

**ASSESSING THE EFFECT OF TRAFFIC CONGESTION ON EDUCATION
PERFORMANCE OF SECONDARY SCHOOLS IN DAR ES SALAAM,
ILALA TANZANIA**

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**A DISSERTATION SUBMITTED IN PARTIAL FULFILMENT OF THE
REQUIREMENTS FOR THE DEGREE OF MASTER OF PROJECT
MANAGEMENT
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2020

CERTIFICATION

The undersigned certifies that he has read and hereby recommends for the acceptance of the dissertation titled; **“Assessing the Effect of Traffic Congestion on Education Performance of Secondary Schools in Dar es Salaam, Ilala, Tanzania”**. In partial fulfilment of the requirements for the award of a degree of Master of Project Management of The Open University of Tanzania.

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Date.....

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DECLARATION

I, **Bahati Mfungo**, declare that, the work presented in this dissertation is original. It has never been presented to any other University or Institution. Where other people's works have been used, references have been provided. It is in this regard that I declare this work as originally mine. It is hereby presented in partial fulfillment of the requirement for the Degree of Master of Project Management of The Open University of Tanzania.

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Signature

.....

Date

DEDICATION

This dissertation is dedicated to my lovely mother, Chausiku Nyamwenda and my lovely father Mfungo Magiri, my beloved wife Eliety Eldefonsi Kalisa and my dearest son Emnnuel Bahati as an inspiration for them. Like wise to the memory of my cheerful brothers Mauma Mfungo and Masatu Julius Malima whose ambitions is to witness my stepping forward academically through their support and supervision. I am grateful for them. Heavenly father blesses them abundantly. And to all lovers of education.

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ABSTARCT

The purpose of this research was to assess the effect of traffic congestions on education performance of secondary schools in Ilala, Dar es Salaam Tanzania. The study was justified based on the fact that traffic congestions have a significant effect on secondary school education performance. A total of 170 respondents including 70 academic staff and 100 students were used to collect the data using structured questionnaire and personal interview. The results from descriptive analysis found that students agreed that their academic performance was declining as the result of traffic congestions. Their school motivations were also found to be jeopardizing at average rate. The results from binary logistic regression analysis showed that academic staff performance seems to have a little effect with traffic congestions shown by Nagelkerke R^2 statistics test value of 27%. Therefore, academic staff performance seems to have a little effect with traffic congestions unlike students' academic performance which seems to be affected with traffic congestions. It is recommended that, the Ministry of Education and Vocational Trainings should make sure that official transportation system is offered to students during morning and evening in the big cities like Dar es Salaam so that students be motivated with classroom learning during morning session and to avoid from ant-social practices; secondly, the school timetable should be re-scheduled especially in the big cities to start late morning and finish early evening so that students may not miss some of lessons and avoid reporting home at late hours. Further study should be on the effect of traffic congestions on degree of students' learning concentration.

Keywords: *Effect of traffic congestions, education performance, secondary schools, Ilala, Dar es Salaam.*

TABLE OF CONTENT

CERTIFICATION	ii
COPYRIGHT	iii
DECLARATION.....	iv
DEDICATION.....	v
ACKNOWLEDGEMENT	vi
ABSTARCT	vii
LIST OF TABLES	xiii
LIST OF FIGURES	xiv
LIST OF ABBREVIATION.....	xv
CHAPTER ONE	1
INTRODUCTION.....	1
1.1 Background of the Problem	1
1.2 Statement to the Research Problem.....	3
1.3 Research Objectives	4
1.3.1 General Research Objective	4
1.3.2 Specific Objectives.....	4
1.4 Research Questions	4
1.5 Significance of the Research.....	5
1.6 Scope of the Study	6
1.7 Organization of the Study	6
CHAPTER TWO	7
LITERATURE REVIEW.....	7
2.1 Introduction	7

2.2	Conceptual Definitions.....	7
2.2.1	Traffic Congestions	7
2.2.2	Academic Performance	8
2.3	Theoretical Literature Review.....	9
2.3.1	Causes for Traffic Congestions	9
2.3.2	Effects of Traffic Congestions	9
2.3.3	Theory of Social Development	11
2.3.4	Employee Work Performance Theory.....	12
2.4	Empirical Literature Review	13
2.4.1	Empirical Literature Review World Wide	13
2.4.2	Empirical Literature Review in Africa.....	15
2.4.3	Empirical Literature Review in Tanzania	17
2.5	Research Gap	18
2.6	Conceptual Framework	19
2.7	Theoretical Framework	20
	CHAPTER THREE	21
	RESEARCH METHODOLOGY	21
3.1	Introduction	21
3.2	Research Design.....	21
3.3	Area of Study	21
3.4	Survey Population	23
3.5	Sample Size and Sampling Design	23
3.5.1	Sample Size	23
3.5.2	Sampling Design	24

3.6	Methods of Data Collections.....	25
3.6.1	Structured Questionnaires	25
3.6.2	Personal Interviews	26
3.7	Variables and Measurement Procedures	27
3.8	Data Processing and Analysis	28
3.8.1	Qualitative Analysis	28
3.8.2	Quantitative Analysis	29
	CHAPTER FOUR.....	31
	PRESENTATION OF THE FINDINGS.....	31
4.1	Chapter Overview	31
4.2	Test of Reliability and Validity.....	31
4.3	Descriptive Analysis for Background Variables of the students	32
4.3.1	Gender of Respondents	32
4.3.2	Age of Respondents	32
4.4	Background Variables for Academic Staff	33
4.4.1	Gender of Respondents	33
4.4.2	Age of Respondents	33
4.4.3	Education Background of Respondents.	34
4.4.4	School Late Reporting Hours for both Academic Staff and Students.....	34
4.5	Students' School Motivation.....	36
4.6	Staff Academic Performance	37
4.7	Students' Academic Performance	38
4.8	Students' Traffic Harassments	39
4.9	Students' ant-social Practices.....	40

4.9.1	Students' Involvement In Ant-Social Practices	41
4.9.3	The Nature of Students' Ant-Social Practices	41
4.10	Assumptions of Binary Logistic Regression.....	42
4.10.1	Correlation between Independent Variable (staff late reporting hours) and Dependent variable (staff academic task performance)	42
4.10.2	Testing the Assumptions of Multicollinearity Test on Independent Variables.....	43
4.10.3	Checking Linearity between Dependent and Independent Variables	44
4.10.4	Testing the Assumption of Normality	44
4.11	Output from Binary Logistic Regression	45
CHAPTER FIVE.....		47
DISCUSSION OF THE RESULTS		47
5.1	Chapter Overview	47
5.2	The Effect of Late Reporting by Traffic Congestions on Academic Staff Work Performance	47
5.3	The Effect of Traffic Harassments on Students' Academic Performance	50
5.4	The Effect of Students' Traffic Harassments on Their School Motivation Rate.....	52
5.5	The Effect of Students' Rate Reporting Hours at Home by Traffic Congestion as the Leading Factor for Students' Ant-Social Practices.....	54
CHAPTER SIX		57
SUMMARY, CONCLUSION AND RECOMMENDATIONS.....		57
6.1	Chapter Overview	57
6.2	Summary of the Main Findings	57

6.3	Implications of the Findings	58
5.4.	Conclusion	59
6.4	Policy Recommendations.....	59
6.5	The Contribution of the Study to the Theories.....	60
6.6	Limitation of the Study	60
6.7	Areas for Further Research	61
	REFERENCES.....	62
	APPENDIX.....	66

LIST OF TABLES

Table 3.1: Distribution of sample size.....	24
Table 3.2: Measurements of variables.....	27
Table 4.1: Test of reliability	32
Table 4.2: Background variables for students	33
Table 4.3: Background variables for academic staff	34
Table 4.4: Late Reporting hours for both academic staff and students	36
Table 4.5: Students' school motivation	37
Table 4.6: Staff academic performance.....	38
Table 4.7: Students' academic performance	39
Table 4.8: Students' traffic harassments	40
Table 4.9: Students' late reporting hours at home.....	40
Table 4.10: Students involved in ant-social practices.....	41
Table 4.11: Nature of ant-social crimes involved by the students	42
Table 4.12: Correlation between independent variable and dependent variable	43
Table 4.13: Testing the assumptions of multicollinearity test on independent variables	44
Table 4.14: Test of normality.....	45
Table 4.15: Model summary	45
Table 4.16: Variable in the equation	46

LIST OF FIGURES

Figure 2.1: Conceptual framework 19

Figure 3.1: A map of Dar es Salaam region 22

LIST OF ABBREVIATION

BRT	Bus Rapid Transit
CBD	Centre of Business Development
NBS	National Bureau of Statistics
SABRM	Staff Attendance Biometric Registration Machine

CHAPTER ONE

INTRODUCTION

1.1 Background of the Problem

While traffic congestions may serve as indicator for economic development (Robin and Wytse, 2011), other scholars argue that it may deteriorate the economic, social, health and environment development of the society (Mahmud *et. Al.*, 2012; Weisbroad *et. Al.*, 2013; Remi *et. al.*, 2009; Levy *et. Al.*,2010). The current study approaches the issue of traffic congestion as a negative phenomenon which may bring effects in education sector particularly in cities. Traffic congestions exist worldwide in both developed and developing nations (Jain, *et. Al.*,2012). For instance, while USA in 25 years past has experienced severe traffic congestions, likewise Sao Paulo-Brazil has experienced similar situation the reason being poor planned road network in the city leading to delay along the way and increase in fuel consumption costs (Texas Transportation Institute Mobility Report; 2011; www.time.com, Sao Paulo).

