scores of the RTA survivors' children from their respective learning institution was a challenge. The researcher mitigated some the above identified challenges by getting help from assistant chiefs and village elders to locate parents with physical disabilities emanating from RTAs. The researcher was also compelled to borrow a loan from his savings and credit cooperative society which enabled him to hire motor cycles to ferry him and village elders as he traversed Kiambu County to reach the respondents.

### **1.7.2 Delimitation of the Study**

The study was carried out in Kiambu County. It focused only on persons with physical disabilities as a result of RTAs and their children in Kiambu County. This is because the county has the highest number of black spots in the country. Kiambu County has also the highest coverage of all-weather roads in Kenya. The researcher chose to study PWPDs in Kiambu County since the county has the highest prevalence of PWPDs as compared to other disabilities. The researcher did not study other disabilities because road traffic accidents affects mostly the physical parts of the victims particularly the spine and the limbs. The researcher did not limit the study to the children going to school during the period of study, but children who were in school before and after the accident and used self-reported academic performance scores.

### **1.8 Assumption of the Study**

The study was based on the assumptions that:

- There were physical disabilities resulting from RTAs in Kiambu County.
- Some of the survivors of RTAs have children who are students/pupils.

- The community members of Kiambu had a particular perception in regard to physical disabilities caused by RTAs.

## **1.9 Theoretical and Conceptual Framework**

### **1.9.1 Theoretical Frame work**

The study was guided by the families and trauma theory. The theory was coined by Reuben Hill (1949) and McCubbin and Patterson (1983) who suggest that any injury to a member of the family may affect the entire family. The theory posits that families are susceptible to systemic dysfunction and proposes the effectiveness of the family response to the traumatic event to be focused on the interplay of the context of the stressors, the perceptions of the family and the society to these stressors and the resources at the disposal of the family to cope with or overcome the trauma. The theory postulates that families have a wide range of adaptive approaches where some families will thrive at the face of trauma while others fail to adapt.

Hill (1949) indicates that the benchmark of successful adaptation comes from the families' capacity to address the issues of its individuals. For balanced families, the essential requirements of the family are met sufficiently including the upkeep or reinforcing of the family uprightness, advancement of the improvement of the relatives and support of the family's feeling of command over natural impacts. Conversely, the pointers of ill-transformations by the family remembers in the delayed strains and disability for the jobs and obligations in the family. Decay of the family trustworthiness, a decrease in the wellbeing and monetary advancement of at least one relative and reduction of the self-governance and freedom of the family is yet another pointer.

Applied in this study, this theory provided a background to identify factors which contribute to the challenges facing families who have experienced trauma from the RTAs related disabilities. The theory further provided a background to ascertain that parents with physical disabilities caused by road traffic accidents led a life characterized by a feeling of being marginalized by the society.

The gaps identified in this study included the exclusion of RTA survivors as parents. Therefore, the theory enabled the researcher to find out the kind of life parents with physical disabilities and their families led. Furthermore, it helped understand how the inability to meet the family's needs impacted the family and more so the children.

The major gap in the theory was a lack of a cause-effect relationship between the RTAs and the academic performance of the RTAs survivors' children. The theory helped the researcher find out effects of road traffic accidents' induced disabilities and its socio-economic consequences to victims and their families in Kiambu County, Kenya. The other gap was on whether the children were able to pursue their education following the RTAs. In this case, the theory further helped the researcher find out whether parents with physical disabilities as a result of RTAs maintain their jobs or are sacked after the accident and whether they lead a life without a future. Usually people will lose their jobs after getting a disability or they can retain the job but the employer underpays them. This makes it very difficult for them to meet the needs of their families including education of their children, food, clothing and hospital bills among other needs. Their children are likely to drop out of school to care for the incapacitated breadwinner who sometimes

could be on a wheelchair or bedridden depending on the part of the body affected by the accident (Amador & Willis, 2014).

Moreover, Hill's theory postulates that the family's integrity may be compromised by a trauma. In this sense, without achievement of education endeavours, which is the key to empowerment, the cycle of systemic trauma will continue to dominate in the family perhaps for generations. Education enables individuals to engage fully with their world and to fight discrimination and poverty. When parents/guardians are subjected to RTAs induced disability, they become jobless and may face discriminatory treatment from different social realms, and hence their families tend to live in a state of apathy without any hope of upward mobility. This is the reality especially in a country that has no policy framework to support the academic achievement of RTAs survivors' children.

**1.9.2 Conceptual framework**

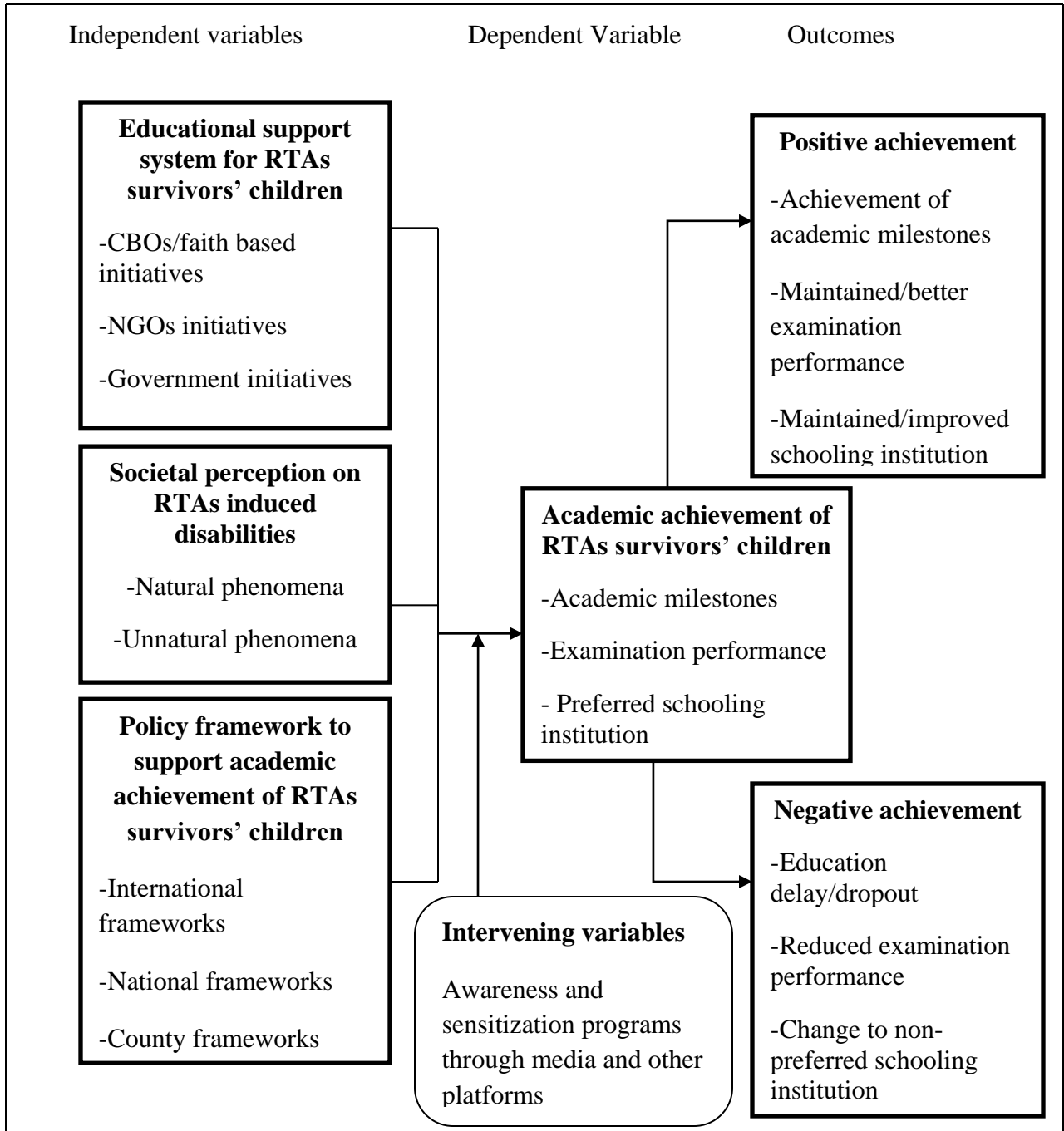


Figure 1.1 Conceptual Framework on effect of RTAs induced disabilities on academic achievement of survivors' children (Researcher, 2021)

From the framework, it can be observed that academic achievement of RTAs survivors and that of their children is affected by the disability associated factors available such as support framework, societal perception regarding disability attributed to RTAs as well as availability of policy frameworks that support academic achievement of these people. Academic achievement was measured using academic milestones, examination performance and preferred schooling institution. The education support system can be initiated by the community itself, NGOs or even the government. On the other hand, community perceptions could be linking physical disabilities caused by RTAs with natural or unnatural means. Based on whether community view it as natural or unnatural, their treatment to affected persons can either affect their children's academic achievement negatively or positively. The outcome of all these aspects will either lead to positive or negative results as far as academic achievement is concerned.

### 1.10 Operational Definition of Key Terms

**Academic Achievement:** Refers to the fulfilment of one's educational expectation in terms of completing their education and getting good grades to secure a good future.

**Academic milestones:** Refers to progress in academic achievements such as progressing from a lower class to upper one, from primary to secondary, from secondary to tertiary, from undergraduate to post graduate in that order.

**Children:** Persons below the ages of 18 who depend on other people or organisation for support, aid, or sustenance especially finance support (dictionary.com). In this study, the children are biological/adopted children of parents with physical disabilities induced by road traffic accidents.

**Education:** The act or interaction of giving or procuring general information, fostering the forces of thinking and judgment, and for the most part of getting ready oneself or others mentally for develop life.

**Effects:** The negative impacts of disability on the family members.

**Induced disabilities:** A restriction or lack of ability to perform an activity in the manner or within the range considered normal for a human

being, and which results from a certain occurrence, in this case, RTAs (Friend, 2008).

**Parents:** Persons responsible for providing basic needs to their children and other children.

**Physical disability:** A condition or context that limits an individual from using his/her limbs to participate in activities freely and with ease like other members of society (Friend, 2008).

**Road Traffic Accidents:** An event that occurs on a road involving a motorized or animal drawn vehicle which results in human injury, fatality or material damages (Kudryatsev, 2013).

**Road Traffic Accident Survivors:** These refer to parents/guardians who were involved in road traffic accidents and survived, but ended up with serious disabilities.

**Schooling institution:** Refers to preferred school with certain characteristics such as boarding/day, public/private, local/international and other inherent characteristics an individual prefers when choosing a schooling institution

## CHAPTER TWO

### REVIEW OF RELATED LITERATURE

#### 2.1 Introduction

The aim of this study is to examine the physical disabilities induced by road traffic accidents and their effect on academic achievement of the survivors' children in Kiambu County. This chapter highlights the literature that has been reviewed globally pertaining to the problem of the study guided by the study's objectives. This section focused on academic achievement, education support system for RTAs survivors' children; societal perception of RTAs induced disabilities as well as the policy framework to support academic achievement of RTAs survivors' children.

#### 2.2 Academic achievements of RTA survivors' children

Different studies show that RTAs have devastating effects on the educational achievements of the survivors' children and their close relatives as return to normal life is always a difficult process. Sabet *et al.* (2016) conducted a qualitative study in Iran on RTAs victims' experiences on return to normal life. The study involved content analysis approach for 18 Iranian RTAs victims with disabilities in the upper or the lower limbs, within three months to two years after the accidents. Data was collected through semi structured interviews and analyzed through conventional content analysis. Results of the study revealed that RTAs survivors had difficult challenges in reintegration into their homes, the community and systems such as education. Most of the victims were functionally limited from returning to systems such as education, with their relatives being affected either financially or by taking time off their academics to take care of the victims. Similar findings were noted from the study on recurring tragedy of road traffic

accidents in India (Anndurai, Mani & Danasekaran, 2015). While this research explains challenges that face reintegration into normal life activities such as education, it does not explain how these challenges would be overcome, posing its only gap.

Perez and Widom (2014) conducted a study to examine the long-term academic outcomes for the children of accident survivors in Argentina. The researchers adopted a descriptive survey research design and targeted 413 children and found that their academic performance significantly declined after their parents were involved in the traffic accidents in Argentina. The study linked this drop in academic achievement to challenges associated with financial constraints as well as lack of time to concentrate on one's studies as most often the children had to take up extra responsibilities of caring for their parents. Anndurai, Mani and Danasekaran (2015) also reported that there was a significant drop in the achievement of students after their parents were involved in motor vehicle accidents. They found that most of the students quit school to take care of their ailing parents or to care for their younger siblings. Often, other family members despite being granted leave had to go back to work after a while and due to the limited financial ability of the family after the accident, no extra help could be afforded to care for the survivor. The study however, targeted only children leaving out the parents who suffered from disabilities following the road traffic accidents which limited the scope of the findings. The current study sought to establish how RTAs influence the academic achievement of the RTAs survivors' children.

Mathews (2015) set out to examine the educational potential of the children of road accident survivors in Sydney. The researcher targeted 132 children of road traffic

accident survivors and found that the children had significantly poor educational attainment post-accident. This was associated with high levels of depression and inability to cope with challenges following the accident including financial constraints due to loss of employment and source of livelihood. They found that this problem was more inherent in families with single parents or where one parent supported the family. They found a significant association between the occurrence of an accident and low attainment of academic goals. A similar association was identified by Mayou, Tyndel and Bryant (2017) who reported that the academic achievement of children of accident survivors was significantly lower. They attributed this to the economic and social challenges that come up from losing employment and having to provide care for the survivor which takes a toll on the attainment of academic goals. The findings show how accident survivors and their children are impacted by the incident, but the study was conducted in Australia which has different economic and social attributes which are different from the sub-Saharan Africa context including Kenya; hence the findings may not be generalizable to the study thus the current study filled this void in literature.

Dai *et al.* (2018) examined how the children of road accident survivors coped emotionally and mentally after the unexpected trauma and how it influences the student's academic achievement. The study was conducted using a meta-analysis through a systematic literature search of databases such as PubMed Embase and PsychINFO among others. The findings, from studies conducted in 8 countries revealed that children of RTAs survivors faced mental and emotional traumas from their parents' unexpected road traffic accidents and its ensuing injuries. Further, the findings showed that the children's academic achievements were affected as they bore unexpected responsibilities due to

their parents' inability to provide effectively for them emotionally, mentally and economically. However, the study was a systematic review one which relies on secondary data collected from over eight countries. This implies that the scope of the study was wide and the findings may not be generalizable to the current study; hence the void in literature was filled by conducting this study locally and using primary data compared with secondary one to provide comprehensive conclusions.

In Canada, Perfect, Turley, Carlson, Yohanna and Gilles (2016) surveyed school-related outcomes following exposure to traumatic events such as road traffic accidents for students using a systematic review of studies from 1990 to 2015. The study sampled 83 articles on school-aged youths from kindergarten to 12<sup>th</sup> grade. They found that there was a significant association between academic, cognitive and teacher-reported social, emotional and behavioral outcomes and the traumatic exposure. They found that children whose parents experienced domestic violence, had been involved in road traffic accident or work-related accident were more likely to perform poorly academically, behaviorally and emotionally. In a similar study, Reyome (2014) examined teacher rating on the students' achievement in children exposed to trauma. The researcher found that a significant association existed between exposure to trauma and the children's poor performance in school. The findings were however, limited to the teacher-reported questionnaires which do not present first-hand information on the experiences of the children with the trauma or the parents' perspectives on how the trauma affected their lives and that of their children. This gap was overcome by targeting road traffic accident survivors and their children.

Park, Kim, Choi, McDermott, and Cobham, (2016) studied the effects of experiencing trauma on the academic achievement of pre-adolescent children when they witness the death of a single parent and the survival of the other through road traffic accidents in China. The researchers targeted 70 children and examined the association between the post-traumatic disorder and their educational attainment. They found that experiencing trauma had a significant impact on the academic performance of the children. They often dropped out of school, discontinued with their education for a while or had to change schools. Some had difficulty adjusting to the school environment as most teachers and peers failed to understand how the trauma impacted them mentally and emotionally. Similar conclusions were reached by Li *et al.* (2019) who also found that educational achievements were significantly affected by a parent's or guardian's involvement in a road traffic accident.

The loss of meaningful employment and the ability to look for an alternative where physical disability resulted from the accident further complicated the family dynamics forcing the children to change schools to a lower status one, move to rural areas or quit school to care for the surviving parent. The study was conducted in china and targeted children with post-traumatic disorders from their parents' road traffic accident. The findings were therefore not generalizable to the current study's context. To fill this gap, the researcher targeted all the children of the road traffic accident survivors from Kenya. Additionally, the study also targeted pre-adolescent children which narrowed the target population that was overcome by targeting all the children of the road accident survivors even those past the pre-adolescent stage.

Dyregrov and Dyregrov (2015) examined how teachers perceive the academic problems facing bereaved students who lost their parents to accidents in Turkey. Teacher's and head teachers were targeted and issued with questionnaires. According to the teachers, bereaved students showed deterioration in academic performance. The students were reported to struggle with learning, reduced achievement in examination and learning setbacks. Some reported that the students had to change schools as their families relocated due to the inability of the remaining parents to sustain the family's lifestyle effectively. Often, the students were reported to relocate to the upcountry as their families shifted to minimize the economic expenditures.

The findings were similar to those reported by Merete, Addington, Wither, Schimiegelow, and Andersen (2018). The researchers found that the decline in the student's academic performance was associated with the financial strain as well as the added responsibilities facing the children after a traumatic event affecting the family member including decapitation of a parent or guardian following severe accidents. Often, the children are forced to step up and bear the burden of caring for the survivor or leave school to cater for the financial needs of the family. The study is however, limited in its use of teachers and head teachers as they do not provide the challenges experienced by the families of the survivors. The current study filled the gap by sampling the survivors and their children.

Devkota, Kett and Groce (2019) conducted a study to determine the attitudes and behaviors of Nepalese rural resident towards women with disabilities and their children. Their findings revealed that the women were doubly discriminated against by the society.

The experienced discrimination was found to have a significant impact on the life experiences, opportunities and help-seeking behaviors of the women and the educational attainment of the women's children in school. Similar conclusions were reached by Chan, Livneh, Pruett, and Wang, (2019) who reported that the community often stigmatizes and discriminates against people with disabilities. Moreover, these discriminatory acts limit the ability of the individuals and their families to attain their goals. This was found to be more so in relation to education and work attainment where discrimination was rampant for the children of road accident survivors. The study was however, conducted in Nepal which leaves a gap in the local literature as the findings cannot be generalized to the Kenyan context. This study was therefore, necessary to fill the existing gap in Kenya.

In a study targeting low income countries, Fejadu, Mekonen, Belete, Belete and Yohannes (2019) set out to examine how road traffic accidents affects the survivors and how this affects the functioning of the family. The researchers found that most treatments for RTAs survivors target physical injuries, but none focus on mental treatment. Further, evidence showed that the majority of the survivors reported severe impacts on their work or schooling due to the accident. Further, they found it challenging to function well socially. Often, this resulted in severe alcohol consumption, severe sleep issues and impairment in family functioning. Some asserted that their children's education was negatively impacted as they were not able to provide them with financial as well as mental and emotional support required for children to flourish academically. These findings are similar to those reported by Mekonnen and Teshager (2014) who found that road traffic accidents is a neglected health problem in Ethiopia resulting in a chain of negative, but severe impacts on the individual and their families. They reported that the

educational attainment of the survivor and their dependents is also stunted or delayed as they deal with the unexpected challenges that arise due to the accident including the loss of one's job or ability to engage in income generating activities forcing their children to either drop out of school, change schools or repeat classes. The study targeted road survivor victims and incorporated the mental effects of RTAs on the survivors. However, there exists a gap in the study's inability to incorporate the children or the dependents of the RTAs survivors to get their input on how the accident affected them. This gap was overcome in the current study by utilizing both the survivors and their children to better understand the effects of RTAs from both parties giving a clearer picture of how RTAs impacts on the children and parents.

