

# Influence of Disabilities Induced by Road Traffic Accidents on Academic Achievement of Survivors' Children before and After Occurrence of Accidents in Kiambu County

Mutia J. Mpekethu<sup>1</sup>, Dr. Franciscah Irangi Wamocho<sup>2</sup>, Dr. Beatrice Bunyasi Awori<sup>3</sup>

<sup>1</sup>PhD Student, School of Education, Department of Early Childhood Education, Kenyatta University, Nairobi, Kenya

<sup>2,3</sup>Lecturer, Department of Early Childhood and Special Needs Education, Kenyatta University, Nairobi, Kenya

**Abstract:** The purpose of this study was to assess the academic achievement of RTAs survivors' children before and after occurrence of accidents in Kiambu County. The study employed the Culture of Poverty Theory as a guiding framework. A descriptive research design was employed involving both qualitative and quantitative methods. The target population was 210 road traffic accident survivors, 420 children as well as one senior official from the Ministry of Education and another official from the County Government of Kiambu. Purposive sampling design was used to sample survivors who had lived with the disability for a period of at least five years. A total of 126 respondents was involved during data collection. Questionnaires, interview guide and document analysis were used to collect data. Quantitative data was analysed descriptively and inferentially based on need and applicability. Qualitative data was analysed through thematic prose discussions. Data was presented using Tables and Figures. The findings show that majority of the students were able to continue with their studies after the accident, but some had to change their learning institutions due to unaffordable fee rates or were forced move to upcountry. Further, the study findings also revealed that majority of parents could not support their children's educational endeavors which saw majority of the children fail to achieve their academic milestones. From the paired T-Test results, it was found that the mean difference in academic results of the children of RTA survivors before and after the accident was statistically significant at ( $p=0.000<0.05$ ). The study concluded that the academic achievement of RTAs survivors' children is significantly affected by the occurrence of accidents. The study recommends that the Ministry of Education should develop a policy framework on RTAs survivor's children education achievement. It should make it mandatory that the children of RTAs survivors are included when budgeting for allocation on special needs children to ensure that their education endeavors are achieved.

**Keywords:** Children's Academic Achievement, Effects, Induced Disabilities, Road Traffic Accidents

## I. INTRODUCTION

According to the reports by World Health Organization (2016), there are about 1.25 million deaths due to road traffic accidents in the world and approximately 20-50 million cases of non-fatal injuries every year. Remarkably,

pedestrians, cycle users and motorcyclists are more vulnerable to accidents. Not only the victims but simultaneously their friends and family members are affected by the consequences of these Road Traffic Accidents (RTAs). Concerns of RTA, causes financial burden on the victims and their families, friends, employers, insurance companies and even the government. It is very hard to measure exactly the financial loss for sacrifices and human sufferings (WHO, 2004). However, different countries have different problems and factors responsible for road traffic accidents in different parts of the world. It was estimated that RTAs accounted for 75.5 million disability-adjusted life years (DALYs) worldwide in the year 2010 alone (Staton, Vissoc, Gong and 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 their children. Other than psychological suffering, road traffic accidents 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 due to of RTAs (WHO, 2015). One of the major aspects of human development is education. When ones' academic achievement is affected, there is a high possibility that their socio-economic life will be affected as well. In every accident, there is a grieving family or a child deprived of love, warmth and supports from a parent. In every serious injury, there is a family that lives with the consequences and financial costs, which include hospital bills and keeping children in schools (WHO, 2011). 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.

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. 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-third 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 a lower cadre learning institutions.

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 programs end up dropping or discontinuing for a long period.

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 accounted to RTAs (Statistics South Africa, 2009). 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 the support system for educational endeavors of the children of survivors of RTAs or that of survivors themselves. 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, Hoe, El-Sayed, Saad, Al-Gasseer, Bakrf, & Hyder, 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). They 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, Kibatata, Museru, & Gurrero, 2012). Kenya has one of the highest road fatality rates in relation to vehicle ownership in the world. It has an average of seven deaths from the 35 road crashes that occur every day (Zimmerman, et al, 2012). This translates to 68 deaths per 10,000 registered vehicles. A study carried out by Said (2014), shows that road injuries 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 accident induced disabilities.