African regions have experienced nearly similar traffic congestions in their cities. A good example is drawn in Sub-Saharan cities; for instance, Kumasi in Ghana experience the same problem (Harriet, Poku and Emmanuel, 2013) as car and tax make 77% of the traffic mix in the city; Ibadan city in Nigeria as also experienced similar phenomenon since residents spend twice a time they would spend on their way to offices. Scholars explain that the issue of traffic congestion in most of cities is explained by different factors such as poor traffic management and control system

and inadequate transport network (Eddington, 2006). While the phenomenon continues to exist despite of the measures being taken by urban authorities, yet, traffic congestion upon its existence brings economic social and environment complications. For instance, the traffic congestion has been linked to loss in productivity in job creation, business operation costs, volume of markets, product delivery, output as well as in chain and logistics (Nadiri, et. al., 1996; Weisbrod and Rew, 2009); Other health consequences are contamination of diseases (TB, flue skin diseases) as reported by 80% of Dar es salaam secondary students; environmental pollution is also reported to be the case (Elisanguo, 2013). While different researcher stress on the effect of traffic congestions, most of scholars share that its effect can be categorized as environmental, economic, health and social (Mahmud, et al., 2012; weisbrod et al., 2003; Remi et al; Levy et aol., 2010).

Tanzania also reports traffic congestion in its cities (Elisonguo, 2013; Nelson, 2013; Katala, nd; Kiusi, 2013). For instance, Dar es salaam is still reported with similar problem associated with traffic congestion. However, among other effects of traffic congestion reported in Dar es salaam include environmental, health, social and economic (Elisongolo, 2013). The government has been responding to the phenomenon by increasing number of lanes, proposing new overpasses and underpasses at the main road intersection and improving transportation services (Kiusi, 2013). The author summarizes that the undertaken strategies in Dar es Salaam can be explained in terms of Physical planning, supply management and demand management. Despite of the measures taken by the city authority to combat traffic congestion, yet, the problem still exists and it had brought effects in social,

economic, health and environment sectors. Therefore, it is the motivation of the researcher in the current study to assess the effects of traffic congestion in education sector in secondary schools in Dar es salaam Tanzania.

1.2 Statement to the Research Problem

Traffic congestion is reported as a serious problem in Dar es salam ((Elisonguo, 2013; Nelson, 2013; Katala, nd; Kiusi, 2013). However, different scholars emphasize that when it (traffic congestions) exists, it may lead to deterioration in social, economic, health and environmental development of the city (Mahmud et. Al., 2012; Weisbroad et. al., 2003; Remi et. AL., 2009; Levy et. Al., 2010). In that case, studies done in Dar es salaam city have reported the problem in different dimensions; for instance, Kiusi, (2013) addressed the problem focusing on the physical planning strategies to had been taken and to be taken by the city authorities, yet his study did not address its link to education sector; Elisonguo, (2013) had attempted to address the large aspects of economic and social impact of traffic congestion, however, the author left the problem not in detail studied; Nelson, (2013) had focused on the social effect but widely covering the following areas: health effect, psychological effect, effects at social level and effect at family level.

Contrary, the above studies though addressed the effect of traffic congestion in the area of social, yet their coverage did not in detail study its effect in education; for instance, while they recognize the effect of traffic congestions in education explained by delay of the students in class session and psychological effects to students (stress, tiredness and fatigues), yet, they fail to establish the areas of education performance

affected as the results of traffic congestion to both the student and academic staff performance. Therefore, there is a need to study the problem in relation to education performance of the students and academic staff in Ilala-Dar es salaam as the case study.

1.3 Research Objectives

1.3.1 General Research Objective

The general objective of the study is to assess the effect of traffic congestions on education performance of Secondary Schools' Students and academic staff in Dar es salaam–Ilala-Tanzania.

1.3.2 Specific Objectives

- i) To establish the relationship between academic staff late reporting hours caused by traffic congestions and academic staff work performance.
- ii) To explain how students' traffic harassments and disturbance caused by traffic congestions may affect students' academic performance.
- iii) To assess the extent to which students' traffic harassments may affect their school motivation rate.
- iv) To assess how students' late reporting hours at home caused by traffic congestion may lead to students' ant-social practises.

1.4 Research Questions

- i) What are the relationships between academic staff late reporting hours caused by traffic congestions and academic staff work performance?

- ii) How students' transportation harassments may affect students' level of academic performance?
- iii) To what extent do the students' late reporting hours caused by traffic congestion may affect their rate in school motivation?
- iv) How students' late reporting hours at home caused by traffic congestion may lead to students' ant-social practises?

1.5 Significance of the Research

Since an investment in human capital is important to every nation, it should be considered that the education environment that might lead to poor students' academic performance need to be revised. In that case, the current study will address the extent to which traffic congestions in Dar es salaam effects the students in their academic performance in turn this may bring reactions to the following levels: At school level, the administration will need to establish remedial classes, change of the school timetable, changing approach on how to deal with late students and establishing new school transportation approach that minimize the effect of late students; secondly, at municipality level, the authority will need to take a short term and long term strategies leading to combat of traffic congestions; At national level the need of integrative approach in transportation policy in the cities so as to improve students education performance will be needed. While the study will bridge the literature gap and adding of new knowledge, the current study will also be open for new discussion by other scholars.

1.6 Scope of the Study

So as to capture the focus of the current study, the study narrows itself from a wider area of traffic congestions with its effects such production effects, economic effects to specific area of education industry. While Dar es Salaam region is considered the area of the study, yet secondary schools from Ilala District as the representative sample unlike another district of the region.

1.7 Organization of the Study

Chapter one has presented the introduction, statement of the problem, research objectives and specific research questions and significance of the study. Chapter 2 contains the review of related literature and research related to the problem being investigated from which the literature gap is presented. The methodology and procedures used to gather data for the study are presented in Chapter 3. The results of findings were presented in Chapter 4. Chapter 5 consisted of the discussion of the findings and summary, conclusion and recommendations of the findings were presented in chapter six.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The chapter comprises of definitions of key terms, theoretical review, empirical studies and conceptual framework which describes relationships between independent and dependent variables.

2.2 Conceptual Definitions

2.2.1 Traffic Congestions

Scholars concur when attempt to define the term traffic congestions. They look it as a a physical term or as a relative term. For instance, it may be defined as the relation between the available transportation facilities (road space, parking areas, and road signal and traffic management) and the volume of vehicle traffic (passengers and freight (Roadriquental, 2009; Downier, 2008). Institute of Transportation Engineering, (1989) argues that the term *traffic congestions* do not have a common and agreed definition as it may be defined as a physical term and or as a relative term. Under physical phenomenon traffic congestions is when the demand for road use (space) exceeds the supply which indicated by slower speed, longer trip time and vehicle queuing. Under relative phenomenon the term means when the road performance exceeds the users' expectation.

The current study would adopt the definition of traffic congestions under relative term thus defined as the relationship between delay of the students caused by vehicle

queuing (road performance) and their actual attendance and performance in the classroom morning sessions indicated by stress, lateness, fatigues and lack of study interests. Thus, the assumption is that traffic congestion is linked directly to the students' academic performance and academic staff performance.

2.2.2 Academic Performance

Haahr (2005) defines the academic performance as the extent to which the students or institutions or teachers met their education goal, and that such academic performance is measured by examination or continuous assessments. The question in mind here is what aspects is measured and how is measured. For instance, academic performance in California is measured by Academic performance index. While the current study assumes that psychological effects (fatigues, tiredness, stress and lateness, lack of interest) caused by traffic congestions may affect students' academic performance, thus, the definition of what is academic performance in the current study would mean what the students and academic staff workers can do and what they cannot do. For instance, students' performance was defined to mean the following measurement indicators: students' boring and stressful during learning, decline in listening ability, poor participation during learning, fail to accomplish academic tasks, difficulty in understanding lesson and difficulty to follow instructions. Meanwhile academic staff performance was defined to mean the following: on-duty activities usually a week; scoring and evaluation tasks usually a week; giving feedback to students usually a week; remedial classroom activities usually a week and teaching lesson usually a week.