Kenyans face similar challenges as a result of RTAs. An analysis of causes and response strategies of road traffic accidents in Kenya by Ndungu, Ratemo and Mwai (2015) revealed that RTAs affected both the victims and survivors in different ways. In the study, the researchers gathered data from secondary sources such as internet, police reports, newspapers and Kenya road safety agencies. The study revealed that the complexity surrounding RTAs in Kenya and response mechanisms increased the severity of the accidents. This eventually affected economic status of the survivors and their relatives. Ngunjiri (2016) agrees with these findings by indicating that about 32% of survivors have to seek leave from work and education. In some cases, their relatives have to seek leave from work or academics to help the victims in recuperation. In this study, the role of stakeholders such as insurance companies is not highlighted despite their role on compensation for the victims, which could boost the economic status for the victims.

### **2.3 Educational support system available for RTAs survivors' children**

Different countries have mechanisms through which they support RTAs victims. While there are no specific programs for supporting education for the victims or their children, most countries have insurance enforcement policies that cover victims and boost their socio-economic status, hence supporting activities such as education. While studying the effects of automobile insurance and accident liability laws on traffic fatalities, Cohen and Dehejis (2015) analyzed a panel of 50 U.S. states on their compulsory insurance policies. The study revealed that the insurance had benefits to the victims by cushioning them from incurring severe economic implications. This helped the survivors and their dependents to continue their normal life activities such as education. Mukreji (2015) agrees with these findings by explaining that, if the victims are capable of establishing the negligence which led to the accident, then the insurance company could compensate them, hence reducing the negative implications on their children's academic achievements. However, Cohen and Dehejis (2015) do not describe the general requirements before compensation by the insurance companies, leaving a gap in the study.

Tsujimura-Ito (2019) also set out to review the state of damage as well as the type of support offered to the victims of motor vehicle accidents in Japan. The researcher acknowledges that individuals are likely to be in at least one motor vehicle accident in one's lifetime and the experience has significant impact on the person and their families. The study further found that often, the families and the victim's mental health is affected after the accident. This is also associated with complicated grief as well as physical damage caused by the accident. Further compounding the problem is the post-accident

secondary victimization. In Japan, Tsujimura-Ito (2019) reported that there are various support groups for the victims and their families including victim support centers and self-help groups. They are offered financial, mental and social support to address individual needs of each survivor and their families. Okubo and Akutsu (2018) reported similar findings where they found that there are various support centers as well as self-help groups that focus on providing financial, emotional, and mental and in some cases physical rehabilitation services to the survivors of road traffic accidents. The study was, however, focused on the general support offered to the families, but there is no mention of specific educational support strategies for the children of motor vehicle accidents survivors' children. This left a gap in the literature which this study filled by examining the educational support strategies and programs available for road accident survivors and their children.

Abbasi, Ali, Rozi, Khan and Jooma (2019) set out to examine the support system in existence to improve the quality of life for road traffic injury survivors and their children in Pakistani. Adopting a cross-sectional study, the researchers found that being involved in road traffic accidents has severe impacts on the survivor's employability and family system dynamics. As a result, there are non-governmental organizations and religious groups that set out to help the victims and their families meet their day to day needs. Further, the NGOs and other groups were found to set up funds for sponsoring the educational endeavors of the RTAs survivors' children. Ulfarsson, Nilsson, Blomstrand and Nilsson (2014) also found that in Indonesia, accident survivors and their children often receive support from NGOs, who contribute to the education of the children as well as finding some meaningful work for the survivors who are physically challenged. The

study was, however conducted in Pakistan which leaves a gap in the literature. To fill this gap, the current study was conducted in Kenya, where road traffic accident survivors and their children were targeted to help fill this gap in literature.

River, Thakoordin and Billing (2016) set out to examine how creativity in social work education and practices can support survivors' projects. The researcher set out to examine how survivors of traumatic experiences including motor vehicle accidents and work related injuries are supported through social work practices in Malaysia. The researchers reported that social support groups and NGOs work together to develop projects that can be used by the children of the survivors and the survivors themselves to develop skills and pursue their education beyond the primary and secondary levels. By working on skills and talents, these groups ensure that not only will the survivors have an alternative source of income, but also gives their children a chance to meet their set academic outcomes.

Similar findings were also reported by Estelle (2018) whose study focused on rethinking the benefits of survivors in Brazil. The researcher provided a framework to analyze the efficiency and equity of the existing survivor benefit programs in this era. The findings indicated that the existing insurance covers were insufficient to meet the needs of the families. The study therefore, found that tailoring the support programs to meet the needs of the survivors was crucial based on the level of income of the family and the severity of the accident on the survivor. Further, it was found that most of the educational support programs were not sufficient to ensure that the survivors' children continued with their education as before the accident. The funds provided were not enough and the students

were often forced to change schools. Vodopivec (2017) also reported similar findings in Peru claiming that the existing educational programs, run by NGOs and church organizations, though existent, were not sufficient to adequately support the children of accident survivors through their educational journey. The study highlighted the existing programs and who run the programs in Brazil and Peru. However, the study focused on survivors of all kinds including those of natural disasters, which shows that the findings are for a wider scope of survivors which does not fill the gap in the existing literature on the exiting educational support for the road traffic accident survivors. The gap was therefore filled by focusing on a narrower population scope that only comprised of road traffic accident survivors and their children.

In India, Maqbool, Sethi and Singh (2019) claimed that as the country's road network and population increases, the number of road traffic accidents had also risen. They asserted that road accidents are the most common frequent and result in the most damage. Based on these facts, they set out to examine the existing programs created to support the families of the road traffic accidents. The findings revealed that the majority of the support programs are not geared towards the education of the survivors' children. Rather, most of them are for providing therapeutic and other treatment for the survivor. Only a few programs run by the church and NGOs were found to target the educational endeavors of the survivor's children. Insurance companies were also found to be limited in scope in regards to supporting the children of road traffic accidents survivors. Overall, it was established that India generally lacks adequate educational support programs for the children of its road traffic accidents survivors. Similar findings were also reported by Dorn and Brown (2016) in a study conducted in Singapore. The researchers found that

the country lacked sufficient educational support programs developed specifically for the survivors of road traffic accident and their children. Consequently, it was established that the majority of the children of road traffic accidents survivors failed to pursue their education as previously due to lack of sufficient funds to pursue their educational goals and dreams. This curbed the achievement curve of these children as compared to their peers as they faced financial constraints in their pursuit of education. The study, was conducted in India, and may not be generalizable to the Kenyan context due to the differences in the social and economic factors. To determine whether these findings were replicable in the Kenyan context, the current study was conducted.

Road traffic accident as reported by Lagarde (2017) is a growing menace in Africa. It was increasingly taking the lives of people, leaving survivors with physical, emotional and mental trauma and negatively impacting the lives of those close to the victims and survivors. It was against this backdrop that the researcher set out to examine how the family of the victims and survivors are assisted across different African countries after the traumatic event. The findings indicated that despite road traffic accidents being one of the most occurring accidents, the support for the survivors and their families is very poor. Evidence suggest that educational support programs are lacking, especially on the insurance front as most insurance cover the vehicle but rarely the occupants or their dependents. Consequently, the children of the survivors often bear the brunt of the trauma as their lives change drastically from the quality of their home life to their education as the parents are forced to either relocate or change the children's schools due to the inability to pay for their education as they did prior. Asogwa (2018) further found that there lacks financial support for the children of road traffic accident survivors as the

majority of them rely on bursaries and free education which does not guarantee quality education for the children bearing in mind the additional costs of uniform and other expenditures required by the children to successfully complete their education.

Another study targeting the African continent was conducted by Bonnet, Lechat, and Ridde (2018) who set out to conduct a literature review on the interventions required for road traffic accidents survivors and their families. The researchers utilized secondary data from 12 countries in the Eastern and Southern parts of Africa and found that the burden of road traffic accidents on the survivors and their families was huge. They reported that the effects of road traffic accidents are far reaching in Africa due to the low income levels and unemployment.

Further, the study also found that overall; interventions to help road traffic accident survivors and their families were almost non-existent. For instance, they reported that the majority of the survivors' children had to drop out of school; change schools, or repeat the same class due to the parents' inability to support their education financially. This was attributed to the lack of educational support programs in the continent to help support the children of road traffic accidents survivors. Similar claims were made by Hoffman (2014) who reported that despite the significance of education support programs in helping the survivors' children attain their educational achievement, most countries lack educational programs tailored to meet the specific needs of road traffic accident survivors. The study was however, secondary in nature and relied on existing studies which leaves a potential gap in the reliability of the collected secondary data. To avoid a similar limitation the current study collected primary data.

In Nigeria, insurance companies are the only strategies that help victims and their children. Ishaku, Habu and Magaji (2015) conducted a study on management of road traffic accidents in Adamwa State, North Eastern Nigeria, focusing on the trend and cost. Their study adopted an economic costing models and regression models. The study found out that deaths and incapacitation resulting from RTAs had huge economic effects on the children and survivors. However, insurance covers significantly reduced the economic impact, helping the survivors and their dependents to continue with their life activities such as education. Similar findings were obtained from Taera's (2014) study on motor insurance industry and its role in road safety in Ethiopia. While the two studies recognized the importance on insurance companies in supporting RTAs survivors and their children, they did not detail the requirements that needed to be addressed before compensation, leaving a gap that needs to be addressed in future research.

In Kenya, insurance companies such as Britam and CIC play a major role in ensuring victims of RTAs suffer less financial implications if they are covered, hence promoting their education support. In studying the effectiveness of the insurance act 2013 in relation public service motor vehicles, Kibet (2014) sought to analyze the efficacy of the insurance act in relation to its benefits on the insurer, insured and third party. The study analyzed the legal history and contextual development as well as appropriateness of schemes. The study found out that when the interests of all stakeholders were taken into account, the victims and their children stood to benefit, limiting financial costs that would limit their ability to continue with education. Similar sentiments were expressed by the "Motor Insurance and Compensation of Motor Accident Victims in Developing Countries" (2009) report by the United Nations Conference on Trade and Development.

However, both studies did not describe the steps or complexity of the compensation process which would have determined the efficiency and effectiveness of the insurance companies involved.

#### **2.4 Societal perception on RTAs induced disabilities**

Palmera-Suarez *et al.* (2015) conducted a study to investigate disability related to RTAs and its implications in Spain. The study applied a cross-sectional design and involved community-dwelling participants from 91,846 households with 20,425 persons living with physical disabilities, where 443 of them were due to RTAs. Besides the reduced levels of income, the study found out that there were high levels of stigmatization that the adults claimed affected their children in school. However, while they indicated dropped performance as the indicator of the effects of stigma, there was no evidence to ascertain their claims.

Smith (2018) set out to examine the perceptions of the society towards women with physical impairments resulting from accidents in the UK. The researcher targeted women aged between 18 and 65 years with physical impairment. The researcher adopted a qualitative method to collect information from a personal-experience point of view. The findings revealed that though the physical impairments were not a part of their life since birth, but resulted from an accident, the society was not too accommodating to the women and their families. They reported that often, they are frowned upon by members of the society, and even their children's teachers. They claimed that it was more so for the women who struggle with mental issues following the traumatic event like post-traumatic stress disorder. These challenges extended to their children whom they claimed that their

peers who knew their parents were disabled often bullied them at school where they were called names and segregated. They felt that the schools were not efficiently protecting their children from the bullies as the teachers were a part of those propagating and projecting misperceptions about the physical disabilities to the other children. McLoughlin's (2016) study also showed the same results where it found that teachers and students were a part of the wider society which has a negative attitude towards the parents with physical disabilities and their children. The study, was however, conducted in the UK; hence the findings may not be generalizable to the sub-Saharan context and more so Kenya. To fill this void, the researcher conducted this study using primary data collected from road accident survivors from the country.

Brittain (2014) set out to examine the impact of societal perceptions of disabilities on achievement of students. The researcher targeted college aged students whose parents had been involved in road accidents. The findings showed that most of the students experienced stigmatization from not only their community members but also from their peers and their teachers which they said it negatively affected their school life and academic achievement. They claimed that despite the majority of the teachers claiming that they had no negative or discrimination views on the students whose parents had physical disabilities, the students still felt sidelined by the teachers hindering their academic achievement.

Vilchinsky, Findler and Werner (2018) adopted the attachment theory to examine the attitudes of people with disabilities in Israel. The researchers targeted 404 Jewish students. Their findings indicated that often, when in the presence of an individual with a

disability, people have negative perceptions and attitudes towards them. Often, people distance themselves from people with disability. They found that often when written tests on attitudes and perceptions towards disability are issued to respondents, they tend to regulate their responses, but when physically in the presence of a person with disability, then people tend to react negatively. The findings suggest that the perception of people towards individuals with disability is negative and the students in the study were found to be secluded by the majority of the university population. Similar findings were also witnessed by Mikulincer *et al.* (2018) who reported that often, people react negatively when they interact with people with disability. The tendency to react negatively stems from the beliefs and attitudes embedded in the cultures of societies which associated disability with curses. The findings are critical in showing how the society perceives people with disability. However, a gap exists in the study, in that it focuses on the general disabilities, including those which were present at birth whereas the current study focuses on the road traffic induced disabilities. It was possible that the findings of the studies may not be applicable in the RTAs context; hence the researcher set out to examine the societal perceptions towards disabilities resulting from road traffic accidents.

Katz, Shurka and Florian (2018) examined the association between physical disability, social perception and psychological stress among road traffic accident survivors. The findings from the study, which targeted 543 road accident survivors, found that the impact of disability on their self-concept was often shaped by how the society perceived their disability. The Scandinavian study further found that the society had a negative perception towards those with disabilities perceiving them as cursed or community outcast. This limited the education and work attainment of the individuals and their

families as accessing and enjoying basic things like education and medical care was a challenge due to the prevailing negativity towards them and those close to them. Fassin and Rechtman (2019) also reported that people with disabilities resulting from accidents are often victimized by other members of the society who associate their physical disabilities with curses. As such, these survivors and their families often struggle to come to terms with the way the society perceives them and how these perceptions limit their attainment of social, educational and economic milestones. The study highlights the challenges faced by victims of road traffic accidents who sustain physical disabilities. However, the study, which was conducted in Scandinavia, may not be replicable in Kenya due to the difference in social and cultural values and beliefs. To determine whether the results are generalizable in the Kenyan context, the researcher therefore set out to examine how the Kenyan society perceives those who have physical disabilities from road traffic accidents.

Barker (2017) set out to examine the perceptions of the Italians and the Greeks towards those with disabilities. The study targeted 124 individuals from both countries and found that among these societies, those with disabilities were perceived as being inferior with some believing that those with physical disabilities were possessed by evil spirits. In some cases, those with disabilities are banished or ill-treated by other members of the society or rejected as outcasts. For the family members and close relatives, people with disabilities after accidents were reported to be termed as economic burdens. Wright (2014) had also come to similar conclusions claiming that despite people knowing that accidents result in physical injuries that may become permanent, they do not understand that disability is a normal part of human life, but perceive the injured as undesirable to

interact with; hence treat the families of those with disabilities dismally denying them full integration and engagement in the society. The study highlights the views of different European societies towards people with physical disabilities, but a gap exists in the study as it focused on general disabilities whereas the current study sought to understand how the society perceives people with disabilities from road traffic accidents. The gap was filled by focusing on the road traffic accidents survivors.

Smith (2019) set out to determine how societal perceptions towards individuals with disabilities from accidents influenced their academic achievement. The researcher targeted 216 children of accident survivors as well as the survivors themselves. They used FGDs and self-reported questionnaires to gain an insight from the victims themselves and their close ones on how the accident changed how the society perceives them and the influence of these perceptions on their educational attainment. The findings revealed that stigmatization was rampant once an individual developed a physical handicap after an accident. The society perceived them as cursed and due to lack of understanding on how an accident can result in physical disabilities, deemed it as a punishment to the survivors and their families for some misdeed. Consequently, the researcher reported that the survivors and their children often failed to meet their academic milestones as most of them were forced to change schools, places of residence or drop out of school altogether as the stigma became unbearable. Similar claims were made by Frosch (2019) who found out that stigmatization on survivors of road traffic accidents and their children was high in secondary schools where the children were targeted by not only their fellow learners, but also the teachers who sidelined and bullied them as a result of the physical disability caused by accidents. The findings reveal a link

between the society's perceptions towards individuals with physical disabilities and the educational attainment of the individuals. However, there is a huge gap on the effects of societal perceptions on disabilities resulting from road traffic accidents and how it affects the educational attainment of the survivor's children. This study filled this gap by targeting only road traffic accident survivors and their children.

Similarly, Morrison and Casper (2016) set out to understand the effects of societal perceptions on the members of society with disability and its influence on their achievement of life goals in education and employment. The researchers targeted victims and found that the society was ignorant of the physical and mental injuries resulting from accidents. The society, most often, stigmatized and avoided them despite having suffered the injuries while serving the society. In many cases, people overlooked the cause of the disability in favor of making assumptions based on embedded beliefs that disability is a sign of a family curse or a penance for some sins committed by the person or their family. The survivors claimed that often, their children's attainment of goals and dreams at school or at work was impaired as the stigmatization extended to them. They claim that the society view the children as abnormal due to the disability of the parent and the teachers rarely give them the attention required to attain their educational goals. Similar sentiments were found in the work of Sieber (2018) who found that the society is often misinformed or under-informed on the physical injuries resulting from different accidents. The findings were more so in rural areas where people belief in curses and punishments. The study reveals that there is a link between attainment of goals and the society's perceptions of physical disabilities. However, the study focused on veterans; hence the findings may not be generalizable to the road traffic accident survivors and

their children. This leaves a gap in the literature which was filled by targeting road traffic accident survivors and their children to provide an insight on the society's perception towards physical disabilities from RTAs and its resulting impact on educational attainment of the children.

Stigmatization against RTAs disabilities has severe effects on academic achievements for victims and their children. In Cambodia, Hawthorn and King (2015) conducted a study on road crashes and long-term disabilities in relation to their implications to policy and its implementation. The study focused on publications as the source of information due to limited similar research. According to the study, RTAs related disabilities had effects such as poverty and stigma that in turn affected life achievements such as education to both the victims and their children. These findings reflect the results of a study on impact of road traffic injury in North India (Jagnoor *et al.* 2015), but both studies do not address any interventions to address the impacts, especially stigmatization in relation to its implications on academic achievement.

Charuvastra and Cloitre (2016) also set out to examine social bonds among those with disabilities in Pakistan. The study targeted 190 people with physical disabilities resulting from accidents. The findings showed that social bonds between the society at large and individuals with physical disabilities were very weak. Distancing from people with physical disabilities was found to be a common occurrence as the injured were shunned and their children also segregated from their peers at home and in school. The findings further revealed that this impaired the achievement of the children in school as they failed to get the social support necessary to flourish. The findings are supported by those of

Pitman and Delhanty (2015) who also found that getting into an accident and then becoming physically impaired led to a lot of stigma from other members of the society which saw the families of the survivors suffer alongside their family members. This is despite the need for strong social bonds to enable the family overcome the tragedy of having a loved one lose a physical ability due to an accident. The study shows how social bonds weaken due to the physical disabilities brought on by accidents, but the study was general in nature in its target population and scope. This leaves a gap on the replicability of the study and generalizability of the findings to the current study's population and scope. The current study therefore, overcame this limitation by targeting road traffic accident survivors and their children.

Randle and Ries (2018) conducted a rapid literature review community's attitudes towards inclusion of people with disabilities. The findings revealed that overall; community attitudes towards people with disabilities from accidents were full of misconceptions, negative attitudes and lack of knowledge contributing to the negative aspects in the lives of people with disabilities. The findings revealed that misconceptions are still rampant in schools and places of work showing that stigmatization is still prevalent in the society. Randle and Ries (2018) also found that the level of stigmatization is directly correlated with the severity of the physical injury. It was found that the misconceptions were mostly held by the people with lower levels of education who do not understand the functioning of the body and the impact an accident can have on its functioning. Similarly, Goreczny, Bender Caruso and Feinstein (2016) examined the attitudes towards people with disabilities in New Zealand. The findings revealed that overall; the attitudes were negative, with the physical disabilities being associated with

courses. These studies show that the negative attitudes of people towards accident-related physical disabilities are no different from those on mental and other congenital disabilities. In this case, however, the study was conducted in New Zealand which makes the findings ungeneralizable in sub-Saharan countries including Africa hence the current study filled this void in literature.