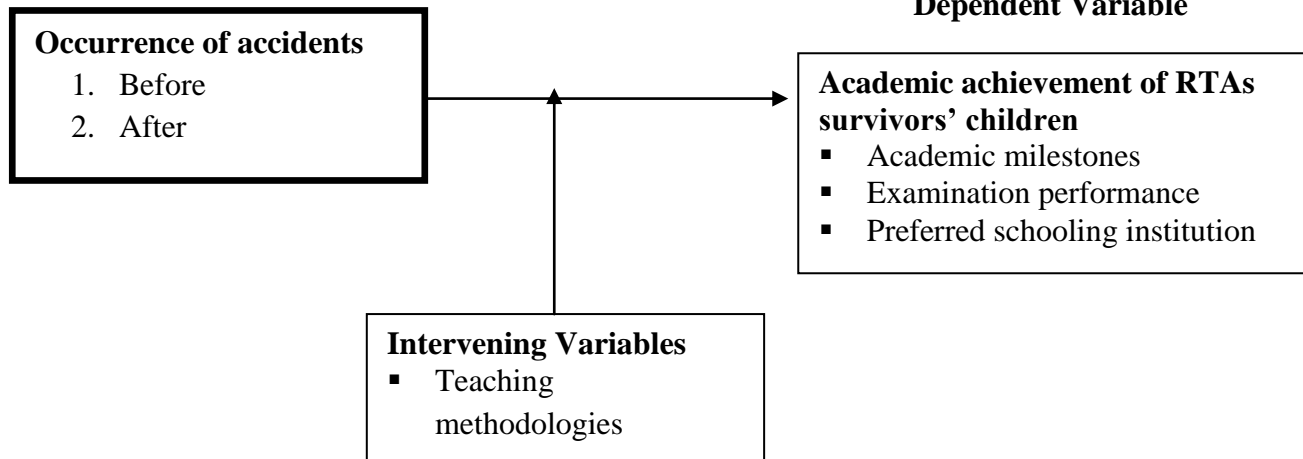
A study carried in Thika and Naivasha sub-counties by Bachani, Kordia, Herbert, Mogere, Akungah, Nyamari, Osoro, Maina, Kent & Stevens, (2012) on road safety in Kenya revealed that the incidence of RTAs is quite high. This was attributed to over speeding, with the study citing 69.45% of vehicles in Thika; 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. It was in the 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.

#### *Purpose of the Study*

The purpose of this study was to analyze the academic achievements of RTAs survivors' children before and after occurrence of accidents in Kiambu County.

#### *Conceptual Framework*

**Independent Variables**



**II. LITERATURE REVIEW**

*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, Norouzi, Khankeh, Saadat, Abedi and Bastami (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. Results of the study revealed 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. Similar findings were noted from the study on recurring tragedy of road traffic accidents in India (Anndurai, Mani & Danasekaran, 2015).

In a similar study, Perez and Widom (2014) conducted a study to examine the long-term academic outcomes for the children of accident survivors in Argentina. The study 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 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. The study, was however, conducted in Argentina which leaves a void in literature in the Kenyan context; hence the current study was conducted to help fill this gap in literature.

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.

Devkota, Kett and Groce (2019) conducted a study with the purpose of 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. In Ghana, Abagale, Akazili, Welaga, Dalaba, Luu and Oduro (2013) conducted a study to understand the effects of RTAs on society. The researchers identified victims through demographic surveillance systems. The victims' socio-economic statuses were evaluated. According to the results, 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 them and their families. This directly affected education for both victims and their families (Adeloye, Thompson, Akanbi, Azuh, Samuel, Omoregbe and Ayo 2016).

In a study targeting low income countries, Fekadu, Mekonen, Belete, Belete and Yohannes (2019) set out to examine how road traffic accidents affects the survivors and how these affect 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 severed 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.