2.3 Theoretical Literature Review

2.3.1 Causes for Traffic Congestions

Population increase is reported to be a reason for traffic congestions in Sub-saharan Africa cities; for instance, Dar es salam is reported with 10% of the country total population and with higher population increase annually. It is reported that in 1978, the city had a population of 0.85 million, the population had increased to 1.36 in 1988 and to 2.49 million in 2002 as well as 4million in 2007 (Kiunsi, 2013). Other scholars identified that most of Sub-Saharan cities have a mono centric city structure with one CBD as for instance, Kariakoo found in Ilala District acts as a single CBD which makes the flow of traffic in one direction in the morning and in the evening (Kiunsi, et. al., 2006; Kipala and Kiunsi, 2011). Other factors which are reported to contribute to traffic congestions in the cities included poor physical planning and control, rapid increase in number of cars, inadequate road infrastructure and packing facilities and poor public transport as for instance in Dar es salaam, minibus (daladala), tricycles and motorcycles run in the city (Kiusi, 2013). Other scholars post that drivers violate traffic regulations and road works like Bus Rapid Trast (BRT) taking place in dare s salaam also cause traffic congestions (Elisanguo, 2013).

2.3.2 Effects of Traffic Congestions

It is reported that the effects of traffic congestion is seen in areas like productivity, social, health and environments. For instance, the traffic congestion has been linked to loss in productivity in job creation, business operation costs, volume of markets, product delivery, output and in chain and logistics (Nadiri, 1996; Weisbrod and Rew, 2009); Other health consequences are contamination of diseases(TB, flue skin

diseases) as reported by 80% of Dar es salaam secondary students; environmental pollution is also reported to be the case (Elisanguo, 2013). Elisanguo identifies that effects of traffic congestions are much witnessed in fuel consumptions, waste of time and money. An increase in operational costs is also identified as one among the effects (Mwaya, 2005 and Bwire and Mesoe, 2007). The effect of traffic congestion has extended to family level as parents lack enough time to care and monitor their children as the result school drops, use of drugs, heterosexual and homosexual behaviors do prevail (Elisanguo, 2013). The author reports that the effect to students' performance is largely as it is reported by 80% of the students in Dar es salaam as the congestion lead to tiredness, fatigues, stress, morning punishment and lack of private time for their study which in turn led to their academic fail (Elisanguo, 2013).

Traffic congestions has been continued to be reported as the ant social and economic phenomenon of any country. The Philippines Star news reported that the problem has caused a number of effects to public workers, drivers and students. For instance, firstly, the problem has impacted on the productivity and health of workers and students in the city; secondly, students are reported to fail their examination and are prone to depression and anxiety, this is because they found themselves helpless by the responsible government authority as they lack their basic requirements of mobility; thirdly, when it happen to workers, they work early during the night and faced with criminal crisis when they back home early; fourthly, it is also reported that when a student or a driver is sick from air pollution by traffic congestions it takes a time for one to get recovery and gets back to school or job (Romero, 2015).

A detailed study on traffic congestion effects on health has been reported. GMA (2015) news on line reported health associated problem such as stress as one among the health problem caused by long commutes. The author argues that long commutes leads to chronic stress such as impatience lead by long waiting tendencies and watching mistakes from other drivers. The source also reports stress as a killer disease and it is linked to depression, anxiety and other deceases.

When the commuters are exposed to long traffic queuing, they are affected with air pollution which in turn causes lung decrease and death. It is approximately to 3.2 million of death per year reported caused by air pollution among which 85% are air pollution from road vehicles (Ibid. 2015).

2.3.3 Theory of Social Development

Social development is envisaged in economic, social and technological structure, such social structure should include its resources and peoples' energy and efforts to bring about social development (Hardin, 1968). The theory assumes that social development is indicated by the ability of the society to grow and change, thus how different social factors influences the growth of the society and how those factors effects changes is very stressed. This implies that the way transportation network is influencing the social growth and its change is very important. Thus, the society should be aware of the available resources so that they may harness them maximally to enable the growth of the society in turn for society change in terms of increased quality of output and improved social conditions.

The available physical structure should be linked with productivity of the society so as its existence be recognized. Eexample of physical structure include revised agricultural methods, newly formed public assistance programme and the use of an alternative energy source. The theory assumes that the existing social structure may fail to meet the public needs and thus intimidating their survival which may led to lack of growth and negative change in the socialal development.

Generally, the theory holds that the existing social structure may account for society positive growth and positive change in social development and vice versa. This depends on how the human energy and effort are used to promote development upon the available resources. As the current study is concern, the theory therefore hypotheses that fail or success in student's education performance may be well explained by the extent to which traffic network is utilized enough to bring education growth in turn for social changes in terms of quality output of the students as human capital for social development.

2.3.4 Employee Work Performance Theory

Performance would mean what the employee can do and what cannot do, therefore, the theory assumes that for an organization to survival in the competitive industries it needs to be justified in terms of employee quality and quantity of input and output. The organization therefore should invest in human capital and makes sure that it is fully utilized so as to achieve the organization objectives. This is because the achievement of any organization rests in human resource (Agarwala, 2001). The current study brings the education institutes responsible to deal with traffic

congestion as it affects the students' performance and secondary schools' staff workers; therefore, the school itself should be the agent of change since students' fail may affect them directly in the competitive world market. In that case scholars report that schools and teachers have reacted differently upon the traffic congestions and that students also had suffered psychological affects pertaining to traffic congestion leading to poor performance in their studies, thus poor output by the institute (Elisanguo, 2013).

2.4 Empirical Literature Review

2.4.1 Empirical Literature Review World Wide

In USA, while there are limited studies which connect to traffic congestions and education, there exist the study which reported on the role of metro-bus on education performance using a survey method was conducted. It has been found that the State Metro Buses they lower absentee for 24% and that it increases the student's GPA performances (Fan and Das, 2015). However, the study does not answer the current study which attempt to explain the impact of traffic congestion on education. However, most of the studies which had attempted to explain the effect of traffic congestions focus mostly on the causes and solution to the problems, the economy, productivity, health and environmental pollution with less focus on education (Hirroka, 2000; heaton, 2015; and Xiafei, 20139).

For instance, Japan like other part of the world is facing a higher traffic congestion explained by the growth in population density. For instance, it was reported that in 2010 the average speed for general roads in Tokyo Metropolitan was 15.7km/h

unlike the national average speed which was reported to be at the rate of 36.5km/h (Ministry of Land, Infrastructural, Transport and Tourism, (2009). However, other areas such as Nagoya and Osaka are reported with low average speed. While traffic congestion is reported to have a negative effect to the city's economy and productivity, Japan has responded differently on traffic congestions including the establishment of punctual departure and frequent railways (Hirooka, 2000 in Heaton, 2015). Contrary, there is no significant relationship between expansion of railway transportation and decrease of traffic congestion on the road (Heaton, 2015). While the study exists yet it does not address the current problem which seeks to find the effect of traffic congestions on education.

Similarly, London as one among the global city in UK has reacted differently to the issue of traffic congestions following its negative impact to the economy, health and air pollutions. Among the reaction of the city include the following: usage-based road changing scheme, non-car alternative solution for transportation, relocation of the public road space for walking, cycling and public transport. As the point of interest, the current situation of traffic congestion in London is reported in a slightly term in terms of average speed, average delay and bus delay have increased slightly (Sanderson, 2016).

Furthermore, Beijing is not the least. It has been reported to have the world record in 2010 during 17:00-20:00 when the congestion section added up to 140 in town district (Xiaofei, 2013). The reason behind traffic congestion in china is reported to have been caused by what they call as *town disease* explain by the shortage of

resources and infrastructures (Fan, 2007 in Xiaifei, 2013), the growth of the city economy has gone direct proportional with the growth of the city cars, no balance between traffic demand and traffic supply. Since 2011 China has established Smart City Plans with increase investments in Intelligence Transportation system (ITS) which uses video Camera, GPS and sensors to ensure the elasticity of traffic laws. However, traffic congestion in Beijing is reported to have negative effect to economy of the cities (ibid).

2.4.2 Empirical Literature Review in Africa

Sub-Saharan Africa is facing a problem with traffic congestions; for instance, Urban Ghana is represented as an example as the city is characterized with delay of urban residents in their employment leading to loss in productivity. This is justified by a study which aimed to assess the effect of traffic congestions and its effects on productivity using quantitative approach (Harriet, *et al.*, (2013). Contrary, the study did not address the effect of traffic congestion on education sector especially for those students whose schools are located in the city, thus, a need for the current study.

Elsewhere, in Nigeria, Ibadan City is reported with traffic congestions; for instance, the city residents spend almost twice a time they would use to arrive in their offices. The congestions have been explained by the presences of many vehicles in the city, poor infrastructures i.e minor roads and fail to comply with traffic regulations and laws. The findings found that among other effects for traffic congestions include: loss of fuels, arrive at work late, miss appointment with clients, get to school late, get

at home late, get to place of work tired. The study is reported by Ajagbe, (2012) who used a survey approach to assess the traffic congestions, causes and effects on residents of urban cities in Nigeria. While the scholars assert that the phenomenon has a negative effect on education as it makes students arrive late in school and gets home late, yet they did not establish to what extent such disturbances bring effects to students' academic performance. As the matter of facts, the current study fills that gap.

Adeokun, et al. (2015) who used a quantitative analysis reported that Nigeria roads specifically Oyo state-Basorun Akobo road faces with traffic congestions which has led to higher fuel consumption, in ability to forecast travel time, delay movement, road rage, wast of time and environmental pollution. However, the findings report traffic congestions challenges in general unlike the current study which is specifically linked to education, thus a need for further study.