The perception of disability by community groups also affects academic achievement of RTAs survivors' children. In a study that focused on rural parts of Kenya, Bunning, Gona, Newton and Hartley (2017) revealed that cultural beliefs on disabilities have a stigmatization effect especially due to lack of information. The study focused on the understanding of disabilities and challenges associated with it. Information was collected through focus group discussion, where 263 participants were audio-recorded. The study found out that poor understanding of disability in rural Kenya led to high levels of stigmatization experienced, limiting the ability of access to equal opportunities in relation to education and other life activities especially for the victims. The study did not however describe how stigmatization in rural Kenya directly affected academic achievement for the children. In her study on the Stigmatization of Disabilities in Africa and the Developmental Effects, Koszela (2013) also reveals that education is one of the development aspects that are greatly affected by stigmatization.

In another study in Kenya, Munyi (2016) set out to examine the societal perceptions towards disability from a historical perspective. Using a systematic literature review approach, the researcher found that disability is often perceived as a sign of a curse in most Kenyan communities. It was also a symbol of a curse befalling the entire family and

as such, the family will be associated with shame and rejection. The researcher further found that often, the children whose families are associated with such cases of disability and its associated curse often fail to achieve their potential in life. They get less attention, education, medical care and quality upbringing as the community shuns the families. The same sentiments were expressed by Al-Khatteeb (2014) who reported that in most communities, children whose parents are physically impaired as a result of accidents are often perceived as cursed and the shame and reject extends to their children and in some cases relatives. It was therefore rare for the community to accept them, forcing close relatives to distance themselves from the family. The findings are crucial for this study as it shows how the Kenyan communities perceive disability. However, the study focused on the general disabilities, whereas the current study set out to determine how the society perceives disabilities caused by road traffic accidents. This gap was filled by focusing on the perceptions of the society on the disabilities brought by road traffic accidents.

## **2.5 Frameworks available to support academic achievement of RTAs survivors' children**

The WHO (2016) acknowledges that survivors and families affected by road traffic crashes suffer from legal, physical and psychological needs. Due to the consequences of the crashes, the individuals may suffer from physical injuries leading to disability, impairing reintegration to the society and the family leading to a range of economic and legal sequela. The WHO provides a framework for supporting road traffic accident victims and their children through the Decade of Action for Road Safety (2011-2020). The framework provides five pillars for dealing with road traffic accidents. The fifth pillar of the framework focuses on the post-crash response which provides guidance on

the integrated approaches to support and mitigate short and long-term effects of crash. Countries that have adopted this framework to guide support programs for the survivors and their families include the Development Bank of Latin America and *Fundación MAPFRE* which have comprehensive guides on follow up on financial and legal needs of the survivors and their children.

McInerney and McKlindon (2018) affirm that childhood trauma can have severe impacts on their brain development, learning and behavior, which in turn impact on the children's academic attainment. Based on this backdrop, he set out to examine the existing frameworks to support the educational attainment of children who have experienced trauma in Irish schools. The researcher found that trauma-informed models were in use in the schools where the trauma experienced by children whose parents had been involved in traffic accidents were taken into consideration when teaching them. Further, these models were tailored to provide resources according to the needs of the children to facilitate smooth completion of the education. It was important to note that these models were not only geared towards educational attainment, but also offered guidance and counseling to the students on how to cope with the ensuing difficulties from a parent's involvement in a road traffic accident. The success of the models was found to be due to the efforts put forth by the county governments and the ministry of education to shape the school's culture, practices and policies to be sensitive to the needs of the traumatized learners. Harms, Alexander, Harrison and Sinclair (2017) also reviewed the road trauma education and support programs in Melbourne schools in Australia. The researchers conducted a literature review search of ten articles on support programs for accident survivors. The findings revealed that the county governments have set up frameworks in

place to facilitate the continued education of road traffic accident survivors and their children. The framework works in conjunction with the insurance companies and the parents who contribute to pool funds together for the children of accident survivors.

The other framework in Australia is the Trauma Informed Care. This is a framework that focuses on the delivery of knowledge and understanding of how trauma affects the lives of people and their needs. The framework is specifically tailored to meet the needs of children who have been exposed to a range of traumatic experiences which affects their emotional, mental, physical, education, and other developmental aspects. The model is based on four phases, trauma aware, trauma sensitive, trauma response, and trauma informed (Wall, Higgins & Hunter, 2016). Trauma responsive entails addressing the impact of the trauma on the family while assisting the children reduce the overwhelming emotions from the trauma and helping them make meaning of their life. The last phase of trauma informed care focuses on recovery, collaboration with local support groups and religious organizations to provide financial and other forms of support to the family. In Uganda and Tanzania; Morin, Rivard, Crocker, Boursier, and Caron (2016) reported that there are no frameworks specifically tailored for the children of road traffic accident survivors. The findings showed that the children of the survivors have to rely on the free primary and secondary frameworks funded by the government as well as community funds and bursaries given to the other children within the community whose parents do not have the capacity to educate their children.

Frameworks for supporting academic achievement of RTAs survivors' children ensure that the children have a mechanism through which their education can be continued even

after RTAs. “National Road Safety Research Framework, 2013” is a framework for the Australian government aimed at determining national research priorities in relation to the national road safety strategies. The strategy, developed by 45 stakeholders from relevant sectors within Australia has a long term goal of ensuring reduction of fatalities, injuries and their repercussions on Australia’s roads. The framework is also designed to ensure that RTAs victims are accounted for and helped in achieving their life goals. In Africa, inputs aimed at promoting academic achievement for victims of RTAs and their children are only supported by compensations from insurance companies. However, there is no research on specific frameworks that ensure RTAs survivors’ children are supported in achieving their education goals. This leaves a huge gap to be addressed.

## **2.6 Summary of Gaps that the Study Filled from Related Literature**

Road Traffic Accidents have been identified to cause socio-economic implications on victims and their families. For survivors’ children, achieving their education goals becomes a huge challenge due to financial implications, lack of support frameworks and stigmatization. While there is enough research on causes of RTAs and the fatalities that result from them, the studies available are silent on what happens to the survivors after acquiring disabilities. In fact, literature that relates RTAs to academic achievement of survivors’ children is very limited, and when mentioned, there is not much to borrow from it. Most studies have been traced from geography and population disciplines; hence they have concentrated on deaths and the occurrence of accidents themselves. The researcher has indeed tried to get any literature from an education discipline, hence this

study may be a pioneer in the school of education, and more so, to the special education discipline.

Moreover, most studies such McInerney and McKlindon (2018); Harms *et al.* (2017) and Wall *et al.* (2016) have documented the efforts of the government, international organizations and the communities to reduce RTAs. However, there is little documented on the efforts of the same bodies in supporting the academic achievement of children of RTAs survivors. It was therefore important that an examination of available policy documents is done, how they are implemented and then come up with a better framework that is more sensitive to academic achievement of RTAs survivors' children.

## **CHAPTER THREE**

### **RESEARCH DESIGN AND METHODOLOGY**

#### **3.1 Introduction**

The aim of this study was to examine the disabilities induced by road traffic accidents and their effect on academic achievement of the survivors' children in Kiambu County. This chapter describes the procedures and strategies that were used in the study, that is; research design, study variables, location of the study, target population, sample size and sampling techniques, instrument for data collection, piloting, validity and reliability, data collection techniques, data analysis, logistical and ethical considerations.

#### **3.2 Research Design**

Every research has a set of assumptions on the development of knowledge where different sets of values influenced the research and the realities a researcher encounters while undertaking the study. These sets of assumptions are research paradigms which are defined as the set of basic beliefs which deal with the nature of the world, the range of possible relationships to the world and the place of individuals in the world (Guba & Lincoln, 1994). There are two major research paradigms; epistemological and ontological perspectives. Ontology focuses on the assumptions on the nature of reality shaping the way a researcher studies the research objects. There are two approaches in ontology; subjectivism and objectivism but this study adopted the subjectivist (constructivism) stance because it helped the researcher to come up with possible causes of the current status of RTAs survivors' children academic performance as constructs arising from personal perspectives, experiences and personal values. The second paradigm is

epistemology which refers to the assumptions on what constitutes to valid, acceptable and legitimate knowledge and how individuals communicate the knowledge developed to other people. There are two epistemological paradigms; the positivist and interpretivist. For this study, the positivist view was adopted because it focuses on analyzing generalizable facts in a controlled setting to establish the cause-effect relationship in a bias free and objective manner.

According to Saunders *et al.* (2009), a research project involves the theory to raise important questions regarding the design of the projects. There are two contrasting approaches; the inductive and deductive approaches. Deductive reasoning is mainly adopted in quantitative study to test theory starting with an established concept and then testing the concepts using relevant data, whereas the qualitative studies use inductive approaches where observational elements pose questions that a researcher aims to explain. For this study, both inductive and deductive reasoning were used. Deductive theory was used to guide the collection and analysis of data and build a framework for analysis of empirical data. Inductive reasoning on the other hand, aided the researcher in making inferences on the implications of the findings for developing theories which promoted the study.

The study employed a retrospective longitudinal survey design involving a cohort of RTAs survivors who had lived with the RTAs injury for at least five years and above. A longitudinal study gives the researcher a means to establish a sequence of events allowing them to gain insight into the cause-and-effect relationship conducted over a period of many years to establish the cause-effect. A period of five years was deemed sufficient to

establish the sequence of events over a period of time (Caruana, Roman, Hernandez-Snachez, & Solli, 2015). Specifically, the study was monitoring the academic progress of the RTA survivors' children. The cohort also included the survivors' children and was studied retrogressively. The survey involved both qualitative and quantitative approaches. This approach describes the conditions on the ground as the researcher finds them. A study assembles information at a specific point on schedule fully intent on depicting the idea of the current conditions. It further recognizes the norms against which existing conditions can measure up just as deciding the connection between explicit occasions (Orodho, 2013). Review methods give valuable data more often than not and if analysts utilize appropriate strategies, the quantity of misjudgements and the size of mistake are insignificant (Beins, 2009). This was reasonable for this investigation in that the investigator had the option to look at the impacts of autonomous factors on the reliant variable. By utilization of this plan the analyst had the option to report the situation with instruction accomplishment for offspring of RTAs survivors.

### **3.3 Variables**

#### **3.3.1 Dependent Variable**

The dependent variable in this study was academic achievement of the RTAs survivors' children. The variable was measured by: academic milestones, examination performance as well as retention in their preferred schooling institutions. The academic milestones were measures using completion of education, discontinued and calling off the studies while academic achievement was measures using the student's self-reported attainment.

### **3.3.2 Independent Variables**

Independent variables were: Educational support system for RTAs survivors' children (community, NGOs, government, insurance), societal perception on RTAs induced disabilities (whether natural or unnatural) as well as existence and implementation of policy framework that was aimed at supporting academic achievement of RTAs survivors' children. These variables are disability-related factors and were adopted to help establish the factors affecting the RTAs survivors' children.

### **3.3.3 Location of the Study**

Kiambu County is located in the Central highlands of Kenya and is within the former Central Province. The county borders five other counties; Nakuru and Kajiado to the West, Murang'a and Nyandarua to the North and Nairobi to the South. Its geographical Coordinates are: 1°10'S 36°49'E/ 1.167°N 36.817°W. Its latitude is -1.167 and its longitude is 36.817 (Appendix Vi). The County has been reported to have high incidences of RTAs as compared to other counties in Kenya (Bachani *et al.* 2012). The county has the highest number of black spots in the country (Kenya Traffic Police, 2014). Kiambu County has the second highest coverage of all-weather roads in Kenya (Ndurya, 2014). Two of the three major highways which serve other parts of Kenya from Nairobi pass through Kiambu County (Kihuria, 2011). The foregoing factors made the researcher choose Kiambu County in central Kenya as the most ideal locale for the study.

### **3.3.4 Target Population**

Target population is a large number of individuals or objects with unique attributes which the researcher is interested in (Green, Camilli & Elmore, 2012). This study targeted 210

survivors with physical disabilities as a result of RTAs, 420 survivors' children as well as 2 senior officials from the Ministry of Education (1 representing the county and the other representing national government). To identify the study population, the researcher conducted extensive search on official documents on RTA survivors and the Kenya Kiambu Level 5 Hospital, (2015) which had published a list of the road traffic survivors with disabilities resulting from RTAs. The study purposed to understand the effects of the road traffic accidents based on the perspectives of the family members and their children. For this reasons, the teachers and the principles were excluded for the study to get a clear understanding of how the RTAs affected the students. Moreover, in some cases, the RTAs survivors' children were already out of school, so their teachers could not be accessed during the time of study. The information from the target population was obtained either from their home; place of work or at school for those who were still in school.

It was estimated that half of those who survived from RTAs were parents or persons who were depended upon for livelihoods in their families. Each survivor was estimated to have at least 4 children. It was not necessary that the children of the survivors be attending school currently, just that they were attending school at the time of the accident. The distribution of target population is presented in Table 3.1

**Table 3.1 Target Population of the study**

<b>Sub counties</b>	<b>Number of Survivors</b>	<b>Children</b>	<b>Sub-total</b>	<b>MoE officials</b>	<b>Total</b>
Limuru	9	18	27		
Kikuyu	7	14	21		
Lari	13	26	39		
Kabete	11	22	33		
Gatundu north	2	4	6		
Gatundu south	4	8	12	2	
Ruiru	44	88	132		
Thika	37	74	111		
Juja	28	56	84		
Kiambaa	15	30	45		
Githunguri	18	36	54		
Kiambu	22	44	66		
<b>Total</b>	<b>210</b>	<b>420</b>	<b>630</b>	<b>2</b>	<b>632</b>

Source (Kiambu Level 5 Hospital, 2015)

### **3.4 Sampling Technique and Sample Size**

This part represents sampling techniques that were used in deciding the nature and the size of the sample studied.

Purposive sampling was used to select Kiambu County. Purposive sampling is the strategy of identifying important sources of variation or criteria in a population and then selecting a sample that reflects this variation (Orodho, 2013). The logic of using purposive sampling is because it's convenient and effective due to the nature and distribution of the participants who are the RTAs survivors (Creswell, 2017).

### **3.4.1 Sampling Techniques**

Survivors of RTAs were sampled proportionately based on target population in each stratum and then purposive sampling was used to select actual participants. Only survivors who had lived with the handicap for a time of something like 5 years and above were considered. In a longitudinal study, the concern is on conceptualizing and assessing changes over time which occurs in one or more substantive variable and a period of more than six months is sufficient to present changes over time (Wang *et al.* 2017). Therefore, five years was deemed as a sufficient enough time to reflect the changes and its potential impacts on the families. To identify the relevant respondents, the researcher obtained information from the chiefs and sub-chiefs, who recommended relevant village elders. The village elders were of great help since they guided the researcher from one respondent to another until all the expected sample size was achieved in every stratum.

The nature of the study was to obtain information regarding effects of RTAs induced disabilities on academic achievement. As such, only those who had adequate experience of such a disability could provide relevant information required in the study. Additionally, the study only considered survivors who had schooling children. Children were chosen purposively on the basis of survivors selected. Every survivor who fitted in the category of having children (for instance a parent who had children) provided 2 children to participate in the study.

### **3.4.2 Sample Size**

Creswell (2017) proposes 10 to 30% of the target population as the most appropriate sample size for a relatively large population. The researcher therefore employed 20% to

calculate the sample size for survivors' children. This calculation applied proportionately depending on the target for each stratum. The final sample size is distributed as displayed in Table 3.2.

**Table 3.2 Sample size distribution**

<b>Sub counties</b>	<b>Number of Survivors</b>	<b>Children</b>	<b>Sample survivors (20%)</b>	<b>Sample children (20%)</b>	<b>Sub-total</b>	<b>MoE officials</b>	<b>Total</b>
Limuru	9	18	2	4	5		
Kikuyu	7	14	1	2	4		
Lari	13	26	3	6	8		
Kabete	11	22	2	4	7		
Gatundu	2	4					
North Gatundu	4	8	1	2	1		
South			1	2	2	2	
Ruiru	44	88	8	16	26		
Thika	37	74	7	14	22		
Juja	28	56	6	12	17		
Kiambaa	15	30	3	6	9		
Githunguri	18	36	4	8	11		
Kiambu	22	44	4	8	13		
<b>Total</b>	<b>210</b>	<b>420</b>	<b>42</b>	<b>84</b>	<b>126</b>	<b>2</b>	<b>128</b>

To get the sample, once the RTA survivors' location was identified from the statistics listed in the Kiambu Level 5 Hospital, 2015 the researcher visited the sub-counties and

used key-resource persons in the area such as the chiefs, the village elders, and religious leaders to identify RTA survivors in their area.

### **3.5 Research Instruments**

Three research instruments were used to collect data; questionnaires, interview schedules and document analysis. These instruments were developed by the researcher guided by the research objectives.

#### **3.5.1 Questionnaires**

Questionnaires were administered to the RTAs survivors' children. The questionnaire for RTAs survivors' children had four sections comprising of general information (section A), support system available to enable education continuity (section B), community perceptions regarding RTAs induced disabilities (section C) as well as scholarly accomplishment of survivors' kids prior and then after the mishaps (section D). The four sections contained both open ended and closed ended questions (Appendix I and II).

#### **3.5.2 Interview schedules**

The reason for the meeting plans was to empower the analyst to get the information needed to meet the particular destinations of the survey (Zirkel, Garcia & Murphy, 2015). Interview guides were administered to one senior official in the Ministry of Education, Kiambu County and one senior official from the MoE, National government. The role of the interview was to establish the existence of a policy framework supporting academic achievement of RTAs survivors' children as well as implementation of such policies in Kiambu County. As the interview progressed, the researcher would pose

probing questions depending on the responses given (Appendix III). The interviewer asked the Ministry of Education officials whether there were policies for RTA survivors' children because they, rather than the parents are well-informed of the existing policies.

### **3.5.3 Document Analysis**

RTAs survivors and their children who were progressing with their academics were asked to provide three-year academic progress before and after occurrence of accidents. This included their examination performance, which were obtained from their termly report forms as well as from their respective schools. The researcher targeted the students' academic performance three-year before and three-years after so as to establish a cause-effect; a longitudinal study focuses on the study subjects for over a period of time sometimes lasting for between six months to 20 years. For this study, six years, three prior and three after the accident was deemed as sufficient to establish a cause-effect relationship. Three years prior and before were critical in making comparisons of their academic performance and to help establish whether the accident had a significant impact on their performance.

### **3.6 Piloting Study**

A pilot study was carried out in Machakos County, which neighbours Kiambu County and has similar characteristics with the area of study. Machakos County was chosen as the pilot study because Muguro, Sasaki, Matsushita & Njeri (2020) found that aside from Nairobi, Kiambu, Machakos, Nakuru and Kakamega have the highest count of road traffic accidents. Therefore, Machakos County would provide accurate representations of the target population and help determine the validity and reliability of the study

instruments. In choosing the participants, 10% of the expected sample size was considered adequate. As such, 12 participants were sampled to participate in the pilot study. The selection adhered to criteria explained in the sampling design in order to obtain a close replica of the main study. The aim of the pilot study was to ensure validity and reliability of the research instruments employed to collect data. There were no changes made to the instruments after the study pilot. The study targeted one MoE official in Machakos County, four RTA survivors, seven RTA Survivors' children.

### **3.6.1 Validity**

Survey configuration can be legitimate if analysts make plans that relate the autonomous variable seriously to the reliant variable (Walliman, 2017). An action is supposed to be substantial in the event that it estimates what it was planned to do (Chambliss & Schutt, 2018). For this reason, validity of the tools used in this study was tested through a pilot study which was conducted on 12 participants. Ten per cent of the survivors (42\_ yielded 4 participants) while 10% of the RTA survivors' children (84 yielded 8 participants) for the pilot study. The validity of the tools was checked through cross validation and triangulation. Cross-validation involved checking the responses provided; whether they addressed the questions asked. Moreover, the results of the three instruments were cross-checked to establish consistency. Basically, triangulation involves the use of multiple instruments to obtain the same information (Creswell, 2017). Through triangulation therefore, determination of the consistency was possible. The researcher also involved various research experts including the supervisors, in order to make relevant corrections to the research instruments before the main study was conducted in Kiambu County.