Kenyan 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.

### III. METHODOLOGY

#### *Research Design and Target Population*

The study employed 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 cohort also included the survivors' children and was studied retrogressively. The survey involve both qualitative and quantitative approaches. This approach describes the conditions on the ground as the researcher finds them. The 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).

#### *Sampling Technique and Sample Size*

Purposive sampling was used to select Kiambu County. Survivors of RTAs were sampled proportionately and then random sampling was used to select actual participants. Only survivors who had lived with the disability for a period of at least five years and above were considered. 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. 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 composed of 42 survivors, 84 children of survivors and 2 officials from the Ministry of Education.

#### *Research Instruments*

This study used three tools for collecting data which include; questionnaires, interview schedules and document analysis. Questionnaires were administered to the RTAs survivors' children. Interview guides were administered to one senior official in the Ministry of Education, Kiambu County and one senior official from the Ministry of Education, National government. Document analysis was conducted based on the children's three-year academic progress before and after occurrence of accidents.

#### *Pilot Study*

A pilot study was carried out in Machakos County, which neighbours Kiambu County and has similar characteristics with the area of study. In choosing the participants, 10% of the expected sample size was considered adequate. As such, 13 participants were sampled to participate in the pilot study. The validation of the tools 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. 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. Reliability of the instruments was assessed by use of Cronbach's alpha, with the aid of SPSS computer software. In this study, study an alpha of 0.76 was established, an indication that the results obtained were reliable.

#### *Data Collection Procedure*

Questionnaires for the RTAs survivors' children were administered and the researcher collected them the very day. However, arrangements were made to collect the data at a later date in situations where the respondents were available. The number of survivors visited per day depended on the availability and speedy response of the participants. Interview for the senior official in the Ministry of Education 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.

*Data Processing and Analysis*

Data collected was analyzed using quantitative and qualitative methods. Qualitative data was analyzed using a combination of thematic approach guided by research objectives. Under thematic approach information was sorted out, classified and categorized in line with the themes of the study. Qualitative data was presented using reported statements, verbal expression and exposes. Quantitative data was analyzed using simple descriptive statistics which was presented in Tables, frequencies and percentages. Paired t-test was used to compare examination performance of respondents before and after experience of RTAs.

**IV. STUDY RESULTS**

*Academic achievements of RTA survivors children*

First, the researcher asked the RTAs survivor’s 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 1 presents their responses.

Table 1: Academic Achievement of RTAs children

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

As can be seen in Table 1, all the children of the RTAs survivors 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 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 RTA on the financial abilities of the parents or the guardians had a direct impact on the children. With their only source of livelihood crippled, the lives of the children would also be impacted, leading to a discontinuation of normal activities or calling of a part of their lives to fit in with the changes brought forth by

their parent’s loss of livelihood from the RTA. These findings are similar to the claims made by Ngunjiri (2016) who claims that survivors have to seek leave from work and education.

Further, it could also be revealed that all the children were in school before the accident occurred. 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, 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 asserted that their parents were their main source of livelihood. 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.

The children 62 (73.8%) said that they were still in the institution they were schooling in before their parent or guardian got 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 RTAs survivors was 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. Further, Brinkamn, Recklitis, Michel, Grootenhuis and Klosky (2017) reported that after the RTAs, families’ finances were often greatly diminished due to the costly treatment processes and loss of employment. Therefore, the families were forced to undergo serious financial cuts which includes moving to other lower-standard neighborhoods or to upcountry and changing the children’s schools to minimize expenditures. The researcher further asked the parents to indicate if they were able to continue supporting them with their education after the accident as before the accident. Figure 1 presents their responses.