Further study is reported from South Africa (Celliers and Mbara, 2013). The authors had focused on the challenges facing off-campus Johannesburg University Students. They found that traffic congestion had led the off-campus students to late arrival, missing some of lectures and harassment from taxi drivers. However, the study does not address how such challenges are significantly linked to their academic performance and that the kind of sample studied is different from the current study including the geographical context, thus, a need for the current study.

Likewise, in Ghana, it was reported that traffic congestion had brought effect to productivity in both formal and informal sectors (Harriet, at al. 2013). They found

that min-bus drivers reported with an average loss of 21.9% and the tax drivers reported with an average loss of 14.3% as a result of traffic congestions in Kumasi Metropolis. In formal sectors it was reported that 9% of working hours are lost by workers due to traffic congestions. Thus, traffic congestion in Kumasi is affecting the productivity negatively. However, the study does not address the effect of traffic congestion in education.

2.4.3 Empirical Literature Review in Tanzania

In Tanzania, different scholars have studied on the causes and effects of traffic congestions especially in Dar es Salaam city. Such scholars include: Elisanguo, 2013; Kiunsi, 2013; Nelson, 2013 and Kantala, n.d. However, their studies are less focused on education in relation to traffic congestion. For instance, Elisanguo, (2013) who studied the social economic impact of traffic congestions in Dar es salaam region using both quantitative and qualitative methods had found the following: traffic congestion has affected public sectors, private sectors and individual institutions. It is reported that 80% of the respondents claimed to have health related problems such as contaminated diseases, TB, and flues. More likely is that day students do not have enough time for study associated with tiredness, stress, fatigues, loss of morning class and punishment, thus, fail in their academic.

Similar study has been done by Nelson, (2013) in Dar es salaam. The author conducted the study on traffic jam and its social effects using both qualitative and quantitative methods. It has been found that traffic jam exists and it is the problem to commuters in the city; for instance, 78.3% of passengers waste three to two hours on

the road. The problem has also led to misunderstandings among family member, lack of children parental care and lack of time to participate into social welfare.

Kantala, (n. d) had also found to be interested with the study. The author conducted the study in Dar es salaam with the intention to assess the cost of traffic congestions and accident to the economy of Tanzania using qualitative method. The findings showed that traffic congestions have led to waste of time and delay leading to late arrival to employment, meeting and education. More is found that the phenomenon has led to fuel increase, wear and tear of vehicles, blocking of the emergencies, and loss of workforce resulting from accidents.

The review of traffic congestions in Dar es salaam City from the physical planning perspectives using qualitative analysis (Kiunsi, 2013) has found that traffic congestion is reported to have been caused by different factors such as rapid population increase, poor road infrastructure and poor city structure, rapid increase in number of cars and poor traffic management and control plan. The author reports that the government has reacted differently against the problem in different ways such as increasing the number of lanes, introducing new overpasses and underpasses at main road intersections and improving public transportation such as BRT. The findings are reported by the author upon his study on the review of traffic congestions in Dar es salaam City from the physical planning perspectives using qualitative analysis (ibid).

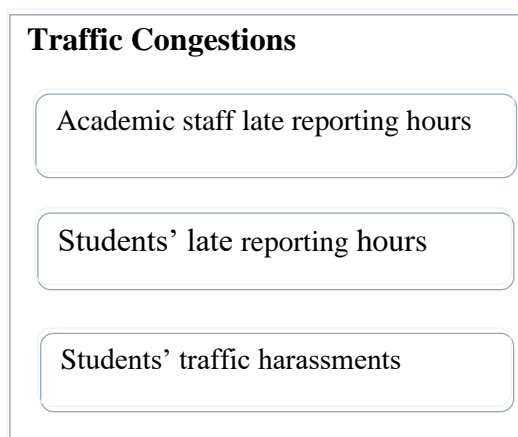
2.5 Research Gap

As the matter of facts, scholars share in common that the effect of traffic congestion is found in economic, social, health and environmental dimensions (Ajagbe. Et. al;

Harriet, Poku, and Emmanuel, 2013; Nelson, 2013; Kantala; Elisanguo, 2013; Kiunsi, 2013). Although they report that traffic congestions causes a psychological effects (tiredness, stress, fatigues, lateness and lack of study interest) to the students leading to their academic fail, the question is to what extent such psychological effect brings about academic fail of the students or is the association between traffic congestions in Dar es salaam statistical significant with students' academic fail? Or is the association a matter of implication and perceptions? Whether, girls are found more effected than boys (Elisanguo, 2013), is the different a matter of perceptions or statistical significance? Therefore, the current study is in need to fill such literature gap by establishing the association between effects of the traffic congestions and students' academic performance of secondary students in Ilala –Dar es salaam.

2.6 Conceptual Framework

Independent Variable



Dependent Variable

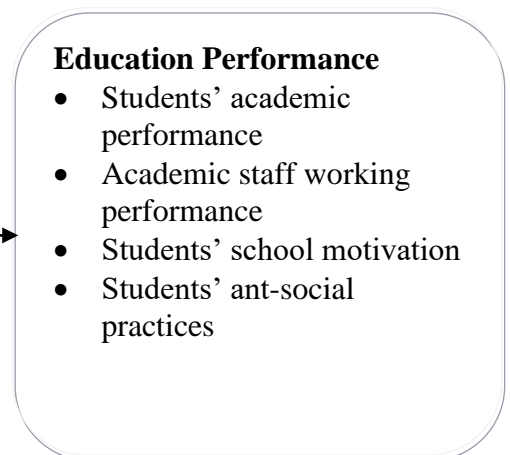


Figure 2.1: Conceptual framework

Source: Adopted from Nelson, Elisanguo, Harriet, at al., 2013 and Romeo, 2015.

2.7 Theoretical Framework

The relationship between independent variables and dependent variables are explained as follows: firstly, there is a significant effect between academic staff reporting hours and staff working performance. Secondly, students' late reporting hours may have an effect on students' academic performance and their school motivation; lastly, students' traffic harassments may have an effect on student ant-social practices.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter sets out various stages and phases that were followed in the data collection, measurement and analysis of data. Specifically, the following subsection was included; research design, target population, data collection instruments, data collection procedures and the data analysis.

3.2 Research Design

Research design is the conceptual structure within which research is conducted. The function of research design is to provide for the collection of relevant information with minimal expenditure of effort, time and money (Ranjit, 2005). The current study adopts a case study design in that case Dar es salaam- secondary schools Ilala Municipal-Gerezani ward. To achieve the designs, the study adopted both descriptive approach and casual approach. The design will also apply both qualitative and quantitative as a mixed approach of data analysis.

3.3 Area of Study

The study was conducted at Dar es salaam- Ilala-Districts-Gerezani ward. The choice of the study is based from the ground that Ilala-Gerezani ward is located at the Centre for Business Development (CBD) thus, being among the districts facing with vehicle queuing which may affect school going students as compared to other peripheral districts like Temeke and Kinondoni. The region is found along the

western coastal of Indian Ocean and it lies between latitude 33' and 7o0' South of the equator and between long 33o33' and 39o0' Eastern of the Greenwich. The region borders Pwani Region in the North, West and South while to the East, there is Indian Ocean. Dar es salaam ranks the first by region in population density. The region has total surface area of 1, 6285sq. kms out of which 235 sq.kms or 14.4% is covered by water bodies' namely Indian Ocean. The remaining part is land area covering 1,393sq.km. While the region is reported to be the smallest region this is represented by 0.16% of Tanzanian Mainland. The region has a total of 313 secondary schools with 135 public schools and 178 private schools. Ilala district which is the study area have a total of 26 wards, with 94 total secondary schools with 49 public schools and 45 private schools (Regional Commissioner Office, 2014).



Figure 3.1: A map of Dar es Salaam region

Source: Regional Commissioner Office, 2014

3.4 Survey Population

Researchers from different disciplines are interested in findings things that that apply to general population. Population should be the universe from which we can infer the findings from a representative' sample (Carmichael, 2014, pg43). In that case, the target population of this study is secondary students and academic staff who are 1988 and 157 respectively (Regional Commissioner Office, 2014). Such population are made from the three schools which are found in the ward namely: Benyamini Mkapa Secondary, Gerezani Secondary and Uhuru Secondary.

3.5 Sample Size and Sampling Design

3.5.1 Sample Size

The current study used three public secondary schools namely Benjamini Mkapa Secondary School, Gerezani Secondary Schools and Uhuru Secondary Schools. A total of 174 respondents were selected for the study. They included 70 secondary teachers selected from those schools and a total of 100 secondary students select for the study. Moreover, 4 key informants were also for the study, namely, three Head Masters and one District Education Officer. The chosen sample was grounded from the arguments presented by Kothari, (2004) that the logic of the sample should not be in terms of number rather it needs to be representative sample in terms of variable characteristics. For instance, the researcher did not consider those students and teachers coming from within the ward as their home of origin. Other variables which were considered were respondents' variability in terms of their sex, age and class level attended. Moreover, the study sample used brought a logical result when compared to other study which used a small sample size like Nelson, (2013).