For the qualitative instruments, validity was achieved through trustworthiness. Trustworthiness was achieved by credibility, authenticity, dependability, conformability, and transferability. Credibility was established through long engagement in the field and triangulation of data sources, investigators and methods.

### **3.6.2 Reliability**

If estimation is reliable, rehashed estimations on a similar individual should bring about comparable results each time (Beins, 2009). Unwavering quality identifies with consistency and repeatability of the outcomes. Unwavering quality of the instruments was evaluated by use of Cronbach's alpha, with the aid of SPSS computer software. Creswell (2017) asserts that an alpha of 0.7 and above is adequate to declare the research findings as reliable. In this study, an alpha of 0.76 was established, an indication that the results obtained were reliable. For the qualitative instruments, reliability was done by checking the stability of responses to multiple coders of the data sets. They were also enriched using detailed field notes and recording devices.

### **3.7 Data Collection Technique**

Data was collected using questionnaires and interview guides. Questionnaires were used to collect data from survivors of RTAs and their children. Collection of data from the homes of the survivors took two and a half months plus the identification of the respondents and a preliminary visit. Interview guides were used to gather data from the senior official MoE and the County Government of Kiambu. Before the researcher issued the questionnaires and interviews, informed consent was sought from the parents/guardians of the children in secondary or primary schools. The researcher liaised

with the teachers and the parents/guardians to explain to the students the nature of the study and why it was being conducted. Questionnaires for the RTAs survivors' children were administered and the researcher collected them the very day in their places of work, at home or in cases where the children were in school, the researcher dropped off the questionnaires at the office and then picked them up later. However, arrangements were made to collect the data at a later date in situations where the respondents were not available. Once the questionnaires for the children were collected, those for the survivors were issued and collected. The number of survivors visited per day depended on the availability and speedy response of the participants. Interview for the senior official in the MoE and the County Government of Kiambu were conducted each at their own time based on their availability. All interviews were recorded in both writing and audio. The process of data collection began with obtaining informed consents from each of the respondents. The researcher then estimated the time the respondent was required to avail to the researcher. Where the researcher agreed to allocate time within the first time of visit, the researcher administered the tool as agreed while rescheduling was preferred in cases where respondents were not available. One research assistant drawn from the community accompanied the researcher every time throughout the period of data collection.

### **3.8 Data Analysis**

Information gathered was analyzed utilizing quantitative and subjective techniques. Qualitative information was analyzed utilizing a combination of thematic approach directed by research goals. Under thematic approach data was sorted out, classified and categorized in accordance with the themes of the investigation. Qualitative information

was introduced utilizing reported, verbal articulation and exposes. Quantitative information was analyzed utilizing simple descriptive statistics which was presented in Tables, frequencies and percentages. Paired t-test was utilized to look at assessment execution of respondents prior and then afterward experience of RTAs.

### **3.9 Logistical and Ethical Considerations**

#### **3.9.1 Logistical considerations**

The researcher made orientation visits to the sampled population to notify them about the intended study and its significance. The orientation visits were to familiarize himself with the locations of the homes, and offices as well as to introduce himself, the study and the purpose of the study. It was during the visits that the analyst coordinated with the respondents the most helpful opportunity to meet for meetings and organization of surveys. Involvement in the examination was wilful. The analyst looked for assent from the imminent respondents by disclosing to them the point of the investigation and their job in the examination. The analyst guaranteed them that the data they gave was private and was utilized with the end goal of the investigation as it were.

#### **3.9.2 Ethical considerations**

Before proceeding to the field, the researcher obtained an approval from Kenyatta University Graduate School, after which another approval was gotten from KU ERC. The researcher further sought permission from NACOSTI before seeking for a permit from the county commissioner and county director of education, Kiambu County. Piloting of

the instruments was done and corrections made before proceeding to the final study. All the respondents were issued with an informed consent form (Appendix I), which introduced them to the study and the use of the data provided. Due to the sensitivity of the matter being investigated, the researcher assumed the role of a counsellor at some point, where he handled emotional eventualities that arose. This is because the study could rekindle some memories that would turn out to be emotional to some participants.

### **3.10 Chapter Summary**

In this chapter, the research method was presented. It provided the paradigm and the research approaches adopted in the study and the justifications for the research designs, data collection, sampling and data analysis approaches. The chapter also provides the ethical and logical consideration. The next chapter provides the data analysis and presentation.

## CHAPTER FOUR

### PRESENTATION OF FINDINGS, INTERPRETATION AND DISCUSSION

#### 4.1 Introduction

In this chapter, the study presents the analyzed data and discusses the findings based on the study research objectives. The chapter first presents the descriptive statistics followed by inferential statistics. A discussion and implications of the findings has been provided after each presentation of the study results. The study's guiding objectives were to;

- i. Analyze the academic achievements of RTAs survivors' children before and after occurrence of accidents in Kiambu County
- ii. Examine the educational support system available for RTAs survivors' children in Kiambu County
- iii. Evaluate the societal perception on RTAs induced disabilities and its effect on academic achievement of survivors' children in Kiambu County
- iv. Examine the implementation of available policy frameworks on academic achievement of RTAs survivors' children in Kiambu County

#### 4.2 Response Rate

The researcher targeted 42 road traffic accident survivors and 84 road traffic accident survivor's children. The response rate for both the RTAs survivors and their children was 100%. According to Choung *et al.* (2016), a 75% rate of response in a descriptive study is adequate to validate the findings of a study. Based on this fact, the findings discussed in the chapter were generalizable to similar situations.

### 4.3 Demographic Information of the respondents

The study sought demographic information of the respondents including their age, number of children and gender since they had the potential to influence the responses provided as well as the discussion and implications of the findings. The gender, age and number of children were sought and their responses are as presented in the Table 4.1.

**Table 4.1: Demographic information**

<b>RTAs Survivors</b>		
<b>N= 42</b>	<b>Frequency</b>	<b>Percent</b>
<b>Gender</b>		
Male	31	73.8
Female	11	26.2
<b>Age</b>		
20-29	2	4.8
30-39	18	42.9
40-49	12	28.6
50-59	9	21.4
Over 60	1	2.4
<b>Number of children</b>		
<2	15	35.71
3-5	23	54.76
>6	4	9.52
<b>RTAs Survivor's children</b>		
<b>N= 84</b>	<b>Frequency</b>	<b>Percent</b>
<b>Gender</b>		
Male	27	32.1
Female	57	67.9
<b>Age</b>		
10-13	35	41.7
14-17	29	34.5
17-20	14	16.7
Over 20	6	7.1

As presented in the Table 4.1, the majority of RTAs Survivors were male 31(73.8%) while the females were a minority at 11(26.2%).

The majority of the RTAs survivors' children were females 57(67.9%) while the males were a minority at 27(32.1%). From the study findings, the results suggest that the majority of road traffic accident survivors in Kiambu County were mostly males while the females made the minority of the RTAs survivors. Further, the results on gender of the RTAs survivors' children also revealed that majority were females while the male children are few. Based on the fact that the majority of the survivors' children were females, who in the African society help their mothers take care of the family, then it was highly likely that these female children had to remain at home to aid their mothers in taking care of their siblings and running other household chores while their parent or guardian was recovering from the trauma caused by RTAs.

The respondents were also asked to indicate their age and the findings were as presented in Table 4.1. As Table 4.1 presents, the majority of the RTAs survivors were aged between 30 and 39 years 18(42.9%) and 40 and 49 years 12(28.6%). Those below 30 years were only 2(4.8%) while those between 50 and 59 years were 9 making up 9(21.4%) of the respondents and lastly those over sixty years were only 1(2.4%). From the findings, it can be discerned that the majority of RTAs survivors were aged between 30 and 50 years. This was the age category where majority of the adults were starting their families while some had children right from primary schools up to tertiary learning institutions. The majority of the parents in this age group were the sole supporters of their children's educational endeavors. Getting into a road traffic accident at this age, therefore

implied that the family, more so the children who were in school would suffer significantly.

In regards to the RTAs survivors' children, the majority of them were aged between 10 and 13 and 14 to 17 years 35(41.7%) and 34.5%) respectively. Those between 17 and 20 years were 14(16.7%) and those over 20 years made up 6(7.1%) of the respondents. Based on the age categories of the children, it was evident that majority of them were at the school going age, and more so, they were not at an age category where they were able to support themselves economically or oversee their education payment. Based on these findings, it was therefore evident that involvement of a single or both parents in any accident that would cripple their economic ability would lead to severe consequences for the children. Most importantly, the education of the children is what stood at the highest risk as the parents are in charge of paying for the school fees, purchasing school uniforms and ensuring that their children's mental, spiritual and financial requirements are met.

The RTAs survivors were asked to indicate the number of children they had. This was important since the number of children determined the ability of the parents to continue educating their children and had a great potential on the outcome of their education. The findings are as shown, in table 4.1. As presented in table 4.1, the majority of the RTAs survivors; 23 (54.76%) had between 3-5 children, while 15(35.71%) had two or less children while 4(9.52%) had more than six children. From the findings, it can be seen that the majority of the RTAs survivors had more than three children. With the high number of children who needed the financial support of their parents, the effect of the RTAs on

the family's financial well-being could be greatly impacted. This is more so in the families where there are more than two children each with their own set of needs that the parent is expected to meet. With the parent's financial capabilities disabled by the road traffic accident, then the parents with more children were likely to be more negatively impacted financially. This had the potential to have a direct negative impact on the family and the community who were burdened with the effects of the RTAs. These findings are similar to those put forth by Sabet *et al.* (2016) who found that RTAs had difficult challenges in reintegration into their homes, the community and systems such as education. Most of the victims were functionally limited from returning to systems such as education, with their relatives being affected either financially or by taking time off their academics to take care of the victims. The effect was more so for the RTAs survivors with more children who depended on them for financial support.

#### **4.4 Academic achievements of RTAs survivors children**

**Objective One:** Purposed to analyze the academic achievements of RTAs survivors' children before and after occurrence of accidents in Kiambu County.

First, the researcher asked the RTAs survivors' children to indicate whether or not their parents were their main source of livelihood, whether they were in school before the accident, whether they were able to continue with their education after the accident, whether they were able to achieve their milestones, and whether they remained in the institution they were in before the accident occurred. Table 4.2 presents their responses.

**Table 4.2: Situation of RTAs children**

		Yes	No
Was he/she the source of your livelihood?	F %	84 100	0 0
Were you in school before the accident happened?	F %	84 100	0 0
After the accident, were you able to continue with your education as before?	F %	69 82.1	15 17.9
Are you still in the institution where you were schooling before your parent/guardian got accident	F %	62 73.8	22 26.2

As can be seen in Table 4.2, all the RTAs survivors' children agreed that their parents were their main source of livelihood. Based on this fact, it was evident that the effect of the RTAs on the parent's ability to provide economically for his or her family would have a direct negative impact on the child's education. As the children relied on their parents for their day to day needs, it was evident that the impact of the RTAs on the financial abilities of the parents or the guardians had a direct negative impact on the children. With their only source of livelihood crippled, the lives of the children would also be impacted negatively, leading to a discontinuation of normal activities or calling off a part of their lives to fit in with the changes brought forth by their parents' loss of livelihood from RTAs. These findings are similar to those reported by Ngunjiri (2016)

that survivors have to seek leave from work and education. In some cases, their relatives have to seek leave from work or academics to help the victims in recuperation. Consequently, the children and their relatives are forced to seek alternative sources of income as not only is their main source of livelihood being cut, but they also have to find funds to help cater for the needs of their parents as well as their own. Further, the children, as they lose their source of livelihood are forced to mature and take up adult responsibilities including providing for the younger siblings by going out and engaging in income generating activities.

As a result, the children's educational attainment is bound to be negatively impacted as their time, attention and energy shifts from focusing on their education to finding ways to meet the financial needs of the family. These findings are similar to those made by Perez and Widom (2014), who found out that the performance of students dropped significantly and linked this drop in academic achievement to challenges associated with financial constraints as well as the lack of time to concentrate on one's studies as most often the children had to take up extra responsibilities of caring for their parents. Anndurai, Mani and Danasekaran (2015) also reported that there was a significant drop in the achievement of learners after their parents were involved in motor vehicle accidents. They found that most of the students quit school to take care of their ailing parents or to care for their younger siblings. These findings suggest that other family members despite being granted leave had to go back to work after a while and due to the limited financial ability of the family after the accident, no extra help could be afforded to care for the survivor. The findings support the theory of family and trauma which indicated that an

injury to a family member can affect the entire family by limiting the systemic functions (Hill, 1949).

Further, it could also be revealed that all the children were in school before the accident occurred. The table also shows that majority of children of RTAs survivors 69 (82.1%) stated that after the accident they were able to continue with their education as before while 22(26.2%) did not continue with their education as before the accident. From these results, it could be revealed that a number of the children were forced to discontinue their education after their parent's or guardians' accident. The findings suggest that after the accident, the children's lives were impacted negatively, but more so their education, where a section asserted that they were not able to continue with their studies as before.

This could be associated with the previous findings where all the children had stated that their parents were their main source of livelihood. As education is a major aspect of the parent's role as a source of livelihood to the child, then it remained a reason that their education would not be the same after the RTAs. For those children who are forced to discontinue with their education, it was evident that the loss of their sole source of livelihood had a significant negative impact on their lives as they are forced to take up the responsibilities previously borne by the parents. Furthermore, the children's education is highly reliant on the parent being able to meet the financial obligations that comes with school attendance. However, with the sole source of livelihood gone, then the support required by the children is also gone leaving the children with no one to support them forcing them to discontinue with their education. These findings are similar to those reported by Meknnen and Teshagar (2014) who found that road traffic accidents was a

neglected health problem in Ethiopia resulting in a chain of negative, but severe impacts on the individual and their families. They reported that the educational attainment of the survivor and their dependents is also stunted or delayed as they deal with the unexpected challenges that arise due to the accident including the loss of one's job or ability to engage in income generating activities forcing their children to either drop out of school, change schools or repeat classes.

Further, as Merete, Addington, Wither, Schimiegelow, and Andersen (2018) report, the academic achievement of the students dropped as they were forced to drop out of school and care for their parents. The decline in the academic performance of some students was associated with the financial strain as well as the added responsibilities facing the children after a traumatic event affecting the family member. Often, the children were forced to step up and bear the burden of caring for the survivor or leave school to cater for the financial needs of the family. From these findings it is evident that the road traffic accidents affected the student's academic lives as most had to drop out of school to care for their parents and fill in the roles of being both the caregiver and in some cases the financial providers.

In regard to changing institution, 62 (73.8%) of the children said that they were still in the institution they were schooling in before their parent or guardian got involved in the accident while 22(26.2%) asserted that they had changed schools. When asked why they were not in the same institutions, most of the children cited high fees or moved to upcountry as being the key reasons for their shift in learning institutions. The effects of the RTAs on the children of the survivors were evident on the need to shift schools. Dai,

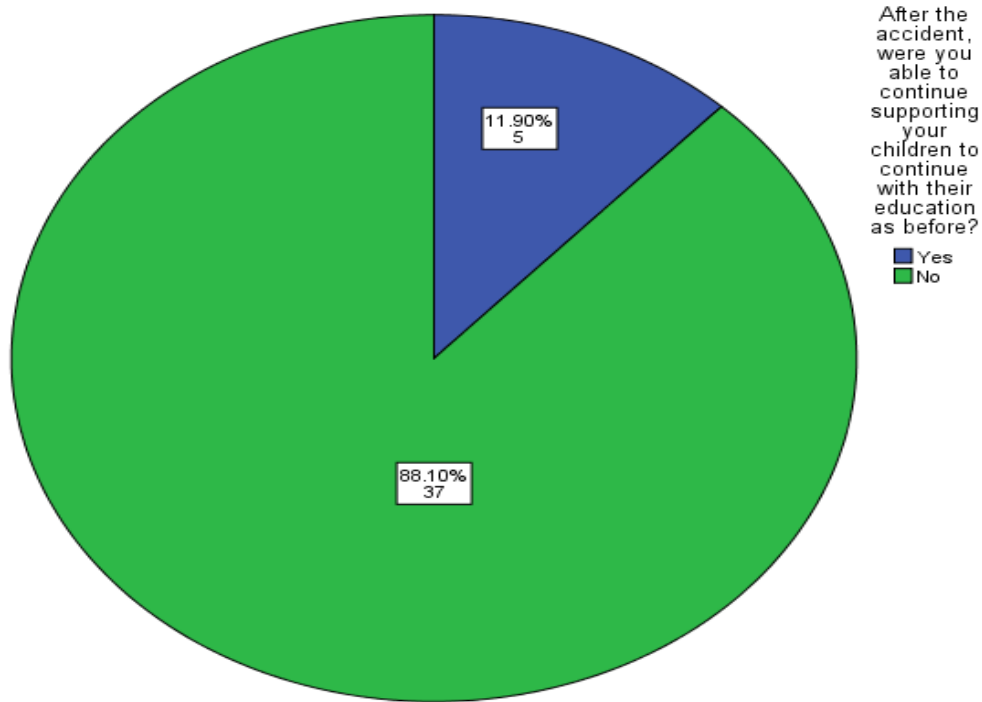
Liu, Kaminga, Deng, Lai, Yang and Wen (2018) showed that the children's academic achievements were affected as they bore unexpected responsibilities due to their parent's inability to provide effectively for them emotionally, mentally and economically. After the RTAs, families' finances were often greatly diminished due to the costly treatment processes and loss of employment. These findings uphold the provisions of the family and trauma theory used in the study which argued that once families are exposed to trauma cause by injuries, they are susceptible to systemic dysfunction.

From the interviews it was found that after the road traffic accidents, the families were forced to undergo serious financial cuts. One respondents indicated, *'after the accident, we underwent several challenges as we lost our source of income and we had to make several adjustments which included moving to other lower-standard neighborhoods or to upcountry and changing the children's schools to minimize expenditures.'* The key reason for the change in learning institutions was the need to move upcountry. These findings suggest that the majority of RTAs survivors were not in a position to pay for their rent in the urban centers or afford the high cost of living associated with the urban centers. To cut down on expenses, the RTAs survivors opted to move upcountry to minimize their expenses. The move also signifies the parents' loss of their prior jobs or source of income. The change in places of residence would warrant the change of learning institutions. Often, the change would be to a lower standard school where the school fees would be manageable. Other children cited the high cost of bus fare and school fees showing that they probably had to shift from a private school to a public one upon their relocation to upcountry. The sudden change in learning institutions and the parent or guardian's inability to provide would have a potential impact on the child's educational

achievement. These findings are corroborated by a study conducted by Sabet *et al.* (2016) who found that RTAs had difficult challenges in reintegration into their homes, the community and systems such as education. Most of the victims were functionally limited from returning to systems such as education, with their relatives being affected either financially or by taking time off in their academics to take care of the victims.

Similar observations are made by Elbert, Schauer, Huschka, Hirth and Neuner (2019) who found that in Sri Lanka, the performance of students after a traumatic event, declined significantly due to lack of emotional, mental and financial support by the parents or guardians following the event. They reported that when parents are physically challenged after the traumatic event, the children have to step up and deal with the aftermath by themselves with no financial or mental support from the parents. From these findings, it can be deduced that being involved in road traffic accidents led to a chain of events which negatively affected the lives of the children who had to relocate not only from their homes, but also change schools to be able to afford their expenses; supporting the family and trauma theory which indicated that being exposed to trauma resulting from injuries can result in severe familial dysfunctions.

Secondly, the researcher then asked the parents to indicate if they were able to continue supporting their children's education after the accident as before the accident. Figure 4.1 presents their responses.