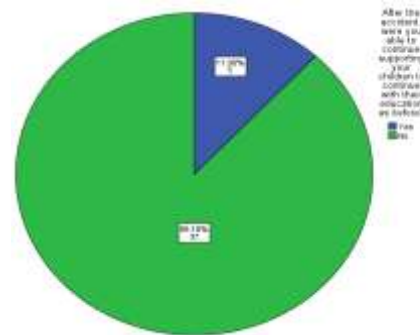


Figure 1: Survivors’ ability to support their children after the accident

Figure 4.2 reveals that 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 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 them and their families. This directly affected education for both victims and their families. These were similar to the findings by Sabet, Norouzi, and Kankeh, et al. (2016) who found that the victims' children could not continue with their education due to their parent's inability to finance their education. The researcher also asked the RTAs survivors whether their children would be able to achieve their education milestones. Their responses are presented in Figure 2.

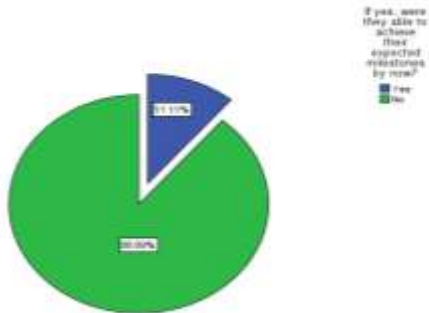


Fig 2: Survivors' opinion on whether their children were able to achieve expected milestones

As displayed in Figure 2, 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 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. According to Anndurai, Mani and Danasekaran (2015) most of the victims of RTA 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. The researcher then sought to determine what happened to the children after their parent's accident, and their responses are presented in Table 2.

Table 2: RTA survivor's children's views on the outcomes after the Road Traffic Accident

RTA Survivor's children		
Outcomes after accident	Frequency	Percent
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
Total	84	100

Findings in Table 2 revealed that majority 57(67.9%) of the children had to call off their education after their parent's 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 parent's or guardian's care, either by taking care of other siblings or directly caring for the parent. According to Meknen and Teshagar (2014) 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. These assertions are supported by Brinkamn, Recklitis, Michel, Grootenhuis and Klosky (2017) who report that the children who experience trauma are often forced to discontinue their education.

The children 13(15.5%) then 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 parent's road traffic accident. The findings discussed suggest that after the road traffic accident, 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) 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.

Table 3 displays the findings on how education of the survivors' children was affected after the accident.

Table 3: RTA survivor's views on the outcome after the accident

RTA Survivors		
Outcomes after accident	Frequency	Percent
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
Total	42	100.0

As the Table 3 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 for 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 as displayed in Table 4.4 shows that they had to call off their education. From these findings, it was evident that on the occurrence of the road traffic accident, all of the survivor’s children education were 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 claims 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.

The researcher further asked the respondent how their examination performance was affected after the accident and the Table 4 displays their collective responses.

Table 4: 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
Total	42	100.0		84	100

The Table 4 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 claimed 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 claimed 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 claimed that their examination performance declined following their parent’s accident. 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. 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 effect of the road traffic accident on the family of the survivors. 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 5 display the t-test results.

Table 5: Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
	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 5, 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. 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 RTA effect on the learner’s 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. 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, Norouzi, Khankeh, Saadat, Abedi and Bastami (2016) who claimed 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. In order to determine if there was a significant difference in the academic performance of children of RTAs Survivors before and after

the accident, a paired t-test was conducted and the findings are as shown in Table 6.

Table 6: Paired Samples Test

	Paired Differences					T	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Exam before – Exam after	151.54762	76.31218	8.32634	134.98686	168.10838	18.201	83	.000

The results shown in Table 6 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 learner's 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 may be attributed to the claim 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. Therefore, the identified significant differences in the mean scores of the children before and after the accident proves that road traffic accident have a huge effect on the educational outcomes of the children whose parents are involved in road traffic accidents. 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.

## V. CONCLUSION

The study purposely sought to analyze the academic achievements of RTAs survivors' children before and after occurrence of accidents in Kiambu County. From the findings of the study, it can be concluded that the academic achievement of RTAs survivors' children is significantly affected by the occurrence of accidents.

## VI. RECOMMENDATIONS

1. The study further recommends that policies be put in place to ensure that 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.
2. 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 policies to be implemented to safeguard the children from stigmatization in schools, more so by their teachers.

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