Table 3.1: Distribution of sample size

S/N	Type of respondents	Frequencies (N)	Percentages (%)	Data collection tools	Sampling techniques and reasons
1	Academic staff	70	40.22	Questionnaire	Systematic sampling to avoid bias and to capture representative sample
	Public secondary students	100	57.47	Questionnaire	Systematic sampling to avoid bias and to capture the representative sample
	Informative (SDEO, Head Masters)	4	2.30	Interview	To get informative information from informative respondents
4	Total sample	174	100		

3.5.2 Sampling Design

The question to how the representative sample is obtained is very important in this study as different sampling techniques were adopted as follows:

3.5.2.1 Purposive Sampling

Kothari (2004) define purposive sampling as the strategies used for selecting sample from the population whereby the focus is to those respondents who are aware to the phenomenon under study in way that they may provide relevant information to the problem. After stratifying the total population into two groups the researcher led purposive sampling to select a total of three schools namely Benjamini Mkapa secondary School, Uhuru Secondary School and Gerezani Secondary School) and three Head Masters from the named schools and 1 Secondary District Education Officer (SDEO). The selection and use of this method rests from the ground made by Saunders' *et. al.*, (2012) that the method is used when you wish to get adetailed

information from the respondents. Therefore, the method enables the researcher to collect detailed information from staff with managerial position.

3.5.2.2 Systematic Sampling

Kothari, (2004) defined the term systematic sampling as the strategies used to select the sample from the source list whereby the researcher is based on regular interval. At the level of the wards systematic sampling conducted to select the sample from a prepared source list which includes a total of 1988 students from the three schools. The selection of sample for students were achieved by selecting the 20th term from the source list until 100 students were obtained for the study. The total of 157 secondary teachers from the source list were also selected basing on the 2nd term until a total of 70 secondary teachers were obtained for the study. The choice of the method is based on the ground that the method is free from the researchers' bias (Saunders' *et al.*, 2012).

3.6 Methods of Data Collections

The task of data collection follows after a research problem has been defined and research design chalked out (Kothari, 2007). In the study primary data were collected.

3.6.1 Structured Questionnaires

Structured questionnaires were administered to both academic staff and secondary students selected for the study to answer for the research objectives. A total of 70 designed questionnaires for academic staff were administered and a total of 100

designed questionnaires. Questionnaire were used to collect descriptive information from the respondents from which their responses were collected using five linkert scales such a such strongly agree, agree, disagree, strongly disagree, not sure as shown in the appendix part. The method was used because it can collect enough information from the respondents who may read and write properly in that case secondary teachers and secondary students.

3.6.2 Personal Interviews

Personal Interview was done to three Head masters from the three schools and to one Secondary District Education Officer. The reason was to get more detailed information from well informed respondents. Information relating to how traffic congestions may affect the student academic performance, late reporting hours in relation to students' school motivation and their decision and attempt to ant social practices were collected. Interview also helped to enrich the quantitative data from regression analysis.

3.7 Variables and Measurement Procedures

Table 3.2: Measurements of variables

Type of variable	Name of variable	Definition of variable/measurement
Independent variables	Late reporting hours	Delays (lateness) of students from getting both to school and home and academic staff delaying hours measured by number of hours being delayed
	Traffic harassments	Mean complication by public passengers and conductors experienced by students on his/her ways to school measured by binary response of yes or no. s
Dependent variables	Academic staff working performance	Means official responsibilities including teaching, administrative function, on-duty activities and remedial works measured by binary values such as performance met at percentage scores 60-100% and below performance expressed by percentage scores below 59.
	Students' level of academic performance	What the students can do and what they cannot do in terms of the following: students' boring and stressful during learning, decline in listening ability, poor participation during learning, fail to accomplish academic tasks, difficulty in understanding lesson and difficulty to follow instructions. nominal scales such as constant performance, improved performance, declined performance. Measured in terms of five linkert scales ranging from strongly disagree to strongly agree.
	School motivation	Means student level of school courage measured by binary scales such as motivated and not motivated
	Students' ant social practices	Include the following measurement indicators, attempt of premature sex, drinking alcohol, drugs and smoking and joining gangs or bad friends. Measured by binary scales of agree and not agree

3.8 Data Processing and Analysis

3.8.1 Qualitative Analysis

This study adopted thematic analysis approach. Thematic analysis is a method for identifying, analysing and reporting patterns (themes) within data (Braun & Clarke 2006). Thematic analysis approach is widely used in analysing qualitative data generated from interviews, field notes, documents photographs, video recordings and participant observation (Tylor- Powel & Renner, 2003). The researcher opts to use thematic analysis because it allows the researcher to use a wide variety of information in a systematic manner that increases accuracy or sensitivity in understanding and interpreting observation about people, events, situation and oorganization. This study used information from personal interview to analysis information relating to staff academic task performance, students' academic performance and their motivation as well as students' ant-social information relating to late reporting hours. The researcher adopted Taylor-Powel and Renner, (2003) step wise of qualitative analysis. The following steps will therefore be used in analysis: The researcher will be needed to be familiar with the data by reading carefully through the collected information from personal interview. The information needed for this study will be selected and leaving those not important; in the second step the researcher focused on the specific objectives to be answered by this study as started in section one; thirdly, the researcher will be looked into the source of data to find out answers of the identified questions. The information obtained were ccategorized into themes and sub-themes; fourthly, subtle variations of the themes will be highlighted; finally, descriptive analysis will be run to show the

frequency, average and percentages of the themes and sub-themes, this will be followed by the discussed of the data.

3.8.2 Quantitative Analysis

3.8.2.1 Descriptive Analysis

Firstly, descriptive statistics will be used to get the frequency, averages and percentage for both independent and dependent the variables, in that case, late reporting hours for both staff and students, students' motivation, students' ant-social crimes and respondents' profile such as (staff working experience, age, and level of education) and students' education level, age, distance of original from school).

3.8.2.2 Binary Logistic Regression

The use of binary logistic regression will also be used to establish the cause relationship of the model. The reason is to predict the odds of an outcome to occur, as an increase in predictors. The researcher used binary coding of 0 alternatively 1 for performance met and below performance responses of staff academic task performance. Below shows the model:

$$p(y) = \frac{1}{1 + e^{-(b_0 + b_1x_{1i} + b_2x_{2i} + b_3x_{3i} + b_4x_{4i}) + e_i}}$$

Whereby; y = outcome variable in that case, Staff academic task performance, b_0 = y -intercept when $x=0$, X_s = predicted variables in that case, x_{1i} = late reporting hours below 1hr, x_{2i} = late reporting for 1hr, x_{3i} = late reporting hours for 2hrs and x_{4i} = late reporting for 3hrs and above, and e_i = error term. The assumption underlying the

model is that staff late reporting hours in (x_s above) effects the academic tasks to be performed.

CHAPTER FOUR

PRESENTATION OF THE FINDINGS

4.1 Chapter Overview

This chapter presented the findings of the research. The researcher used descriptive and binary logistic regression statistical model to achieve for the following specific objectives: to establish the relationship between academic staff late reporting hours caused by traffic congestions and academic staff work performance; to explain how students' traffic harassments and disturbance caused by traffic congestions may affect students' academic performance; to assess the extent to which students' late reporting hours caused by traffic congestion may affect their school motivation rate and lastly to assess how students' late reporting hours at home caused by traffic congestion may lead to students' ant-social practises.

4.2 Test of Reliability and Validity

Validity represents the correctness of the findings or it is when the researcher is measuring what is supposed to be measured (Maxwell, 1996; Ballinger, 2000). Therefore, the researcher used a close ended question to measure for the validity in this study. Moreover, this study measured the reliability of the findings using Cronbach's Alpha. The rule of thumb is that a Cronbach's alpha greater than 0.9 means excellent consistency, greater than 0.8 means good consistency, 0.7 means acceptable, 0.6 means questionable, greater than 0.5 means poor and less than 0.5 is unacceptable (George and Mallery, 2003).

Therefore, the reliability in table 4.1 shows that there was a good consistency in

students' school motivation and students' academic performance. Both staff academic task performance and students' ant-social practices indicated an acceptable reliability. Therefore, the variables indicate that there were no specific objective with unacceptable consistency.

Table 4.1: Test of reliability

Question	Number of respondents	Cronbach's alpha	Number of items
Staff academic task performance	70	0.78	5
Students' school motivation	100	0.865	4
Students' academic performance	100	0.849	7
Students' ant-social practices	100	0.765	5

Source: Primary Data

4.3 Descriptive Analysis for Background Variables of the students

4.3.1 Gender of Respondents

Table 4.2 shows gender of respondents. This study measured sex of respondents in terms of males and females. The descriptive analysis showed that there were many male students at the frequency of 59, equivalent to 59.6%. Female ranked the second at the frequency rate of 41, equivalent to 40.4%.