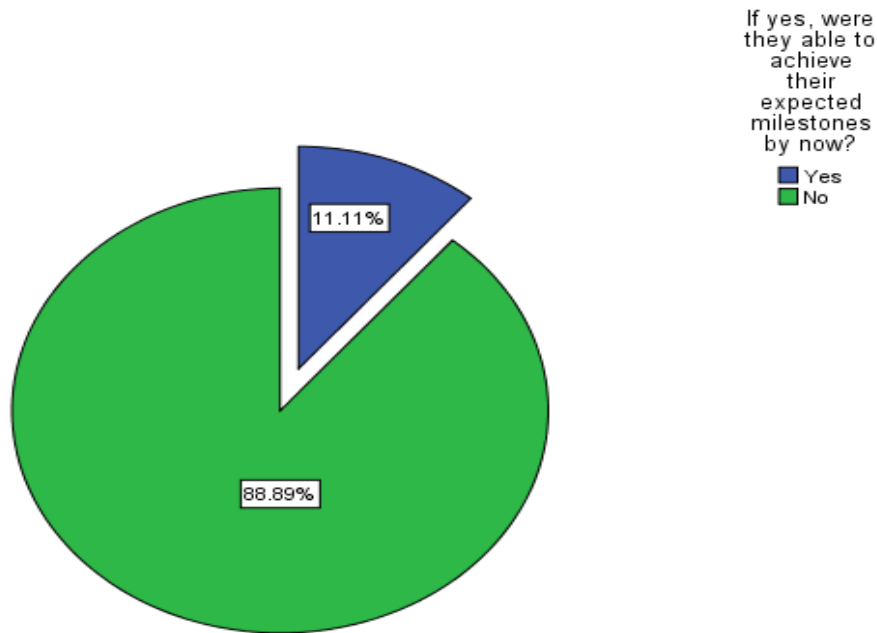


**Fig 4.1 Survivors' ability to support their children after the accident**

Figure 4.1 reveals that the majority of RTAs survivors 37(88.10%) asserted that they were not able to continue supporting their children to continue their education after the accident as it was before while only 4(11.90%) stated they were able to support their children's education after the accident just as before. The findings imply that the majority of RTAs survivors are not in a position to provide sufficient support for their children to continue with their education after the accident. These findings are similar to those reported by Abagale *et al.* (2013) who found that RTAs affected annual income of the victims' families, affecting the general livelihood of their children, especially in their education endeavors. RTAs imposed a huge economic burden to the victims and their families, making them unable to access human needs for themselves and their families. This directly affected education for both victims and their families. These were similar to

the findings by Sabet, *et al.* (2016) who found that the victims' children could not continue with their education due to their parents' inability to finance their education. These assertions may also explain the previous observations by the children that they had to change their learning institutions and were unable to continue with the education as they did before their parents or guardians got involved in RTAs. The children cited the move to upcountry and high costs of education which was linked to the parents' assertions that they were not able to support their children's educational endeavors after the RTAs. Linked with the findings by Albagale *et al.* (2013) and Sabet *et al.* (2016), the findings from this study suggests that the financial constraints as well as the general loss of livelihood by the parents and guardians after the road traffic accidents also affected their children's education. According to the theory of family and trauma, effectiveness of the family response to the traumatic event should be focused on the interplay of the context of the stressors, the perceptions of the family and the society to these stressors and the resources at the disposal of the family to cope with or overcome the trauma (McCubbin & Patterson, 1983). Thirdly, the researcher asked the RTAs survivors whether their children were able to achieve their education milestones. Their responses are presented in Figure 4.2.

**Fig 4.2 Survivors' opinion on whether their children were able to achieve expected milestones**



As displayed, the majority of the respondents 88.89% asserted that their children have not been able to meet their expected milestones while only 11.11% stated that their children achieved their expected education milestones. These findings imply that RTAs have a significant negative impact on the ability of children to achieve their education milestones. Academic milestones are directly linked with the children's ability to continue with their education without the constant shift in learning institutions. With the occurrence of the road accident and the previously cited inability of the parents to meet the educational needs of their children, then it was probable that the academic milestones of their children would be affected. According to Anndurai, Mani and Danasekaran (2015) most of the victims of RTAs are functionally limited from returning to systems such as education, with their relatives being affected either financially or by taking time

off their academics to take care of the victims. Similar findings were noted from the study on recurring tragedy of road traffic accidents in India where just like in Kenya; the majority of the children of the survivors had lower academic achievements due to disruptions in their studies occasioned by financial difficulties or taking on the burden of caring for their parents. Additionally, Fejadu, Mekonen, Belete, Belete and Yohannes (2019) reported that children's education was negatively impacted as they were not able to provide them with financial as well as mental and emotional support required for children to flourish academically. These findings imply that following road traffic accidents, the children's achievement of milestones such as completing their education, transitioning to the next educational endeavors and even the grades obtained are often negatively affected. The researcher then sought to determine what happened to the children after their parents had an accident, and their responses are presented in Table 4.3

**Table 4.3 RTA survivor's children's views on the outcomes after the Road Traffic Accident**

<b>RTA Survivor's children</b>		
<b>Outcomes after accident</b>	<b>Frequency</b>	<b>Percent</b>
I discontinued My Education	13	15.5
I called off my education	57	13.1
I opted for lower qualification	11	96.4
I continued with my education	3	3.6
	<b>84</b>	<b>100</b>

According to the children, the majority 57(67.9%) stated that they had to call off their education after their parents' were involved in an accident. The need to call off their studies may be attributed to the need for them to assist in the care of their parents. After the accident one of the parents has to oversee the care of their partner, but the children are also often involved in their parents' or guardians' care, either by taking care of other siblings or directly caring for the parent. The other plausible cause is the earlier stated observation that parents could not meet the education needs of their children positing that they were their child's main source of livelihood. The inability to meet the education needs of their children, more specifically financially, the children are often forced to call off their education. According to Mekonnen and Teshagar (2014) road traffic accidents are a neglected health problem in Ethiopia resulting in a chain of negative and severe impacts on the individual and their families. They reported that the educational attainment of the survivor and their dependents is also stunted or delayed as they deal with the unexpected challenges that arise due to the accident including the loss of one's job or inability to engage in any income generating activities; forcing their children to either drop out of school, change schools or repeat classes. These assertions are supported by Dai, Liu, Kaminga, Deng, Lai, Yang and Wen (2018) who report that the children who experience trauma are often forced to discontinue their education.

From these findings, it can be deduced that after the accident, the students' academic attainment declined with the children being forced to either drop out of school, choose a lower qualification i.e. they opted to go for a certificate instead of a diploma and discontinue their education.

Some 13(15.5%) of the children stated that they were forced to discontinue their education, after their parents were involved in the road traffic accident while 11(13.1%) opted for lower qualification while 3(3.6%) continued with their education after their parents' were in road traffic accidents. The findings discussed suggest that after the road traffic accidents, the children's education is impacted greatly with the children either having to call off, opt for lower qualification or discontinue their studies for a while. These findings are corroborated by Ngunjiri (2016) who indicates that survivors often have to seek leave from work and education. In some cases, their relatives have to seek leave from work or academics to help the victims in recuperation. The findings support earlier observations where the researcher had pointed out that the parents asserted their children were unable to continue with their education before the accident as they were not able to effectively support their educational endeavors. These assertions are also made by the children who stated that not only did they have to change their learning institutions, but were unable to continue with their education after the accident as they did before the accident. The assertion reveal the burden that is described by Ngunjiri (2016) who claims that often, the family and relatives of the person involved in the accident carry the burden of the accident. It was therefore, no coincidence that after their parents or guardian's accident, the children were unable to continue with their education as before. With their parents crippled both financially and physically, their lives are impacted greatly which has a direct impact on their education.

Furthermore, Dyregrov and Dyregrov (2015) purports that students were reported to struggle with learning, reduced achievement in exams and learning setbacks. Some reported that the students had to change schools as their families relocated due to the

inability of the remaining parents to sustain the family's lifestyle effectively. Often, the students were reported to relocate to the upcountry as their families shifted to minimize the economic expenditures. Additionally, most of the children are also often forced to join lower institutions than they would have chosen if the survivor had not been involved in a road traffic accident. This is closely tied with the financial challenges that come with the parent not being meaningfully employed or the majority if not all the funds being channeled to the treatment of the surviving parent. The children are forced to go to technical colleges or polytechnic to develop skills to facilitate employment whereas their previous academic achievement showed potential of joining universities. Table 4.4 shows the findings on how education of the survivors' children was affected after the accident.

**Table 4.4: RTA survivor's views on the outcome after the accident**

<b>Outcomes after accident</b>	<b>Frequency</b>	<b>Percent</b>
Some discontinued their education	8	19.0
All discontinued their education	12	28.6
Some called off their education for a certain period	15	35.7
They opted for a lower qualification for them	5	11.9
They continued with their education	2	4.8
<b>Total</b>	<b>42</b>	<b>100.0</b>

As the Table 4.4 presents, 8(19%) of the parents stated that some of their children discontinued their education, 12(28.6%) stated all their children discontinued their education, 15(35.7%) asserted that some of their children called off their education for a certain period, 5(11.9%) opted for lower qualification for a certain period and 2(4.8%) stated that their children continued with their education. The findings above are similar to the children's claims that the majority (67.9%) of the children had to call off their education.

From these findings, it was evident that on the occurrence of the road traffic accident, all of the survivors' children's education was impacted one way or the other. Some of the children had to call off their studies to care for their younger siblings or their disabled parents. These assertions were reported by Anndurai, Mani and Danasekaran (2015) who found that there was a significant drop in the achievement of students after their parents were involved in motor vehicle accidents. They found that most of the students quit school to take care of their ailing parents or to care for their younger siblings. Often, other family members despite being granted leave had to go back to work after a while and due to the limited financial ability of the family after the accident, no extra help could be afforded to care for the survivor. From these findings, the researcher deduces that children are often forced to quit school either for good or for a period of time to act as caregivers to their fellow siblings or for the parents who survived the road traffic accident.

Moreover, with most Kenyans living in poor economic conditions, majority do not afford to hire professional caregivers; hence the family members are forced to step up and

provide the much needed care. Often, this responsibility falls in the other spouse or the children if the spouse is employed. Children are therefore forced by the effects of the road traffic accidents to quit or put off their studies until the survivor gets better or an alternative source of care is identified and availed.

For others, the lack of school fees due to the financial difficulties faced by their parents was a major reason for their discontinuation in education or calling off their education for a significant period of time. Moreover, as Abagale *et al.* (2013) states, RTAs affects the annual income of the victims' families, affecting the general livelihood of their children, especially in their education endeavors. RTAs impose a huge economic burden to the victims and their families, making them unable to access human needs for themselves and their families. This directly affected education for both victims and their families. The same sentiments are expressed by Ngunjiri (2016) and Ndungu, Ratemo and Mwai (2015) who observed that the effect of RTAs on the academic endeavors of RTAs survivors' children can be far reaching. It not only affects the parent or guardians' income, but also affects the children's ability to attend school.

The young children are suddenly burdened with more adult responsibility where they have to step in and provide care for their parents which should traditionally be the role of the parent. With increased responsibilities at home as well as the financial constraints, the children's education would be negatively impacted. Moreover, it can also be seen that a section of the parents as well as their children asserted that they opted for a lower qualification. These findings show that for a section of the RTAs families, the financial

challenges associated with the RTAs forced the parents to opt for cheaper schools as well as lower qualifications in terms of tertiary education for their children after the accident.

The researcher further asked the respondents how their examination performance was affected after the accident and their collective responses are as shown in Table 4.5. The aim of the examination performance was to measure the students' academic achievement.

**Table 4.5: Examination performance after the accident**

RTAs Survivors			RTAs Children's Survivors		
Performance after accident	Frequency	Percent	Performance after accident	Frequency	Percent
Nothing Changed	2	4.8	Nothing Changed	2	2.4
They performed better	1	2.4	I performed better	10	11.9
They performed lower	39	92.9	I performed lower	72	85.7
<b>Total</b>	<b>42</b>	<b>100.0</b>		<b>84</b>	<b>100</b>

The Table 4.6 shows that the majority of the respondents felt that after the accident the children who were in primary and secondary school performed lower in their examination evident in the high frequency of 39(92.9%) and 72(85.7%) from the RTAs survivors and their children respectively. Only 2(4.8%) and 2(2.4%) of the respondents reported that nothing changed in their examination performance while 1(2.4%) of the RTAs survivors

claimed that their children performed better and 10(11.9%) of the children also reported that their performance was better after the accident. From these findings, it can be deduced that road traffic accidents have a negative impact on the academic performance of learners evident from the high number of respondent who reported that their examination performance declined following their parents' involvement in accidents.

According to Anndurai, Mani and Danasekaran (2015) RTAs have devastating effects on the educational achievements of the survivors' children and their close relatives as return to normal life is always a difficult process. In the current study, there is evidence of the devastating effects of RTAs accidents on the lives of families and more specifically the education of the survivors' children. From the findings, only a minority of the respondents 2(4.8%) and 2(2.4%) of the respondents observed that nothing changed in their examination performance and 1(2.4%) of the RTAs survivors reported that their children performed better and 10(11.9%) of the children also stated that their performance was better after the accident. The findings suggest that after the accident, it was only a minority of the survivors' children who were able to continue with their education endeavor and have their performance remain the same or be better than before their parent or guardian's got into the RTAs. For the majority of the children, both the parents and the children themselves stated that their performance declined since the accident occurred.

According to Ndungu, Ratemo and Mwai (2015) RTAs effects are serious, and the family members bear the brunt of the effects of the accident. In this case, the performance of the children is an evident of negative effect of road traffic accidents on the family of the

survivors. The decline in performance may be attributed to the change in learning institutions as earlier asserted by the learners in Table 4.3. Further, the parents also claimed that they had challenges meeting the education needs of their children due to financial difficulties. Additionally, the high numbers of children who called off, discontinued or opted for lower qualification education prove that their education was disrupted and this had a negative impact on their overall academic performance. Overall, the findings reflect the negative effect of the traffic accidents on the educational achievement of the children those parents were involved in RTAs. In order to determine if there was a significant difference in the academic performance of learners before and after the road traffic accident, paired sample t-test was employed. Table 4.6 displays the t-test results.

**Table 4.6: Paired Samples Statistics**

	<b>Mean</b>	<b>N</b>	<b>Std. Deviation</b>	<b>Std. Error Mean</b>
Exam before RTA	482.2341	84	168.72228	18.40911
Exam after RTA	330.6865	84	127.71270	13.93460

From the results shown in the Table 4.7, the mean performance of students before the RTAs was 482.23 and their performance after the road traffic accident was 330.68. The mean results of the children of RTAs survivors before and after the accident shows that their performance before the road traffic accident was better than after their parents or guardians got into the RTAs. Based on these results from the document analysis guide, it

can be discerned that RTAs negatively affects the academic achievement of learners. Mathews (2015) asserts that children of road traffic accident survivors had significantly poor educational attainment post-accident. This was associated with high levels of depression and inability to cope with challenges following the accident including financial constraints due to loss of employment and source of livelihood. They found that this problem was more inherent in families with single parents or where one parent supported the family. They found a significant association between the occurrence of an accident and low attainment of academic goals. Mayou, Tyndel and Bryant (2017) also reported similar findings as their study revealed that the academic achievement of children of accident survivors was significantly lower. They attributed this to the economic and social challenges that come up from losing employment and having to provide care for the survivor which takes a toll on the attainment of academic goals.

In overall, the RTAs effect on the learners' academic achievement led to a decline in their academic performance as evidenced by the higher mean score of 482.23 before the accident and a low mean 330.68 after the road traffic accident. According to Table 4.6, the majority of survivors and their children 39(92.9%) and 72(85.7%) respectively asserted that their performance declined after the road traffic accident. From these initial findings, it was evident that the majority of the respondents associated the road traffic accident with the decline in academic performance. Linked with the means from three examinations of the children before and after the study, it was evident that the decline earlier stated by the respondents can be proven by the decline evident in the means where before the accident; the children had a mean of 482.23. After the accident, the average mean of the children's exam was 330.68 after the parents or guardians were involved an

accident. The differences in the means is over 150 marks which show the significant difference the road traffic accident made on the academic performance of the children.

Before the accident, the performance of the children was remarkable with the majority performing above average, however, with the occurrence of the accident, the mean performance declines significantly. The impact of the change in learning institutions, inability of the parents to meet the education needs of their children as well as the need to discontinue or call off part of their education evidently had an impact on the overall performance of the learners. These findings support the assertions made by Sabet *et al.* (2016) who observed that while most of the victims were functionally limited from returning to systems such as education, with their relatives being affected either financially or by taking time off their academics to take care of the victims. The RTAs have devastating effects on the educational achievements of the survivors' children and their close relatives as return to normal life is always a difficult process. The decline in the means prove these assertions which are also stated by Ngunjiri (2016) who observed that the effects of the financial strains caused by parents' disability affect the children and their educational endeavors.

Other findings from Saacti, Thomas, Botting, and Sutcliffe (2018) study also showed that childhood cancer survivors were more likely to remain at the compulsory level and less likely to complete their secondary education or tertiary education. Additionally, their findings revealed that the children were more likely to require special education needs. Moreover, those who progressed to secondary or tertiary education often continued to perform dismally as compared to their peers. In order to determine if difference in the

performance was statistically significant, a paired t-test was conducted and the findings are as shown in Table 4.7

**Table 4.7 Paired Samples Test**

	Paired Differences				T	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error	95% Confidence Interval of the Mean Difference			
				Lower	Upper		
Exam before – Exam after	151.5476276	276.31218	8.32634134	98.686168	108.3818	20183	.000

The results in Table 4.7 shows that at 95% confidence level interval, the influence of the road traffic accident on the learner's academic performance was statistically significant at p value ( $0.000 < 0.05$ ). The findings imply that after the road accident, the learners' academic performance declined and the observed difference in academic achievement can be attributed to their parents or guardians being involved in a road traffic accident. The findings from the paired t-test analysis corroborate the earlier assertions by the parents and learners in Table 4.5 which showed that the majority of the respondents felt that after the accident the students who were in primary and secondary school performed lower in their examination 39(92.9%) and 72(85.7%) from the RTAs survivors and their

children respectively. This is also evidenced in Table 4.7 where the mean performance of students before the RTAs was 482.23 and their performance after the road traffic accident was 330.68. The findings may be attributed to the observations put forward by Anndurai, Mani and Danasekaran (2015) and Ndungu, Ratemo and Mwai (2015) who found that most of the victims were functionally limited from returning to systems such as education, with their relatives being affected either financially or by taking time off their academics to take care of the victims. The identified significant difference in the mean scores of the children before and after the accident proves that road traffic accidents have a huge effect on the educational outcomes of the children whose parents are involved in road traffic accidents.

Before the road traffic accident that involved their parents or guardians, it can be observed from the high mean of 482.32 that the children were performing way above average in their examination. The support they were getting from their parents from financial provision of their educational needs as well as the freedom from the burdens imposed by the disabilities brought forth by the road traffic accident gave them an ample opportunity to focus on their studies. With the road traffic accidents, however, the lives of the children and their families changed drastically. The RTAs survivors asserted that they were not in a position to support their children's academic endeavors, and coupled with the fact that all the children stated that their parent or guardian involved in the RTAs was their main source of livelihood, it is natural that their educational endeavors would stall after the parent or guardian became incapable of providing the funds and support for the children to meet their educational needs. Absenteeism through calling off or discontinuing with one's education would also have a significant effect on the children's

educational outcome as they missed a part of the learning process while caring for their parents or when moving to another school up country. This corroborates the findings by Adeloje *et al.* (2016) assertions that the economic burden brought about by the road traffic accidents can have a chain effect on the lives of the victims. It cripples the parents physically and their ability to provide for their family. It extends to the extended family and more so the children who are directly affected by their parents' or guardians' sudden inability to provide for them as they did previously.

Similarly, Perfect, Turley, Carlson, Yohanna and Gilles (2016) also found that there was a significant association between academic, cognitive and teacher-reported social, emotional and behavioral outcomes and the traumatic exposure. They found that children whose parents experienced domestic violence, had been involved in road traffic accident or work-related accident were more likely to perform poorly academically, behaviorally and emotionally. In a similar study, Reyome (2014) examined teacher rating on the student's achievement in children exposed to trauma. The researcher found that a significant association existed between exposure to trauma and the children's poor performance in school. From these findings, it can therefore, be deduced that road traffic accidents had a negative effect on the academic achievement of the road traffic survivor's children.

#### **4.5 Educational Support System**

**Objective Two:** Sought to examine the educational support system available for RTAs survivors' children in Kiambu County. The researcher presented the respondents with a range of questions to determine whether there is an educational support system available

for RTAs survivors' children. The Table 4.8 presents the RTAs survivors and their children's responses.