4.3.2 Age of Respondents

Table 4.2 shows the age of the respondents. This research measured the age of respondents in terms of the years reached by respondents since born. The findings from descriptive analysis showed that most of respondents (students) were between

the age 16-18 equal to 45 respondents which was equivalent to 45.6%. Those respondents below 16 years were 37 equivalents to 36.8%. Moreover, respondents above 18 years were 18 equivalents to 17.5%.

Table 4.2: Background variables for students

		Frequency (N)	Percent (%)	Cumulative Percent
Valid	male	59	59.6	59.6
	female	41	40.4	100.0
Valid	below 16 years	37	36.8	36.8
	between 16-18 years	45	45.6	82.5
	above 20 years	18	17.5	100.0
	Total	100	100.0	

Source: Primary Data

4.4 Background Variables for Academic Staff

4.4.1 Gender of Respondents

Table 4.3 shows gender of respondents. This study measured sex of respondents in terms of males and females. The descriptive analysis showed that there were many males at the frequency of 38 equivalents to 54.28%. Female ranked the second at the frequency rate of 32 respondents, equivalent to 45.71%.

4.4.2 Age of Respondents

Table 4.3 shows the age of the respondents. This research measured the age of respondents in terms of the years reached by respondents since born. The findings from descriptive analysis showed that most of respondents were between the age 30-35 presented by 41 respondents, equivalent to 58.57%. Those respondents below 30

years were 22 equivalents to 31.42%. Moreover, respondents above 40 years were 7 equivalents to 10%.

4.4.3 Education Background of Respondents.

Table 4.3 shows education background of the respondents. Education background of the respondents was measured in terms of the level of education reached by the respondents. The findings from descriptive analysis showed that most of respondents hold undergraduate level of education who were 35 respondents equivalent to 50%. Those respondents who hold postgraduate ranked the second at the frequency of 16 equivalents to 22.86%. There were 19 respondents equivalent to 27.14% who were non degree holders.

Table 4.3: Background variables for academic staff

		Frequency(N)	Percent (%)	Cumulative Percent
	Male	38	54.28	54.28
	female	32	45.71	100.0
Valid	Age below 30 years	22	31.42	31.42
	Age below between 30-35 years	41	58.57	89.99
	Age above 40 years	7	10.00	100.0
Valid	Postgraduate education	16	22.86	22.86
	Undergraduate education	35	50	72.86
	non degree education	19	27.14	100.0
	Total	70	100.0	

Source: Primary Data

4.4.4 School Late Reporting Hours for both Academic Staff and Students

4.4.4.1 School Late Reporting Hours Below One Hour

Table 4.4 shows the late reporting hours for both academic staff and students. The total samples for academic staff were 70 and the total sample for students was 100.

The descriptive statistics show that academic staff had a maximum number of 8 staff who reported late below one hour and a minimum number of 10 who reported late below one hour. The means values were 7.9273 and the standard deviation was 1.94226. The descriptive statistics show that students had a maximum number of 20 who reported late below one hour and a minimum number of 22 who reported late below one hour. The means values were 9.7346 and the standard deviation was 1.44762.

4.4.4.2 Late Reporting Hours for One Hour

Table 4.4 shows the late reporting hours for both academic staff and students. The total samples for academic staff were 70 and the total samples for students were 100. The descriptive statistics show that academic staff had a maximum number of 11 who reported late for one hour and a minimum number of 7 who reported late for one hour. The means values were 6.8693 and the standard deviation was 1.15540. The descriptive statistics show that students had a maximum number of 14 who reported late for one hour and a minimum number of 12 students who reported late for one hour. The means values were 4.9634 and the standard deviation was 0.1247.

4.4.4.3 Late Reporting Hours Within Two Hours

Table 4.4 shows the late reporting hours for both academic staff and students. The total samples for academic staff were 70 and the total samples for students were 100. The descriptive statistics show that academic staff had a maximum number of 4 who reported late for two hours and a minimum number of 1 who reported late for two hours. The means values were 1.3273 and the standard deviation was 1.23310. The

descriptive statistics show that students had a maximum number of 11 who reported late for two hour and a minimum number of 8 students who reported late for two hours. The means values were 3.7640 and the standard deviation was 1.0894.

4.4.4.4 Late Reporting Hours Within Three Hours and Above

Table 4.4 shows the late reporting hours for both academic staff and students. The total samples for academic staff were 70 and the total samples for students were 100. The descriptive statistics show that academic staff had a maximum number of 0.000 who reported late for three hours and a minimum number of 0.000 who reported late for two hour. The means values were 1.568 and the standard deviation was 1.34298. The descriptive statistics show that students had a maximum number of 4 who reported late for two hours and a minimum number of 2 who reported late for two hours. The means values were 0.8472 and the standard deviation was 0. 8425..

Table 4.4: Late reporting hours for both academic staff and students

Variables	Late reporting hours for academic staff					Late reporting hours for students				
	N	Mean	Std Dev	Min	Max	N	Mean	Std.Dev	Min	Max
< 1hour	70	7.9273	1.94226	8.00	10.00	100	9.7346	1.4762	20	22
1 hour	70	6.8693	1.15540	7.00	11.00	100	4.9634	1.1247	12	14
2hours	70	1.3273	1.23310	1.00	4.00	100	3.7640	1.0894	8	11
3hrs and above	70	1.568	1.34298	0.00	0.000	100	0.8472	0.8425	2	4

Source: Primary Data

4.5 Students' School Motivation

Table 4.5 shows the students' school motivation rate. The researcher measured the students' school motivation using the following measurement indicators: attending for school days, listening for morning session, accomplishing the school

assignments, school commitments, attending for other school activities. The respondents in total of 100 were kindly requested to supply their responses using five linkert scales such as 1= highly motivated, 2= averagely demotivated, 3= low demotivated, 4= not at all and 5= I don't know. The results from descriptive statistics showed that students were highly demotivated with listening to morning session at the mean values of 1.4375 and standard deviation of .49921. Other remaining factors showed that most of respondents were averagely demotivated with the traffic congestions. This is shown by the following: aattending for school days has been shown with mean values of 1.6250 at standard deviation of .48718, accomplishing the school assignments with mean values of 1.7875 at standard deviation of .41166, school commitments at the mean valuee of 1.7875 at the standard deviation of .41166, and attending for other school activities with mean values of 1.6625, at standard deviation of .47584.

Table 4.5: Students' school motivation

Factors	N	Mean	Std. Deviation
Accomplishing the school assignment	100	1.7875	.41166
School commitments	100	1.7875	.41166
Listening for morning sessions	100	1.4375	.49921
Attending for other school activities	100	1.6625	.47584

Source: Primary Data

4.6 Staff Academic Performance

Table 4.10 shows staff academic task performance as the result of late reporting hours. Staff academic task performance has been measured in terms of whether tasks were met or were performed below agreed objective. Such tasks were defined in

terms of the following measurement indicators: on-duty activities usually a week; scoring and evaluation tasks usually a week; giving feedback to students usually a week; remedial classroom activities usually a week; teaching lesson usually a week. The results from descriptive statistics also showed that 25.72% of tasks were not met equivalent to 18 academic staff as the result of traffic congestions. Moreover, the tasks were met at 74.28% equal to total number of 52 academic staff.

4.7 Students' Academic Performance

Table 4.6 shows the students' academic performance. Students' academic performance was measured in terms of students' boring and stressful during learning, decline in listening ability, poor participation during learning, fail to accomplish academic tasks, difficulty in understanding lesson and difficulty to follow instructions.

Table 4.6: Staff academic performance

	Percentage	Frequency	Percent	Cumulative Percent
Below agreed performance	35	3	4.29	4.29
	45	6	8.57	12.86
	50	6	8.57	21.43
	58	2	2.86	24.29
	59	1	1.43	25.72
Performance met at agreed objectives	60	7	10	35.72
	61	10	14.29	50.01
	62	2	2.86	52.87
	65	5	7.14	60.01
	69	1	1.43	61.44
	70	7	10	71.44
	75	6	8.57	80.01
	78	7	10	90.01
	80	1	1.43	91.44
	90	6	8.57	100.0
Total	70	100.0		

Source: Primary data

The respondents were asked to supply their responses basing on the following five likert scales: 1= strongly agree, 2= agree, 3= disagree, 4= strongly disagree, 5= neither agree or disagree.

Such findings show that students' boring and tiresome had the mean performance of 1.8772 at the standard deviation of .502; poor participation during learning had a mean value of 2.4386 at the standard deviation of .68184; difficulty in understanding lesson had the mean value of 2.000 at the standard deviation of .90633 and difficulty to follow instructions had the mean values of 2.0351 at the standard deviation of 2.035. Moreover, respondents were found to be strongly disagree on the following factors: failure to accomplish a given tasks and decline in listening ability during learning, their mean performance were 4.3158 and standard deviation were .57190.

Table 4.7: Students' academic performance

Factors	N	Mean	Std. Deviation
Boring and stressful during learning	100	1.8772	.50250
Decline in listening ability during learning	100	2.2105	.67445
Poor participation during learning	100	2.4386	.68184
Fail to accomplish given academic tasks	100	4.3158	.57190
Difficulty in understanding lesson	100	2.0000	.90633
Difficulty to follow instructions	100	2.0351	1.01708
Valid N (listwise)	100		

Source: Primary Data

4.8 Students' Traffic Harassments

Table 4.8 shows students' harassments because of traffic congestions. The researcher measured traffic harassments using alternative binary response of yes or no. The

descriptive analysis showed that a total of 88 equivalents to 88% students were harassed with traffic congestion. Only 12(12%) of the students were not harassed by traffic congestions.

Table 4.8: Students' traffic harassments

	Category	Frequency (N)	Percent (%)	Cumulative Percent
Valid	No	12	12	12
	Yes	88	88	100
Total		100	100.0	

Source: Primary Data

4.9 Students' ant-social Practices

Table 4.9 shows the students' late reporting hours at home. The researcher measured the students' late reporting hours using hours categorised as below 7:00pm, during 7:00pm, during 8:00pm and during 9:00 pm. The results from descriptive analysis showed that most of the students reported home during 9:00pm and above. That is to say as the night hours go ahead, the number of students to report at their home stead were increased.

Table 4.9: Students' late reporting hours at home

Variables	N	Mean	Std Dev	Min	Max
< 7:00pm	100	1.9273	1.44527	7.00	9.00
During 7:00	100	3.8693	1.55440	13.00	15.00
During 8:00pm	100	5.3273	1.53510	16.00	20.00
9:00pm and above	100	9.568	1.84798	22.00	32

Source: Primary Data

4.9.1 Students' Involvement In Ant-Social Practices

Table 4.10 shows students who were affected with ant-social practices. The researcher identified those students who were affected by ant-social practices by using binary responses of yes or no. The findings from descriptive analysis showed that 23 respondents equivalent to 13.9% were involved with ant-social practices as the result of rate hours from school. The next category falls under those who did not involve, they were 77 respondents equivalent to 71.5 %.

Table 4.10: Students involved in ant-social practices

	Category	Frequency (N)	Percent (%)	Cumulative Percent
Valid	Not involved	77	71.5	71.5
	Yes involved in ant-social practices	23	28.5	28.5
Total		165	100.0	100.0

Source: Primary Data

4.9.3 The Nature of Students' Ant-Social Practices

Table 4.11 shows the nature students' ant-social practices as the result of reporting home at late. This research measured the ant-social practices using the following measurement indicators: smoking, alcoholic drinking, practicing premature sex, friendship with gang, using drugs. The responses were collected using alternative response of 1= agree and 2= not agree. The descriptive analysis showed that respondents disagree that they do not drink beer and join gangs or bad friends. Moreover, the results showed that students engage in premature sex and smoke like bang and marijuana.

Table 4.11: Nature of ant-social crimes involved by the students

Factors	N	Mean	Std. Deviation
Before I back home I use to smock such as bang and marijuana	100	1.2125	.45545
Before I back home I use to drink alcohol such as beer	100	1.8500	.35932
Before I back home I use to participate in premature sex	100	1.1125	.39277
Before I back home I use to joining with gang or bad friends	100	1.7500	.43574
Valid N (listwise)	100		

Source: Primary data

4.10 Assumptions of Binary Logistic Regression

Before running the model, the researcher has been interested in understanding the extent to which the data fits the general population (Field, 2014), in that case, assumptions such as multicollinearity, autocorrelation and test of normality were tested.

4.10.1 Correlation between Independent Variable (staff late reporting hours) and Dependent variable (staff academic task performance)

Table 4.12 shows the correlation between variables. Correlation of variables is when both the dependent and independent variables are related. Such correlation may be negative represented by -1.00 or positive correlation represented by +1.00. This study used a two-tailed Pearson correlation test. The findings showed that independent variable (staff late reporting hours) had a weak positive correlation values of .115 as shown by the two-tailed Pearson correlation tests with the relationship being insignificant.

4.10.2 Testing the Assumptions of Multicollinearity Test on Independent Variables

Researchers are too concern with the degree to which the predictors correlate to each other. However, the leading assumption is that predictors should not correlate too highly and that there should be what is called multicollinearity (Field, 2014, p. 312). This study adopted Variance Inflation Factors (VIF) as a measure of multicollinearity.

Table 4.12: Correlation between independent variable and dependent variable

Correlations			
		independent variable	Staff late reporting hours
independent variable	Pearson Correlation	1	.126
	Sig. (2-tailed)		.381
	N	70	70
Staff late reporting hours	Pearson Correlation	.115	1
	Sig. (2-tailed)	.391	
	N	70	70

Source: Primary Data

It is the rule of thumb that VIF close to 1 the better, and $VIF < 5$ may be not a course of concern. Likewise, Tolerance level > 0.2 may be not a course of concern. Therefore, table 4.13 shows that the VIF for different factors for staff late reporting hours are likely not to be the course of concern, since the VIF values are < 5 , and that the tolerance Level are > 0.2 . For all of the factors. This implies that the assumption for Multicollinearity is met.

Table 4.13: Testing the assumptions of multicollinearity test on independent variables

Model		Collinearity Statistics	
		Tolerance	VIF
1	<1hrs	.647	1.518
	1hrs	.653	1.525
	2hrs	.679	1.341
	3hrs and above	.857	1.145
a. Dependent Variable: staff academic task performance			

Source: Primary Data

4.10.3 Checking Linearity between Dependent and Independent Variables

Autocorrelation is another assumption which tests the fit of the model. The model assumes that residuals terms need to be uncorrelated. This assumption of independence is called autocorrelation. The violation of such assumption means that both the level of significant and level of confidence will become invalid. The current study uses Durbin Watson statistics measure to calculate the effect size of the assumption. However, the rule of thumb is that the test statistics can vary from 0-4 whereby 2 values mean that the residual are uncorrelated, <2 positive correlated, and <1 or >3 is a cause of concern (Field, 2014, p. 311). In that case, Durbin Watson test statistics shows the positive correlation (<2), which implies that the range of 1.52 is acceptable.

4.10.4 Testing the Assumption of Normality

The current study tested the assumption of normality by using Shapiro-wilk statistical test as shown in table 4.14. The results show that the tested variables were significantly correlated at the P-values of 0.05, except for a variable below 1 hour

which was not significantly correlated at the p-values of 0.05. This means that most of the variables had no influential cases or much residuals.

Table 4.14: Test of normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Staff academic task performance	.385	70	.000	.401	70	.000
<1hrs	.151	70	.057	.795	70	.139
1 hr	.078	70	.200*	.854	70	.018
2 hrs	.153	70	.003	.708	70	.000
3hrs and above	.187	70	.000	.778	70	.000

4.11 Output from Binary Logistic Regression

This study used Binary Logistic Regression analysis to establish the relationship between staff late reporting hours and their academic task performance. The model presents three tables such as model summary, classification table and variable in the equation shown in Tables 4.15, and 4.16.

The model summary shows the -2LL which is 57.799^a, the value for Cox and Snell's and Nagelkerke's R^2 is .29 and .27 respectively. Since the value for Cox and Snell's and Nagelkerke's R^2 show how well the model is strong. Therefore, the relationships between variables are not strong.

Table 4.15: Model summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	57.799 ^a	.29	.27

Moreover, table 6.2 shows variable in equation. It tells the estimate values for the

coefficient for the predictors which are included in the model. Thus b-coefficient in this model represents the change in the logit of the dependent variable in association with a unit change in a predictor. For instance, the odds to change below 1 hour of academic staff late reporting changes as the increase in their academic task performance, $b = -.42$, $\text{sig.} = 0.47$ ($p > 0.05$), such change is $\text{EXP}(B) = .99$ times an outcome to occur, $\text{wald} = .364$.

Table 4.16: Variable in the equation

Step 1 ^a	Below 1hr	.126	.054	.024	1	.834	1.016
	1hrs	-.42	.069	.364	1	.047	.960
	2hrs	.071	.215	2.983	1	.074	1.449
	3hrs and above	.077	.036	4.546	1	.036	1.080
	Constant	-8.379	5.531	2.295	1	.130	.000
a. Variable(s) entered on step 1: EA, PWR, LS, and WL							

CHAPTER FIVE

DISCUSSION OF THE RESULTS

5.1 Chapter Overview

The chapter presents the findings and discussion guided from the four specific objectives started in chapter one of this research. The analysis of the findings was done using descriptive statistics whereby percentage and the frequency of the variables and background information have been presented. Binary logistic regression has been also presented to test the assumption that there are significant relationship between traffic congestions and academic staff working performance. The presentation and discussion of this study have been guided by both the research findings and the findings from other scholars.

5.2 The Effect of Late Reporting by Traffic Congestions on Academic Staff Work Performance

The first objective aimed at establishing the relationship between academic staff late reporting hours caused by traffic congestions and academic staff work performance. The researcher used the following measurement indicators of factors to measure academic staff performance: on-duty activities usually a week; scoring and evaluation tasks usually a week; giving feedback to students usually a week; remedial classroom activities usually a week; teaching lesson usually a week. The measurements of the factors were done using alternative binary response such as whether tasks were met or were performed below agreed objective.