**Table 4.8: Support system available**

Support system	RTAs Survivors		RTAs Children's Survivors		
		Frequency	Percent	Frequency	Percent
After you got the accident, were you given any support to enable your children to continue with their education	Yes	4	9.5	3	3.6
	No	38	90.5	81	96.4
From your experience, can you say the assistance provided has been consistent and sustainable	Yes	1	2.4	1	1.2
	No	42	97.6	83	98.8
<b>Total</b>		<b>42</b>	<b>100.0</b>	<b>84</b>	<b>100</b>

As displayed in the Table 4.8, the majority of respondents asserted that there is no support systems in place to aid RTAs survivors educate their children. For instance, the majority of RTAs survivors 38(90.5%) said they got no support while only 4(9.5%) said they got support. According to the children, only 3(3.6%) said they got support while the

bulk 81(96.4%) said they got no support. These findings contrast the findings by Cohen and Dehejis (2015) who found out insurance companies had benefits to the victims by cushioning them from incurring severe economic implications. This helped the survivors and their dependents to continue their normal life activities such as education. The differences in findings may be attributed to the differences in the economic status of Kenya and the U.S. In their study Cohen and Dehejis (2015) studied insurance policies in the U.S which is a developed country while Kenya insurance system coverage faces many challenges and the victims of some of the road traffic accidents may not have comprehensive cover. Moreover, according to the results by Abagale *et al.* (2013), RTAs affected annual income of the victims' families, affecting the general livelihood of their children, especially in their education endeavors.

From the interviews, the road traffic accident survivors argued that '*we rarely get any benefits that are accorded to the families of the RTAs survivors; the economic burden can be overwhelming.*' The insurance companies, county governments and other organizations were not cited by the respondents as ones that offered them any support to help educate the children of the survivors. One RTA survivor argued 'I cannot support my children's education endeavors after the accident because my source of income was cut short as I could not meet my obligations effectively at work.' This shows the serious economic impact of the accident on their livelihood. The majority asserted that after the RTAs, they could no longer support their children. This is where support from insurance companies, county governments, NGOs among other organizations would have helped the children achieve their education milestones while also minimizing the number of children forced to discontinue or call off their education as a direct consequence of their

parent or guardians' involvement in the road traffic accident. The apparent lack of support geared towards the provision of educational support to the RTAs survivors' children could also contribute to the declined performance identified by the t-test results which showed that the performance of the children in their examinations declined significantly after their parents or guardians got into the road traffic accident.

In contrast, the findings reported by Kibet (2014) sought to analyze the efficacy of the insurance act in relation to its benefits on the insurer, the insured and third party. The study analyzed the legal history and contextual development as well as appropriateness of schemes. The study found out that when the interests of all stakeholders were taken into account, the victims and their children stood to benefit, limiting financial costs that would limit their ability to continue with education. Similarly, Teara's (2014) study in Ethiopia also showed that insurance claims can help support education endeavors of the RTAs survivors' children. However, from the results in the current study, none of the respondents stated that they received any sort of support from insurance companies. This can be linked to the complexities in the legal system identified by Kibet (2014) who despite stating that when all the interests of the stakeholders are taken into consideration, then the victims and their children stand to benefit, there is an evident lack of consideration for all the stakeholders. The survivors of RTAs and their children in the current study did not report getting any support from insurance companies which points towards an evident gap between the claims by insurance companies on cushioning the victims and their families from the impacts of RTAs to what the survivors and their children actually experience on the ground. The findings from this study points towards the complexities of the legalities of the insurance sector in Kenya; how it constraints the

financial support that could be given to road traffic accident survivors and their families to cushion them from economic burdens.

The respondents were then asked whether from their experience they could say that the assistance provided was consistent and sustainable but the majority disagreed that the support was consistent or sustainable where 42(97.6%) survivors disagreed while only 1(2.8%) said that the support was consistent and sustainable. Similarly, only 1 child (1.2%) said the support was consistent and sustainable while 83(98.8%) said the support was neither consistent nor sustainable.

The findings show that the existing support for the educational endeavors of the RTAs survivors' children is limited and this may be because the majority of the groups helping the children are NGOs and religious groups rather than well-established government programs and insurance claims that would ensure continued support to the children throughout their education. For instance, religious and NGOs rely on external funding by sponsors; hence they may not always have funds available to offer to the children. This is evident in River, Thakoordin and Billing's (2016) study which revealed that often, the support provided for the children is not sufficient. This saw the researchers targeting social support groups and NGOs that work together to develop projects that can be used by the children of the survivors and the survivors themselves to develop skills and pursue their education beyond the primary and secondary levels. By working on skills and talents, these groups ensure that the survivors do not only have an alternative source of income, but also give their children a chance to meet their set academic outcomes. The approach was found to be more effective in ensuring continued and consistent provision of educational support by empowering the children and their parents to be self-sufficient

by developing their skills. Generally, the findings imply that the financial support provided is often not sufficient to meet the needs of the families calling for a review of potential sources of income for the families.

The researcher had also asked the respondents to indicate which organization they received their support from and only 6(14.3%) of the RTAs survivors stated that they got support from religious organizations while all the children stated they got no support. Further, the parents stated that the support was in form of hospital fee payment and not for supporting their children's education. This has no significant effect on the children's educational endeavors. Tsujimura-Ito (2019) reported that there are various support groups for the victims and their families including victim support centers and self-help groups. They are offered financial, mental and social support to address individual needs of each survivor and their families. Okubo and Akutsu (2018) reported similar findings where they found that there are various support centers as well as self-help groups that focus on providing financial, emotional, and mental and in some cases physical rehabilitation services to the survivors of road traffic accidents. The study was, however, focused on the general support offered to the families, but there is no mention of specific educational support strategies for the children of motor vehicle accidents survivors.

Similarly, Abbasi, Ali, Rozi, Khan and Jooma (2019) reported that non-governmental organizations and religious groups set out to help the victims and their families meet their day to day needs. Further, the NGOs and other groups were found to set up funds for sponsoring the educational endeavors of the RTAs survivors' children. These studies show that most of the support survivors and their children get come from NGOs and

religious groups. This implies that the government does not set aside funds to help the children meet their educational needs once the parent is unable to provide financially for the children following the RTAs.

Moreover, it was evident that none of the respondents benefited from the insurance company claims yet as Mukreji (2015) states, if the victims are capable of establishing the negligence which led to the accident, then the insurance company can compensate them, hence reducing the negative implications on their children's academic achievements. They have needs in form of books, toiletries, fees, transport fee, pocket money, uniform and other demands that are neglected by the support identified by the respondents. Similar assertions are made by Ishaku, Habu and Magaji (2015) who posits that RTAs have had huge economic effects on the children and survivors. However, insurance covers significantly reduced the economic impact, helping the survivors and their dependents to continue with their life activities such as education. In the current case however, the insurance companies in the country are evidently not keeping up their end of the bargain, religious institutions are the only ones cited by the respondents as being the ones to support the payment of hospital bills.

Despite the cited support, the respondents observed that the support was not consistent and could not sustain their needs. From the findings in this study, this may be attributed to the increasing demands for care brought forth by the accidents. With the economic productivity of the survivor limited by the accident, then it stands to reason that the support from religious institutions, which is by good will, would not be consistent or sustainable. Consequently, there is apparent lack of support from any organization that

would ensure a consistent and sustainable alternate source of income of the RTAs survivors and reduce negative impact on their children's education.

#### **4.6 Societal perception of RTAs induced disabilities**

**Objective Three:** Sought to evaluate the societal perception of RTAs induced disabilities and its effect on academic achievement of survivors' children. The RTAs survivors and their children were presented with a range of questions seeking to solicit their views of societal perception of RTAs Induced disabilities.

First of all, the researcher asked the RTA survivors and their children to describe the relationship between them and the community members after their traffic road accident. Their responses are as presented in Table 4.9.

**Table 4.9: Relationship with community after accident**

	RTAs Survivors		RTAs Survivors	
	Frequency	Percent	Frequency	Percent
Better	1	2.4	1	1.2
Worse	33	78.6	77	91.7
No Change	8	19.0	6	7.1
<b>Total</b>	<b>42</b>	<b>100.0</b>	<b>84</b>	<b>100</b>

The Table 4.10 shows that the majority of RTAs survivors asserted that since their involvement in the accident their relationship with their community got worse 33(78.6%). The results from the RTAs survivors' children were also similar with the majority 77(91.7%) claiming that their relationship with the community got worse after their

parents suffered from the road traffic accidents. Smith (2018) findings were similar to those in the current study as his study showed that though the physical impairments were not a part of their life since birth, but resulted from an accident, the society was not so accommodating to the survivors and their families. They reported that often, they are frowned upon by members of the society, and even their children's teachers. They observed that it is more so for the women who struggle with mental issues following the traumatic event like post-traumatic stress disorder. These challenges extended to their children whom they stated were often bullied by their peers at school where they were called names and segregated. They felt that the schools were not efficiently protecting their children from the bullies as the teachers were a part of those propagating and projecting misperceptions about the physical disabilities to the other children. The same sentiments were expressed by Vilchinsky, Findler and Werner (2018) who found that when in the presence of an individual with disability; people have negative perceptions and attitudes towards them. Often, people distance themselves from people with disabilities.

Additionally, Mikulincer *et al.* (2018) reported that often, people react negatively when they interact with people with disability. The tendency to react negatively stems from the beliefs and attitudes embedded in the cultures of societies which associate disability with curses. The findings are critical in showing how the society perceives people with disability revealing that most people do not really understand what road traffic accidents are about or the ensuing disabilities that can occur. The findings support the family and trauma theory which argues that the family response to the traumatic event may be focused on the interplay of the context of the stressors, the perceptions of the family and

the society to these stressors and the resources at the disposal of the family to cope with or overcome the trauma (Hill, 1949).

On the other hand, only 1 (2.4%) of RTAs survivors and 1(1.2%) of children of RTAs survivors stated that their relationship with the community got better after the road traffic accident. Those who stated that their relationship with the community did not change were 8(19.0%) among the RTAs survivors and 6(7.1%) among the children of the survivors. These findings suggest that often, the victims of road traffic accidents and their families are affected by the accident, more so in regards to their relationship with the community who shun them. From these claims, it was evident that once an individual gets a disability from a road traffic accident, they are often shunned by the society which was also evident in a study by Katz, Shurka and Florian (2018) who reported that a negative perception towards those with disabilities perceiving them as cursed or community outcast. This limited the education and work attainment of the individuals and their families as accessing and enjoying basic things like education and medical care was a challenge due to the prevailing negativity towards them and those close to them.

Similarly, Fassin and Rechtman (2019) also reported that people with disabilities resulting from accidents are often victimized by other members of the society who associate their physical disabilities with curses. These findings show that survivors and their families often struggle to come to terms with the way the society perceives them and how these perceptions limit their attainment of social, educational and economic milestones. The researcher then went forth to provide the respondents with a range of

questions to solicit their views of societal perceptions of disabilities induced by RTAs. Their responses are as presented in the Table 4.10

**Table 4.10: Societal perceptions of RTAs induced Disabilities**

		RTAs Survivors' children	
		Yes	No
Are there stereotypes attributed to disabilities in general	F	64	20
	%	76.2	23.8
Are there ones that specifically target RTAs survivors and their children	F	69	15
	%	82.1	17.9
Can you say you have felt slighted by your fellow learners or instructors	F	81	3
	%	96.4	3.6
If yes, has it occurred in your learning institution either from your fellow instructors or learners	F	81	3
	%	96.4	3.6
Can you say stigmatization has affected your educational achievements	F	81	3
	%	96.4	3.6

**Table 4.11: Societal perceptions of RTAs induced Disabilities**

		<b>RTAs Survivors</b>	
		<b>Yes</b>	<b>No</b>
Are there stereotypes attributed to disabilities in general	F %	36 85.7	6 14.3
Are there ones that specifically target RTAs survivors and their children	F %	31 73.8	11 26.2
Can you say you have felt slighted by your fellow learners or instructors	F %	41 97.6	1 2.4
If yes, has it occurred in your learning institution either from your fellow instructors or learners	F %	40 95.2	2 4.8
Can you say stigmatization has affected your educational achievements	F %	41 97.6	1 2.4

The Table 4.10 and 4.11 show that the majority of RTAs survivors 36(85.7%) asserted that there are stereotypes attributed to disabilities in general while only 6(14.3%) stated that there are no stereotypes attributed to disabilities in general. Similar perceptions were seen from the children's responses where the majority 64(76.2%) claimed that there are stereotypes attributed to disabilities in general while 20(23.8%) stated that there are no stereotypes.

From the interviews, the respondents cited *'mostly, the community assumes that I have been cursed.'* This being the main stereotype associated with disabilities arising from RTAs. The presence of the stigma in the society associated with disabilities shows an inherent lack of understanding by the society on the causes of disabilities. With stigmatizations often leading to marginalization, then the effects of stigmatization of individuals living with disabilities would further contribute to the difficulties that come with the economic constraints brought about by the road traffic accidents. These claims were made by Barker (2017) whose study found that those individuals with disabilities were perceived as being inferior with some believing that those with physical disabilities were possessed by evil spirits. In some cases, those with disabilities are banished or ill-treated by other members of the society or rejected as outcasts. For the family members and close relatives, people with disabilities after accidents were reported to be termed as economic burdens. The same sentiments were expressed by Smith (2019) who found that stigmatization is rampant once an individual developed a physical handicap after an accident. The society perceived them as cursed and due to lack of understanding on how an accident can result in physical disabilities, deemed it as a punishment to the survivor and their families for some misdeed. These findings show that stigmatization is not only common in Kenyan societies, but is a concept that crosses the boundaries. It can be deduced that people have misconception of survivors of road traffic accidents and these are manifested negatively in how the society perceived individuals with disabilities.

The researcher then asked the respondents to state whether there are specific stereotypes targeting road traffic accident survivors and their children. The RTAs survivors 31(73.8%) reported that there are stereotypes targeting RTAs survivors while 11 (26.2%)

did not believe that there are stereotypes targeting RTAs survivors. In regards to the RTAs survivors' children, the majority 69(82.1%) concurred that there are stereotypes targeting RTAs survivors' children while 15(17.9%) disagreed that there are stereotypes targeting them. According to Hawthorn and King (2015) RTAs related disabilities had effects such as poverty and stigma that in turn affected life achievements such as education to both the victims and their children. These findings reflect the results on the study on impact of road traffic injury in North India (Jagnoor *et al.* 2015) who found that stigma affect victims of road traffic accidents who are often marginalized by the society and accused of being cursed. Similar assertions were made by Pitman and Delhanty (2015) who found that getting into an accident and then becoming physically handicapped led to a lot of stigma by other members of the society which saw the families of the survivors suffer alongside their family members. This is despite the need for strong social bonds to enable the family overcome the tragedy of having a loved one lose a physical ability due to an accident. These observations are also made by Devkota, Kett and Groce (2019) who report that in Nepalese rural communities, the perceptions of the people towards women with disabilities is negative and this discriminatory behavior extends to the children of these women. The findings imply that consequences of the discriminatory behavior on the lives of the women and their children were reported to be dire as these behaviors hindered their attainment of educational and work goals.

The respondents were then asked to state whether their children felt stigmatized in a way since their parents got involved in a traffic road accident. According to the RTAs survivors, the majority 41(97.6%) stated their children had been stigmatized while only 11 (2.4%) stated their children had not been stigmatized. Similar responses are observed

among the RTAs survivors' children where the bulk 81(96.4%) stated that they felt stigmatized since their parents got involved in a road accident while only 3(3.6%) were contrary to the claim. These findings are similar to those of Palmera *et al.* (2015) who found that besides the reduced levels of income, there were high levels of stigmatization that the adults claimed affected their children in school. Similar observations are made by Koszela (2013) who also reveals that education is one of the development aspects that are greatly affected by stigmatization. Based on the children and the survivors' observations that after the accident they were unable to provide for their children's educational endeavors and the lack of educational support from insurance companies, it was evident that the society also contributes to the challenges faced by RTAs survivors and their children in form of stigma. Stigmatization is cited by both the parents and the children after road traffic accidents. In regards to the children, continued stigmatization at a time when they require support from family, friends and the community would have a significant impact on their lives. Moreover, due to stigmatization, the society fails to support the victims and their children at a time when they require their financial assistance.

The researcher then went forward to ask the respondents whether they had experienced stigmatization in their learning institution either from their fellow students or instructors. The parents 40(95.2%) asserted that their children had experienced stigmatization from their instructors and fellow students while only 2(4.8%) stated their children had not been stigmatized by their fellow students or instructors. The children were also of similar opinions as 81(96.4%) said that they had indeed been stigmatized by their instructors and fellow students and only 3(3.6%) claimed they had not been stigmatized in school.

Among those who were stigmatized, the researcher asked them to indicate how they coped with the stigmatizations and most stated that they got counseling and encouragement from their parents. Similar findings are reported in Kenya by Bunning *et al.* (2017) who found out that poor understanding of disability in rural Kenya led to high levels of stigmatization experienced, limiting the ability of access to equal opportunities in relation to education and other life activities especially for the victims. Majority of the children and their parents or guardians cited curses as being one of the most common causes the community associated with the RTAs induced disability. The community fails to understand or link the road accidents to the disabilities suffered by the survivors. Due to their inability to understand the causes and consequences of road traffic accidents, then the compassion levels of the community towards the RTAs survivors and their families would be low.

Further, majority of the community disassociates itself with anyone linked to a curse or a disability. This shows that the families of the RTAs survivors would be exposed to constant prejudice and stereotyping which would in turn affect the children's education. Frosch (2019) also found that stigmatization on survivors of road traffic accidents and their children was high in secondary schools where the children were targeted by not only their fellow learners, but also the teachers who sidelined and bullied them as a result of the physical disability caused by accidents. Morrison and Casper (2016) found that the society was ignorant of the physical and mental injuries resulting from accidents. This, most often, makes the society stigmatize and avoid them despite having suffered the injuries while serving the society. In many cases, people overlooked the cause of the disability in favor of making assumptions based on embedded beliefs that disability is a

sign of a family curse or a penance for some sins committed by the person or their family. These findings show that in most cases ignorance of the effects of road traffic accidents contribute to the challenges faced by road traffic accidents survivors and their families.

Lastly, the researcher asked the respondents to state whether or not stigmatization had affected the educational achievements of their children. According to the parents 41(97.6%) asserted that stigmatization indeed affected their children's educational achievement while only 1(2.4%) claimed it had not influenced how their children performed academically. The children 81(96.4%) cited stigmatization as a factor which affected their educational achievements while only 3(3.6%) were of a contrary view. The findings are supported by Hawthorn and King (2015) who asserts that RTAs related disabilities had effects such as poverty and stigma that in turn affected life achievements such as education to both the victims and their children. This can be linked to the identified declined education achievement of the children where their mean was found to be 482.23 before the occurrence of the accident as reported in Table 4.7 while after the accident the mean average means scores of three examination results stood at 330. This shows that factors including lack of societal support as well as stigmatization from the lack of understanding of what RTAs are and its consequences also contribute to the children's decline in academic performance.

With the identified high rates of stigmatization reported in Table 4.11 and 4.12, where 31(73.8%) of the survivors and 69(82.1%) of the RTAs survivors' children claimed that there are stereotypes targeting RTAs survivors, then it was clear that there is a link between the stigmatization targeting RTAs survivors and their children's academic

performance. Generally, it can be seen that the societal perceptions of disabilities associated with RTAs are negative. The society does not accept RTAs victims and its effects on the family and no support is given to the families, but rather there are stereotypes with claims that they are cursed and their children stigmatized. The school environment is crucial for the overall performance of the children. However, with the high levels of stigmatization coming from the teachers and fellow learners, then the environment turns to be a hostile one which does not promote high academic performance. Coupled with challenges meeting the educational needs of their children, stigmatization contributes to the woes faced by RTAs survivors which as Ngunjiri (2016) asserts, makes it difficult for children to achieve their educational potential. They are limited by the challenges at home as well as the lack of support by their colleagues and teachers at school.

Similar sentiments are expressed by Sieber (2018) who observes that the society is often misinformed or under-informed on the physical injuries resulting from different accidents. The findings were more so in rural areas where people believe in curses and punishments. The studies reveal that there is a link between attainment of goals and the society's perceptions of physical disabilities. Charuvastra and Cloitre (2016) also found a similar association and concluded that stigmatization and distancing from the survivors and their families impaired the achievements of the children in school as they failed to get the social support necessary to flourish. Consequently, the findings suggest that stigmatization also affects the children of RTAs survivors where their instructors and fellow learners stigmatize the RTAs survivors' children thus affecting their academic achievement. This may be attributed to the lack of support that would enable the learners

to cope with the challenges that arise from their parents' or guardians' involvement in road traffic accidents.

#### **4.7 Implementation of the policy frameworks**

**Objective Four:** To examine the implementation of available policy frameworks on academic achievement of RTAs survivors' children. To meet this objective, the researcher conducted an interview with a senior official from the ministry of education and the county government of Kiambu.

The first question of the interview asked the officials to state whether there is a policy that addresses the education prospect of road traffic accident survivors' children and they stated that there is no such policy. Based on the apparent lack of a policy framework, then the impact of the road traffic accidents stands to be severe. Frameworks for supporting academic achievement of RTAs survivors' children ensure RTAs survivors' children should have mechanisms through which their education can be continued even after RTAs. This is what the "National Road Safety Research Framework, 2013", a framework developed by the Australian government aimed at determining national research priorities in relation to the national road safety strategies states. The strategy, developed by 45 stakeholders from relevant sectors within Australia has a long term goal of ensuring reduction of fatalities, injuries and their repercussions on Australia's roads. The framework is also designed to ensure that RTAs victims are accounted for and helped in achieving their life goals. In Africa, inputs aimed at promoting academic achievement for victims of RTAs and their children are only supported by compensations from insurance companies. From these claims above which forms the Australian framework, it was clear

that the presence of an all-encompassing framework is crucial for safeguarding and cushioning a country's citizens from the effects of road traffic accidents. In the country, there is no such framework which leaves the victims of RTAs and their families vulnerable to dire consequences following RTAs.

The researcher then asked the interviewees to state the policy or policies that are in place.

According to the officials;

*'There are no specific policies targeting road traffic accident survivors. However, there are general policies such as the free primary education and free secondary education, terminal benefits, as well as NHIF and unique personal identifiers (UPIs). In Kenya, it was difficult to separate the policies in place to address the different needs of each group of children with specific needs. Moreover, the government through the FPE and FSE programs cover the needs of all the needy children; hence for now, we believe that the existing programs cater for the needs of these students and pupils, more so if they utilize the NHIF and UPIs to help get additional funds to meet their extra needs.'*

These findings show that in the Kenyan context there lacks a framework specifically tailored to meet the educational needs of children of road traffic accidents survivors. All the policies and frameworks are bundled under the FSE and FPE programs. However, these programs are not likely to meet the educational needs of the students bearing in mind that there are extra funds required to purchase uniforms, pocket money and transport money required by the children. These findings are similar to those by Morin, Rivard, Crocker, Boursier, and Caron, (2016) who also found that Tanzania lacks a

framework to cater for the need of RTAs survivors' children. The policies and programs are also bundled under the free primary education programs leaving the RTAs survivor's children with no specific programs tailored to address their education needs.

The lack of a framework tailored to meet the needs of the children of the RTA survivors implies that they would experience challenges in their academic achievement arising from lack of fees, having to drop out or call off their education. It is crucial that follow-up strategies are identified in the policies, but the lack of specific policies may affect the student's learning as they miss school and also lack resources. In regards to the educational support, the presence of different FPE and FSE strategies provide some sort of support, but does not meet the children's other financial needs such as their pocket money and personal wants. Lastly in regards to the societal perceptions, the lack of policy specifically tailored to meet the needs of the RTA survivor's children may contribute to the existing misconceptions and lack of adequate social support in the society and at school.

The researcher then asked the respondents to elaborate how they ensure that the children of road traffic accident survivors continue with their education if there are no such policies that cover their education endeavors. According to one of the interviewees;

*“In the NEMIS system, there is a unique personal identifier which helps us identify the children who require assistance and that can help us work with their parents to ensure that their educational achievements are ensured. In most cases, the parents work closely with the teachers and head teachers to identify the children who have additional needs and then they are issued with UPIs through*

*the NEMIS system allowing us to identify these students and then come up with measures to ensure their educational needs are met. Additionally, through the system, we can also find ways of getting extra help for the students through bursaries and donor funds. Further, the head teachers and principals are aware of the UPIs in the NEMIS which helps them ensure that the needy students in their schools are identified and get the extra help where necessary.'*

From these, there is a clear gap in the system which fails to identify the children of road traffic accident survivors, the NEMIS system is a fairly new phenomenon and the assertions by parents that they receive no form of support from the county governments show that there is no link between the so call unique personal identifier (UPI) and the pinpointing and then later assisting the RTAs survivors' children. The observations by the senior government officials support those of RTAs survivors that there is no educational support geared towards their children. The provisions in the NEMIS system for RTAs survivors' children are not functional which may explain the educational burden the survivors and their children undergo. Further, the continued stigmatization, even at school by teachers may also limit the identification of such children in the NEMIS system.

The researcher then asked the interviewees to list the measures that the ministry of education and the county government have taken to ensure that the children of survivors of road traffic accidents continue with their education even after the accident. Some of the measures identified include grants for children in special needs education, added capitation or top ups and general infrastructure. Most important is the need for the measures to be tailored to the needs of these children and their families. Grouping them

together as needy children is not bound to solve the challenges faced by these children. They are not special needs children per say, but they still have unique needs that should be met by the education sector.

The researcher then asked the respondents to state whether they think they have done enough to ensure the children of RTAs survivors achieve their dreams in education and they said they have not done enough. They further asserted that there is a need to develop an alternative framework to help deal with the current challenges those children of RTAs survivors go through. This is evident in the high number of RTAs survivors' children who discontinue, call off or opt for lower qualification education despite the presence of county governments, insurance companies and other organizations, more so the ministry of education which should step up to ensure that the children's right to education is not disrupted by road traffic accidents.

The last part of the interview asked the interviewees what else they think should be done to ensure children of survivors of RTAs achieve their education goals even after the accident. According to the respondents, the parents of the affected children should be compensated by insurance companies and NHIF. Here, compensations need to take into account the amount of physical damage that the survivor suffered and the possibility to retaining their source of income including employment and maybe engaging in other income generating activities. It should also take into account the number of children the survivors have in school and their economic standing in the society.

Further, they felt that a policy needs to be developed that will effectively deal with the current challenges in societal perception and educational support for the children. With the presence of such a policy, the RTAs survivors and their children will be relieved of the burden of meeting the financial demands of their education. First, there needs to be educational and advocacy programs to educate the public on the effects of road traffic accidents on the survivors and their families. It should target the societies to help them understand how once one has been involved in a road traffic accident, their lives and those of their close ones changes. Further, the continued perceptions of physical disability from accidents being thought of as curses and penance for sins should be dispelled by educating the public. Possibly, they would not have to call off or discontinue their education as the financial strains would be limited allowing them to continue with the studies.

Generally, it can be deduced from the interview findings that there are no policy frameworks in place to help children of RTAs survivors achieve their educational endeavors which may explain the earlier identified decline in academic achievement among learners whose parents had been involved in road traffic accidents. The lack of a framework to guide on the measures that need to be followed to safeguard the education of the RTAs survivors' children is a major contributing factor to the earlier identified significant influence between the children's declining academic achievement after the accident.

#### **4.8 Chapter summary**

The chapter presented the findings from the qualitative and quantitative analysis. The chapter is organized based on the study objectives. The major findings are presented and cross-referenced with the literature in chapter two. In the next chapter, a summary of these findings, conclusions and recommendations are presented.

## CHAPTER FIVE

### SUMMARY, CONCLUSION AND RECOMMENDATIONS

#### 5.1 Introduction

The chapter discusses the summary of the study and its findings based on the objectives. The summary has also been derived from chapter four while conclusions have been drawn from the summary. The implications and recommendations are also anchored on the study's basic conclusions. It was important to restate the study's key objectives that guided the study which sought;

- i. To analyze the academic achievements of RTAs survivors' children before and after occurrence of accidents in Kiambu County.
- ii. To examine the educational support system available for RTAs survivors' children in Kiambu County.
- v. To evaluate the societal perception on RTAs induced disabilities and its effect on academic achievement of survivors' children in Kiambu County.
- vi. To examine the implementation of available policy frameworks on academic achievement of RTAs survivors' children in Kiambu County

#### 5.2 Summary of the Study

RTAs kill and leave many people with life-changing injuries and disabilities. Families are left grieving and in case of serious injuries, the parents are left with disabilities that deprive the family of the breadwinners. However, there was limited literature on how the road traffic accidents affected the survivor's children's education. This gap was filled by this study. From the review of literature, it was found that RTAs have severe social, health and economic consequences for the families.

The study was conducted to assess the effects of disabilities caused by road traffic accidents on academic achievement of survivors' children with a case study of Kiambu County, Kenya. To achieve its objective the study adopted a longitudinal survey design involving a cohort of RTAs survivors who had lived with the RTAs injury for at least five years and above. The study targeted 42 RTAs survivors and 84 RTAs survivor's children as well as senior education officers. The researcher used questionnaires for the RTAs survivors and their children to collect qualitative data while interviews targeted senior education officers from the ministry of education and the county government. Document analysis guide was used to collect quantitative data on the children's academic achievement before and after the RTAs. Analysis of the data collected was done using descriptive statistics and were presented and interpreted using frequency table distribution and graphs. On the other hand, qualitative data was summarized into different themes in the text. A paired sample t-test was then conducted to determine the significance of the influence of RTAs on the academic achievement of the learners at 95% confidence level.

For the study, the family and trauma theory advanced by Hill (1949) was adopted and states that a trauma resulting from any injury to one member of the family can have adverse effects on the entire family. In this study, it was established that severe injuries resulting from RTAs to parents result in serious challenges to their children in regards to academic performance and their educational attainment. Therefore, the theory is effective in determining how family trauma affects the other members of the society.

### **5.2.1 Academic achievements of RTAs survivors' children before and after occurrence of accidents**

From the findings, it was found that the parents or guardians involved in the RTAs were the sole source of livelihood for their children and as all of the children were in school when the RTAs occurred, their education was affected. A portion of the understudies had the option to proceed with their schooling after the mishap, yet most needed to change their learning establishments because of unreasonably expensive charge rates or constrained move to heartland. Further, the examination discoveries likewise uncovered that most of guardians couldn't uphold their kids' instructive undertakings which saw greater part of the kids neglect to accomplish their scholastic achievements. Most of the children were forced to discontinue their education, call off a part of their academic years or opt for lower education qualification.

The findings showed that the RTAs survivor's children academic performance after the accident was reported to be lower by the majority of the children and the RTAs survivors. From the paired T-Test results, it was found that the mean performance of students before the RTAs was 482.23 and their performance after the road traffic accident was 330.68. The inferential statistics showed that at 95% confidence level interval, the influence of the road traffic accident on the learner's academic performance was statistically significant at p value ( $0.000 < 0.05$ ).

### **5.2.2 The educational support system available for RTAs survivors' children**

The second objective of the study examined the educational support system that is available for the RTAs survivors. It was tracked down that most of RTAs survivors and

their youngsters get no type of help from any association, insurance agency or government offices. Those who asserted they received support stated that it was from religious organizations as opposed to insurance companies and the county government. Further, it was found that the support provided was not meant for educational purposes, but for paying hospital bills. The support was also found to be inconsistent and unsustainable.

### **5.2.3 Societal perception on RTAs induced disabilities and its effect on academic achievement of survivors' children**

The third objective evaluated the societal perceptions on RTAs induced disabilities and its effect on the academic achievements of the survivors' children. The investigator tracked down that the connection between the survivor and their youngsters with the local area deteriorated after the mishap. It was then tracked down that most of the respondents agreed that there are stereotypes associated with disabilities in general, but more specifically, there are those targeting disabilities caused by road traffic accidents. The children and their parents/guardians also reported that their teachers and fellow students slight them which they reported to contribute immensely to their negative educational achievements.

### **5.2.4 Implementation of available policy frameworks**

The last objective of the study purposed to examine the implementation of available policy frameworks on academic achievement of RTAs survivors' children. The objective was pursued by interviewing senior officials from the county government and the ministry of education. From the interview, it was established that there are no specific

policies targeting RTAs survivor's children for their educational attainment. Currently, there are other systems in place like the special needs education grants, the unique personal identifier in the NEMIS system and the free primary and secondary education which the interviewees cited as being in place to help the learners. However, it was established that these policies are not effective in regards to RTAs survivors' children.

### **5.3 Conclusions**

The first objective of the survey purposed to break down the scholastic accomplishments of RTAs survivors' youngsters prior and then afterward event of mishaps in Kiambu County. From the discoveries of the investigation, it tends to be inferred that scholastic accomplishment of RTAs survivors' youngsters is altogether influenced by the event of street auto collisions. The second objective of the study examined the educational support system available for RTAs survivors' children in Kiambu County. The study concludes that there is currently no educational support system that is available for the RTAs survivor's children.

The third objective sought to evaluate the societal perception on RTAs induced disabilities and its effect on academic achievement of survivors' children. From the study findings, it can be concluded that societal perceptions are generally negative leading to stigmatization of the RTAs survivors and their children which negatively affects their educational achievement.

The last objective of the study purposed to examine the implementation of available policy frameworks on academic achievement of RTAs survivors' children. The study concludes that there is no policy framework for RTAs a survivor which has a negative impact on the learner's academic achievements.

#### **5.4 Recommendations**

- i. Stakeholders including the ministry of education, ministry of infrastructure, the county officials, parents, religious institutions and insurance companies should actively participate in ensuring that the offspring of RTAs survivors are incorporated while planning for distribution on exceptional necessities youngsters to guarantee that their schooling tries are accomplished.
- ii. The study also recommends that the society be educated on the negative impact of stigmatization of the children and their educational achievement. This calls for measures to be implemented such as public awareness programs to safeguard the children from stigmatization in schools, more so by their teachers.
- iii. The study further recommends that stakeholders especially the religious leaders, the teachers and parents work together to ensure that children have a sufficient support system in place to get the required funds from the insurance companies including NHIF are held responsible for meeting the educational endeavors of the children of RTAs survivors when they are providing compensation to the parents.
- iv. The investigation additionally suggests that policy makers ought to be set up to catch the students whose parents or guardian have been casualties of RTAs to

guarantee that when the strategies for instructive help are set up, they can profit with them.

#### **5.4 Suggestion for further studies**

- i. The study suggests a similar study to be conducted in other parts of the country to establish whether the findings conform to the situation in Kiambu County.
- ii. The study further suggests a study to be conducted on school administration consciousness of RTAs induced disabilities and measures taken to ensure affected children continue with their education.

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## **APPENDICES**

### **Appendix I: Informed consent**

My name is **Jacob Mpekethu Mutia**. I am a PhD student from Kenyatta University. I am conducting a study on ‘Disabilities induced by road traffic accidents and their effect on academic achievement of survivors’ children: A case of Kiambu county, Kenya’. The study will inform the ministries of education, public service, health, transport and infrastructure of the existence of challenges facing road traffic accidents survivors and their children’s education achievement in Kiambu County.

#### **Procedures to be followed**

Participation in this study will require that I ask you some questions regarding the road traffic accident you had. I will record the information you will give.

You have the right to refuse participation in this study.

Please remember that participation in this study is voluntary. You may ask questions related to the study at any time. You are also free to vacate your participation at any point.

#### **Discomforts and risks**

Some of the questions you will be asked are likely to cause emotional discomforts. In case this happens, we have a counsellor with us who can handle your discomforts. However, you can also opt out of the study at any time

**Benefits**

Your participation in the study will be of great benefits to RTAs survivors’ children in Kimbu and also in Kenya at large, since the findings may influence policy decisions geared towards improving their education achievement.

**Reward**

You may be provided with the final findings of the study upon your request

**Confidentiality**

The questionnaire will be kept in kept in a locked cabinet for safe keeping at Kenyatta university. Everything will be kept private.

**Contact information**

If you have any questions you may contact Dr. Francisah Irangi Wamocho, Supervisor 1 on 0713844459 or Dr. Beatrice Bunyasi Awori supervisor 2 on 0721943828 or the Kenyatta Ethical Review Committee Secretariat on chairman .kuerc@ ku.ac.ke,secretary [kuerc@ku.ac.ke](mailto:kuerc@ku.ac.ke). [Ercku2008@gmail.com](mailto:Ercku2008@gmail.com)

The above data in regards to my members in the investigation is obvious to me .I have been allowed an opportunity to pose inquiries and my inquiries have been offered an explanation agreeable to me .My cooperation in this examination is totally deliberate.

Code of member... ..

.....

Mark or thumb print Date

**Investigator**

I, the undersigned, I have disclosed to the volunteer in a language she/he comprehends, the methodology to be continued in the investigation and the dangers and advantages implied.

Name of interviewer.....

.....

.....

Interviewer signature

Date

## Appendix II: Questionnaire for RTAs survivors

Dear respondent,

I'm doing an investigation on 'Handicaps brought about by street car crashes and their impact on scholarly accomplishment of survivors' kids: An instance of Kiambu County, Kenya'. You have been distinguished as one of the respondents. The data you will give will be treated with privately and will just be utilized for the investigation.

The answers you give may also help in curbing road traffic accidents and come also with modalities to improve the state of the survivors and their families.

### Section A

1. Indicate your gender

Male ( )          Female ( )

2. Indicate you age \_\_\_\_\_

3. How many children did you have at the time you got road traffic accident?

\_\_\_\_\_

4. How many of them were continuing with their education

\_\_\_\_\_?

**Section: Academic achievements of RTAs survivors' children before and after occurrence of accidents**

5. After the accident, were you able to continue supporting your children to continue with their education as before?

Yes ( )                      No ( )

6. If yes, were they able to achieve their expected milestones by now?

Yes ( )                      No ( )

7. If no, what exactly happened?

Some discontinued with their education ( )

All discontinued with their education ( )

Some called off their education for a RTAs in period ( )

All called off their education for a period ( )

I opted for a lower qualification for them ( )

Other ( ) (specify)\_\_\_\_\_

8. For those who were in primary or secondary school, how was their examination performance affected after the accident?

Nothing changed ( )

They performed better ( )

They performed lower ( )

9. Are they still in the institution they were schooling before the accident?

Yes ( )                      No ( )

10. If no, what made you change their institution of learning?

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**Section C: Educational support system for RTAs survivors and their children**

11. After you got accident, were you given any support to enable your children to continue with their education endeavors?

Yes ( )                      No ( )

12. If yes, kindly indicate whether you were supported by the following groups/organization

<b>Group</b>	<b>Yes</b>	<b>No</b>
Ministry of Education		
County government		
NGO(s)		
CBO(s)		
Religious organization		

13. Kindly comment on the nature of assistance provided by each of the groups/organization where applicable .

<b>Group</b>	<b>Nature of assistance</b>	<b>Comment</b>
Ministry of Education		
County government		
NGO(s)		
CBO(s)		
Religious organization		

14. Kindly name the organization(s) that offered you support to enable your children to continue with their education.

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15. From your experience, can you say the assistance provided has been consistent and sustainable

Yes ( )

No ( )

**Section D: Societal Perception on RTAs Induced Disabilities**

16. How can you describe the relationship between you and community members after you got an accident?

Better ( )

Worse ( )

No change ( )

17. Are there stereotypes attributed to disabilities in general?

Yes ( )

No ( )

18. Kindly explain these stereotypes

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---

---

19. Are there ones that specifically target road traffic accidents?

Yes ( )

No ( )

20. If yes, kindly name them



### **Appendix III: Questionnaire for Children of RTAs Survivors**

Dear respondent,

I'm doing an investigation on 'Handicaps brought about by street car crashes and their impact on scholarly accomplishment of survivors' kids: An instance of Kiambu County, Kenya'. You have been distinguished as one of the respondents. The data you will give will be treated with privately and will just be utilized for the investigation.

The answers you give may also help in curbing road traffic accidents and come also with modalities to improve the state of the survivors and their families.

#### **Section A**

1. Indicate your gender

Male ( )          Female ( )

2. Indicate you age \_\_\_\_\_

#### **Section: Academic achievements of RTAs survivors before and after occurrence of accidents**

3. When was your parent/guardian involved in the accident that impaired their physical ability?

\_\_\_\_\_

4. Was he/she the source of your livelihood?

Yes ( )                      No ( )

5. Were you in school before the accident occurred?

Yes ( )                      No ( )

6. If yes, which level of study were you?

\_\_\_\_\_

7. After the accident, were you able to continue with your education as before?

Yes ( )                      No ( )

8. If yes, were you able to achieve your expected milestones by now?

Yes ( )                      No ( )

9. If no, what exactly happened?

I discontinued my education ( )

I called off my education for a ceRTAsin period ( )

I opted for a lower qualification ( )

Other ( ) (specify)\_\_\_\_\_

10. If you were in primary or secondary school, how was your examination performance affected after the accident?

Nothing changed ( )

I performed better ( )

I performed lower ( )

11. Are you still in the institution where you were schooling before your parent/guardian got accident?

Yes ( )                      No ( )

12. If no, what made you change your institution of learning?

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**Section C: Educational Support System for RTAs Survivors and their children**

13. After your parent/guardian got accident, were you given any support to continue with your education endeavors?

Yes ( )                      No ( )

14. If yes, kindly indicate whether you were supported by the following groups/organization

<b>Group</b>	<b>Yes</b>	<b>No</b>
Ministry of Education		
County government		
NGO(s)		
CBO(s)		
Religious organization		
Insurance companies		

15. Kindly comment on the nature of assistance provided by each of the groups/organization where applicable

<b>Group</b>	<b>Nature of assistance</b>	<b>Comment</b>
Ministry of Education		
County government		
NGO(s)		
CBO(s)		
Religious organization		
Insurance companies		

16. Kindly name the organization(s) that offered you support to continue with your education

---



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17. From your experience, can you say the assistance provided has been consistent and sustainable

Yes ( )

No ( )

#### **Section D: Societal Perception on RTAs Induced Disabilities**

18. How can you describe the relationship between you and community members after your parent/guardian got an accident?

Better ( )

Worse ( )

No change ( )

19. Are there stereotypes attributed to disabilities in general?

Yes ( )

No ( )

20. Kindly explain these stereotypes

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---

---

21. Are there ones that specifically target road traffic accidents survivors' children?

Yes ( )

No ( )

22. If yes, kindly name them

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23. Can you say you have felt stigmatized in a way since your parent/guardian got an accident?

Yes ( )

No ( )

24. If yes, has it occurred in your learning institution either from your fellow learners or instructors?

Yes ( )                      No ( )

25. If yes, how did you deal with it?

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26. Can you say stigmatization has affected your educational achievements?

Yes ( )                      No ( )

27. What can you suggest to ministry of education to do in order to ensure individuals involved in road traffic accidents and their children continue with their education?

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**THANK YOU FOR YOUR TIME**

**Appendix IV: Interview Guide for Senior Official, Ministry of Education and  
County Government of Kiambu**

Dear respondent,

I am carrying out a study on ‘Disabilities caused by road traffic accidents and their effect on academic achievement of survivors’ children: A case of Kiambu County, Kenya’. You have been identified as one of the respondents. The information you will give will be treated with confidentiality and shall only be used for the study.

The answers you give may also help in curbing road traffic accidents and come up with modalities of supporting RTAS survivors’ children

1. Is there a policy that addresses the education prospects of road traffic accident survivors’ children?

Yes ( )                      No ( )

2. Kindly state the policy or policies and the year they came into force

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3. What does the policy provide regarding the education of:

Road traffic accidents survivors

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Children of road traffic accidents victims

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4. Briefly describe how the policy is implemented

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5. How many people have been assisted through the policy provisions

Survivors: \_\_\_\_\_

Children: \_\_\_\_\_

6. If there is no such a policy, how do you ensure that children of survivors of road traffic accidents continue with their education endeavors?

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7. List the measures that you have taken as a government to ensure children of survivors of road traffic accidents continue with their education even after the accidents

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8. Do you think what you have done is enough to ensure the children of RTAs survivors achieve their dreams in education?

Yes ( )                      No ( )

9. If no, do you think an alternative framework is required?

Yes ( )                      No ( )

10. What else do you think need to be done to ensure children of survivors of road traffic accidents achieve their educational goals even after the accident?

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**THANK YOU FOR YOUR TIME**

**Appendix V: Document Analysis Guide**

<b>Examination performance before occurrence of accident</b>	<b>Score</b>	<b>Examination performance after occurrence of accident</b>	<b>Score</b>
Exam 1		Exam 1	
Exam 2		Exam 2	
Exam 3		Exam 3	
Average		Average	

**Appendix VI: Map of Kiambu County**



## Appendix VII: Authorization from NACOSTI



### NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Telephone: +254-20-2213471,  
2241349, 3310571, 2219420  
Fax: +254-20-318245, 318249  
Email: dg@nacosti.go.ke  
Website : www.nacosti.go.ke  
When replying please quote

NACOSTI, Upper Kabete  
Off Waiyaki Way  
P.O. Box 30623-00100  
NAIROBI-KENYA

Ref. No. **NACOSTI/P/19/77708/29943**

Date: **4<sup>th</sup> June, 2019.**

Jacob Mpekethu Mutia  
Kenyatta University  
P.O. Box 43844-00100  
**NAIROBI.**

#### **RE: RESEARCH AUTHORIZATION**

Following your application for authority to carry out research on *“Disabilities induced by road traffic accidents and their effect on academic achievement of survivors’ children: a case of Kiambu County, Kenya.”* I am pleased to inform you that you have been authorized to undertake research in **Kiambu and Machakos Counties** for the period ending **4<sup>th</sup> June, 2020.**

You are advised to report to **the County Commissioners, and the County Directors of Education, Kiambu and Machakos Counties** before embarking on the research project.

Kindly note that, as an applicant who has been licensed under the Science, Technology and Innovation Act, 2013 to conduct research in Kenya, you shall deposit **a copy** of the final research report to the Commission within **one year** of completion. The soft copy of the same should be submitted through the Online Research Information System.

*G. Kalerwa*

**GODFREY P. KALERWA MSc., MBA, MKIM  
FOR: DIRECTOR-GENERAL/CEO**

Copy to:  
The County Commissioner  
Kiambu County.

The County Director of Education  
Kiambu County.

**Appendix VIII: Authorization from Kenyatta University Ethics Review Committee**



**KENYATTA UNIVERSITY  
ETHICS REVIEW COMMITTEE**

Fax: 8711242/8711575

Email: [kuerc.chairman@ku.ac.ke](mailto:kuerc.chairman@ku.ac.ke)

[kuerc.secretary@ku.ac.ke](mailto:kuerc.secretary@ku.ac.ke)

Website: [www.ku.ac.ke](http://www.ku.ac.ke)

P. O. Box 43844,

Nairobi, 00100

Tel: 8710901/12

Our Ref: KU/ERC/ RESUBMISSION/VOL.1

Date: 14<sup>th</sup> March, 2019

Mutia Jacob Mpekethu  
P.O Box 43844, 00100  
Nairobi.

Dear Mutia ,

**APPLICATION NUMBER: PKU/978/I1030 "DISABILITIES INDUCED BY ROAD TRAFFIC ACCIDENTS AND THEIR EFFECT ON ACADEMIC ACHIEVEMENT OF SURVIVORS CHILDREN; A CASE OF KIAMBU COUNTY, KENYA**

**1. IDENTIFICATION OF PROTOCOL**

The application before the committee is with a research topic "Disabilities Induced By Road Traffic Accidents And Their Effect On Academic Achievement Of Survivors Children; A case Of Kiambu County, Kenya" received on 8<sup>th</sup> February, 2019 and discussed on 12<sup>th</sup> February, 2018

**2. APPLICANT**

Mutia Jacob Mpekethu

**3. SITE**

Kiambu County, Kenya

**4. DECISION**

The committee has considered the research protocol in accordance with the Kenyatta University Research Policy (section 7.2.1.3) and the Kenyatta University Ethics Review Committee Guidelines and **APPROVED** that the research may proceed **ON CONDITION** that you incorporate its advice as below.

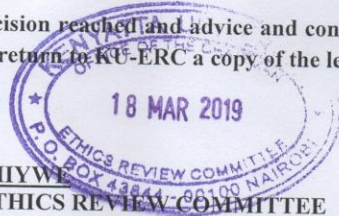
5. ADVICE/CONDITIONS

- i. **Scientific design and conduct of the study;** Enrich the cross section design with component of longitudinal components
  - Revise the Title
- ii. **Recruitment of research participants;** Distinguish between the children and their parents' data.
  - Assumption that a parent has 4 children is not consistent e g 210survivals but 420 children
- iii. **Informed consent process;** -Format to include all components clearly explained
  - Include benefits and risks
  - Provide details on you will get information from children and their protection
  - Use KUERC format

The above specific conditions must be fulfilled in writing before an approval can be granted. The manner of fulfilling these conditions should be outlined and submitted to Kenyatta University Ethical Review Committee.

When replying, kindly quote the application number above.

If you accept the decision reached and advice and conditions given please sign in the space provided below and return to KU-ERC a copy of the letter.



**PROF. JUDITH KIMIYWE**  
**CHAIRPERSON, ETHICS REVIEW COMMITTEE**

I, Saib mpeketa mure accept the advice given and will fulfill the conditions therein.

Signature..... [Signature] Dated this day of... 18th march 2019.

cc. DVC-Research Innovation and Outreach

## Appendix IX: Approval from Kenyatta University Graduate School



KENYATTA UNIVERSITY  
GRADUATE SCHOOL

E-mail: [kubps@yahoo.com](mailto:kubps@yahoo.com)  
[dean-graduate@ku.ac.ke](mailto:dean-graduate@ku.ac.ke)  
Website: [www.ku.ac.ke](http://www.ku.ac.ke)

P.O. Box 43844, 00100  
NAIROBI, KENYA  
Tel. 810901 Ext. 57530

**Internal Memo**

FROM: Dean, Graduate School

DATE: 22<sup>nd</sup> January, 2019

TO: Mr. Muria J. Mpekethu  
C/o Department of Early Childhood &  
Special Needs Education  
KENYATTA UNIVERSITY

REF: E83/24899/12

SUBJECT: APPROVAL OF RESEARCH PROPOSAL

This is to inform you that the Graduate School Board at its meeting 9<sup>th</sup> January, 2019 approved your Ph.D. Research Proposal entitled "Disabilities Induced by Road Traffic Accidents and their Effect on Academic Achievement of Survivors' Children: A case of Kiambu County, Kenya".

You may now proceed with your Data collection, subject to clearance with the Director General, National Commission for Science, Technology & *Innovation and Ethics Review Committee, Kenyatta University.*

As you embark on your data collection, please note that you will be required to submit to Graduate School completed supervision Tracking Forms per semester. The form has been developed to replace the progress Report Forms. The Supervision Tracking Forms are available at the University's Website under Graduate School webpage downloads.

By copy of this letter, the Registrar (Academic) is hereby requested to grant you substantive registration for your Ph.D. studies.

Thank you.

EDWIN OBUNGU  
FOR: DEAN, GRADUATE SCHOOL

c.c. Chairman, Department of Early Childhood & Special Needs Education  
Registrar (Academic) Att; Mr. Likam

Supervisors:

1. Dr. Franciscah Wamocho  
C/o Dept. of Early Childhood & Special Needs Education  
KENYATTA UNIVERSITY
2. Dr. Beatrice Bunyasi  
C/o Dept. of Early Childhood & Special Needs Education  
KENYATTA UNIVERSITY

EO/cao

Appendix X: Authorization to access data from Kiambu Level Five Hospital

Noted  
 med. apt to note  
 HR 10 to note  
 3/7/15  
 HRIO Assist with  
 Preliminary data. Payment will be done when collecting data  
 Jacob mpekethu  
 P O BOX 181-0023  
 RUIRU  
 2/7/2015  
 Phone: 0722499234  
 43  
 [Stamp: MINISTRY OF MEDICAL SERVICES, KIAMBU DISTRICT HOSPITAL, 03 JUL 2015, MED SNP]  
 RECEIVED  
 P O Box 39-00900, KIAMBU  
 The medical Superintendent,  
 Kiambu Level 4 hospital  
 P O BOX 39-00900  
 KIAMBU  
 Dear Sir/madam:  
 Ref: Information on Persons with physical disabilities  
 I am a student in Kenyatta university  
 conducting a study for my PhD proposal on  
 physical disabilities caused by road traffic  
 accidents in Kiambu County and their  
 effects on education.  
 Kindly assist me to get relevant  
 data and information pertaining  
 to the same. Attached are introduction  
 letters from Kenyatta university and  
 Deputy County Commissioner, Ruiru.  
 Anticipating for your positive response,  
 I thank you in advance.  
 Yours sincerely  
 Jacob mpekethu

## Appendix XI: Research Authorization from Kiambu County Commissioner



**OFFICE OF THE PRESIDENT**  
 MINISTRY OF INTERIOR AND CO-ORDINATION OF NATIONAL GOVERNMENT  
 COUNTY COMMISSIONER, KIAMBU

Telephone: 066-2022709  
 Fax: 066-2022644  
 E-mail: [countycommkiambu@yahoo.com](mailto:countycommkiambu@yahoo.com)  
 When replying please quote

County Commissioner  
 Kiambu County  
 P.O. Box 32-00900  
**KIAMBU**

Ref.No:ED.12 (A) /1/VOL.III/ 93

Date: 10<sup>th</sup> June, 2019

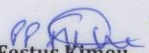
Jacob Mpekathu Mutia  
 Kenyatta University  
 P.O.Box 43844-00100  
**NAIROBI**

**RE: RESEARCH AUTHORIZATION**

Reference is made to National Commission for Science, Technology and Innovation letter Ref No. NACOSTI/P/19/77708/29943 dated 4<sup>th</sup> June, 2019.

You have been authorized to conduct research on "*disability induced by road traffic accidents and their effect on academic achievement of survivors' children: a case of Kiambu County, Kenya*" The research will be carried out in *Kiambu County* for a period ending 4<sup>th</sup> June, 2020.

You are requested to share your findings with the County Education Office, Kiambu upon completion of your research.

  
**Festus Kimeu**  
 For: County Commissioner  
**KIAMBU COUNTY**

Cc National Commission for Science, Technology and Innovation  
 P.O. Box 30623-00100  
**NAIROBI**

County Director of Education  
**KIAMBU COUNTY**

Deputy County Commissioners  
**KIAMBU COUNTY**

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*"Our Youth our Future. Join us for a Drug and Substance free County".*

**Appendix XII: Research Authorization from Kiambu County Director of Education**



**MINISTRY OF EDUCATION**  
**State Department of Education**

Telephone: Kiambu (office) 020-2044686  
 FAX NO. 020-2090948  
 Email: [directoreducationkiambu@yahoo.com](mailto:directoreducationkiambu@yahoo.com)

COUNTY DIRECTOR OF EDUCATION  
 KIAMBU COUNTY  
 P. O. Box 2300  
 KIAMBU

*When replying please quote*

KBU/CDE/DEPT 8/Vol. I/(47)

10<sup>th</sup> June, 2019

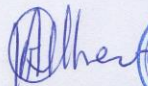
Jacob Mpekethu Mutia  
 Kenyatta University  
 P.O. Box 43844-00100  
**NAIROBI**

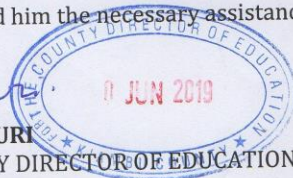
**RE: RESEARCH AUTHORIZATION**

Reference is made to the National Commission for Science Technology and Innovation letter Ref. No NACOSTI/P/19/77708/29943 dated 4<sup>th</sup> June, 2019.

The above named has been authorized to carry out research on "***Disabilities induced by road traffic accidents and their effect on academic achievement of survivors' children: study in Kiambu County***" for a period ending 4<sup>th</sup> June, 2020.

Please accord him the necessary assistance.

  
**AGNES THEURI**  
 For: COUNTY DIRECTOR OF EDUCATION  
**KIAMBU COUNTY**



**Appendix XIII: Research Authorization from Machakos County Commissioner**



**THE PRESIDENCY**

**MINISTRY OF INTERIOR AND COORDINATION OF NATIONAL GOVERNMENT**

Telephone: 21009 and 21983 - 90100  
 Email Address: countycommasaku@gmail.com  
 Fax No. 044-21999

OFFICE OF THE  
 County Commissioner  
 P.O. Box 1 - 90100  
MACHAKOS.

When replying please quote:

**REF NO.CC/ST/ADMS/9VOL.1/104**

**DATE: 11<sup>th</sup> June, 2019**

The Deputy County Commissioner  
**ATHI RIVER SUB COUNTY**

**RE: AUTHORIZATION RESEARCH - JACOB MPEKETHU MUTIA**

The National Commission for Science, Technology and Innovation has authorized the below named researcher to carry out a research on "*Disabilities induced by road traffic accidents and their effect on academic achievement of survivors' children*" in Kenya for the period ending **4<sup>th</sup> June 2020**

Please be notified and accord him the necessary assistance.

PATRICIA NTHIWA  
 For: COUNTY COMMISSIONER  
**MACHAKOS**

**COUNTY COMMISSIONER  
 MACHAKOS  
 P.O. Box 1 MACHAKOS**

**Appendix XIV: Research Authorization from Machakos County Director of Education**

**MINISTRY OF EDUCATION  
STATE DEPARTMENT OF EARLY LEARNING  
AND BASIC EDUCATION**

Telegrams: "SCHOOLING" Machakos  
Telephone: Machakos (  
Fax: Machakos  
Email -[cdemachakos@yahoo.com](mailto:cdemachakos@yahoo.com)  
When replying please quote



OFFICE OF THE  
COUNTY DIRECTOR OF  
EDUCATION  
P.O. BOX 2666-90100,  
MACHAKOS

MKS/ED/CDE/R/4/VOL.3/58

11<sup>th</sup> June, 2019

Jacob Mpekethu Mutia  
Kenyatta University  
P.O. Box 43844-00100  
NAIROBI.

**RE: RESEARCH AUTHORIZATION.**

Reference is made to the letter from National Commission for Science, Technology and Innovation Ref: **NACOSTI/P/19/77708/29943** dated 4<sup>th</sup> June, 2019.

You are hereby authorized to carry out your research on, "Disabilities induced by road traffic accidents and their effect on academic achievement of survivors' children: in Machakos County Kenya" for a period ending 4<sup>th</sup> June, 2020.



**SHAMISA MOHAMED ADAN  
COUNTY DIRECTOR OF EDUCATION  
MACHAKOS**

**Appendix XV: Research Authorization from Athi River Deputy County Commissioner**



**THE PRESIDENCY  
MINISTRY OF INTERIOR & COORDINATION OF  
NATIONAL GOVERNMENT**

Telegrams: 'District AthiRiver  
Telephone: 045-6622751  
Fax: 0456622914  
When replying please quote

DEPUTY COUNTY COMMISSIONER  
ATHI RIVER SUB COUNTY  
P.O. BOX 555-00204  
ATHI RIVER

REF: ADM 15/32 VOL.1/44

Date: 13<sup>rd</sup> June, 2019

TO WHOM IT MAY CONCERN

**RE: RESEARCH AUTHORIZATION – JACOB MPEKETHU MUTIA ID. NO. 2499241**

The above named person has been authorized to carry out research in Athi River Sub County on *“Disability induced by road traffic accidents and their effect on academic achievement of survivors’ children”* from 14<sup>th</sup> June, 2019 for a period ending 4<sup>th</sup> June 2020.

Any assistance accorded to him will be highly appreciated.

DEPUTY COUNTY COMMISSIONER  
ATHI-RIVER SUB-COUNTY  
MACHAKOS COUNTY

REHEMA A. NOEL  
For; DEPUTY COUNTY COMMISSIONER  
**ATHI RIVER SUB COUNTY**

**Appendix XVI: Research Authorization from Athi River Sub-county Director of Education**