The descriptive analysis showed that most of academic staff were late below one hour and within one hour to the start of the academic tasks. The results showed that there were a maximum of 10 academic staff and a minimum of 8 academic staff who were late below one hour and a maximum of 11 and a minimum of 7 academic staff who were late within one hour. However, their standard deviations were slightly differences across the all hours ranging from below one hour to three hours. The descriptive statistics also showed that their mean performance decreased as the increase in time of late reporting. This implies that traffic congestion in Dar es Salaam is too dense during the early morning hours since there are most of passengers going to their working office (Nelson, 2013).

Moreover, when such results were compared with the task performed by the academic staff in relation to late reporting hours, the results from descriptive analysis showed that the academic tasks were not met at 25.72% equivalent to 18 academic staff and a total of 74.28 of the tasks were met equivalent to 52 academic staff. This is to say that since most of academic staff reported late at early hours, they were able to take over their responsibilities early with only few of academic staff fail to take over their academic responsibilities at early hours.

The results from interview by academic staff showed that to some extent traffic congestions has direct and indirect effect to their academic tasks performance:

I cannot say that traffic congestion do not affect our daily academic task performance, in fact it did, sometime you feel too tired during class session as the result of walking early in the morning so that you may not late for morning registration which is monitored by a special machine.....ehh...mh... sometime you leave home leaving other affair

unsolved.....in fact it real affect our academic performance and other home affairs.

The results from binary logistic analysis found that the relationship between the model in that case late reporting hours by traffic congestions and staff academic work performance had a weak relationship provided that the Nagelkerke R-square was 27%. This may imply the following: firstly, since the Ministry of Education and Vocational Training had established Staff Attendance Biometric Registration Machine (SABRM) to monitor the reporting hours for the academic staff, in that case staff might have been developing the tendency of working early so that they may report timely at their works. The model relationship may also be explained by the established Dar es Salaam Rapid Transport System (DART) which might have also rushing passengers to their working station including secondary teachers.

Moreover, the variables in equation showed that an increase in late reporting hours below 1 hours explained the increased the probability of the work not to be met under agreed objective at insignificant level, however, such relationship were 1.016 Exp (B) times an outcome to occur. This mean that there was the possibility of most academic tasks to remained unperformed if only the number of academic works could have increased to report below one hours, however such relationship could not be generalized to all population provided that the results were not significant. Likewise, an increase in late reporting hours within one hours led to decrease in the academic tasks with the probability of not met, explained by .960 Exp (B) times an outcome to occur in a significant way. This is to say that as the hours of reporting increased from one hour and above, there were few academic staff who become late

and thus the possibility of not attending or not taking over responsibilities were decreased.

While the effect of traffic congestions is seen as matter of degree regarding staff work performance at secondary schools in Dar es salaam, such results are also explained by Elisanguao (2013) who identifies that effects of traffic congestions are much witnessed in waste of time by public workers. Other studies also concur by explaining those late hours as caused decline in productivity of public workers (Mwaya, 2005 and Bwire and Mesoe, 2007). Scholars have continued to stress that whatever effect on productivity as the result of traffic congestions, working hours lost by public workers may be the reason, as for instance, in formal sectors it was reported that 9% of working hours are lost by workers due to traffic congestions (Harriet, at al. 2013).

Therefore, the relationship between late reporting hours caused by traffic congestion to academic staff work performance is weak explained by 27% of the model relationship provided that the city as launched both DART and SABRM that makes possible for secondary teachers to report early at their working station.

5.3 The Effect of Traffic Harassments on Students' Academic Performance

The second objectives aimed to explain how students' traffic harassments and disturbance caused by traffic congestions may affect students' academic performance. The term traffic harassments were taken to mean any uncomfortable sitting as the results of overload on board and other unmanned world from bus

conductors and other passengers experienced by the student. The researcher measured the students' traffic harassments using binary response of yes and no. The results from descriptive analysis showed that 88(88%) of the students were harassed and that only 12(12%) were not harassed.

Moreover, such results were connected to students' academic performance. In that case students' academic performance meant the following: students' boring and stressful during learning, decline in listening ability, poor participation during learning, fail to accomplish academic tasks, difficulty in understanding lesson and difficulty to follow instructions. The respondents were asked to supply their responses basing on the following five likert scales: 1= strongly agree, 2= agree, 3= disagree, 4= strongly disagree, 5= neither agree or disagree.

The findings showed that students were strongly agreed that such traffic harassments led to boring and tiresome during morning lesson session. Other factors were reported that students agreed that traffic harassments led to poor participation during leaning, difficulty in understanding lesson, difficulty to follow instructions. There were no students who disagree that traffic harassments did not affect their academic performance.

The results from student interview showed students' academic performance being affected by traffic congestions:

.... if the government will not consider the way we suffer from traffic harassments, truly...ah..ah mh... our academic performance will continue falling down.... this is clear in terms of school performance

ah mh..mh.. Private schools in the city make good performance provided that they have their own transport.

The findings concur with Elisanguo (2013) findings which report that the effect to students' performance is largely as it is reported by 80% of the students in Dar es salaam. The author explains that the congestion lead to tiredness, fatigues, stress, morning punishment and lack of private time for their study which in turn led to their academic fail. Students are reported to fail their examination (Romero, 2015). The findings also concur with the study reported by Ajagbe (2012) who asserts that the phenomenon has a negative effect on education as it makes students arrive late in school and gets home late.

Therefore, while most of students were found to have been facing with traffic harassments on their way to school, such traffic harassments are reported to affect their academic performance. As they strongly agree that they become bored and stressful during learning. Moreover, they agree that traffic harassments led to decline in listening ability, poor participation during learning, fail to accomplish academic tasks, difficulty in understanding lesson and difficulty to follow instructions.

5.4 The Effect of Students' Traffic Harassments on Their School Motivation Rate

The third objective was to asses the extent to which students' traffic harassments may affect their school motivation rate. The term traffic harassments were taken to mean uncomfortable sitting as the results of overload on board and other unmanned words from both the bus conductors and other passengers experienced by the student.

The researcher measured the students' traffic harassments using binary response of yes and no. The results from descriptive analysis showed that 88(88%) of the students were harassed and that only 12(12%) were not harassed. This means that most of the students experienced overloading on board and that they experienced unmannered words from both passenger and bus conductor.

The results from interview by the students showed their rate of school motivation were affected provided by harassments in forms of unmannered words from bus conductors and passenger as noted below:

Do not consider yourself as special with special preference, we are all passenger here, if you care it will be better if you arrange for your family transport so that you may avoid such distance..... please adjust accordingly what matter is for everybody to reach and board off.

Moreover, the researcher established to find the extent to which trafficking harassments affected students school motivation. The researcher measured the students' school motivation using the following measurement indicators: attending for school days, listening for morning session, accomplishing the school assignments, school commitments, attending for other school activities. The respondents in total of 100 were kindly requested to supply their responses using five linkert scales such as 1= highly motivated, 2= averagely demotivated, 3= low demotivated, 4= not at all and 5= I don't know.

The results from descriptive statistics showed that students were both highly demotivated with listening to morning session as the result of traffic harassments and averagely demotivated with the traffic congestions in terms of attending for school days, accomplishing the school assignments, school commitments and attending for

other school activities. This mean that there were the traffic harassments may also be the factor for students' school-drop out and poor academic performance as the result of low motivation. The results also imply that most of the student are not learning during morning session as they may be demotivated as the result of morning traffic harassments caused by traffic queue.

The findings from the study concurs by Romeo (2015) who found that not only students were reported to fail their examination but also were reported to be prone to depression and anxiety. This is because they found themselves helpless by the responsible government authority as they lack their basic requirements of mobility.

Therefore, traffic harassments have led to averagely students demotivated on the following factors aattending for school days, accomplishing the school assignments, school commitments and attending for other school activities. Moreover, most of students are highly demotivated in terms of listening for morning sessions.

5.5 The Effect of Students' Rate Reporting Hours at Home by Traffic Congestion as the Leading Factor for Students' Ant-Social Practices

The fourth objective aimed at assessing how students' late reporting hours at home caused by traffic congestion may lead to students' ant-social practises. The students late reporting hours was measured in terms of hours categorised as below 7:00pm, during 7:00pm, during 8:00pm and during 9:00 pm and above.

The results from descriptive analysis showed that most of the students reported home late specifically during 9:00pm and above. That is to say as the evening approached

the number of students to report at their home stead were increased. This is explained by the fact that in the city traffic queues increases during evening when most of passengers are back to their home stead, the same as during morning hours (Nelson, 2013).

Whether students' reporting hours provided them with opportunity to engage in ant-social practices was shown by results from descriptive analysis as follows: a total of 23 respondents out of 100 equivalents to 13.9% were found to involve with ant-social practices as the result of late reporting hours at their home stead. Those who did not involve in ant social practices were 77 respondents out of 100 equivalents to 71.5 %. This means that only one third of the sample was involved in ant-social practices.

Moreover, the researcher attempted to establish the extent to which students' late reporting hours led to their involvement in social acts. The study measured students' ant-social acts in terms of smoking, alcoholic drinking, practicing premature sex, and friendship with gang, using drugs. The responses were collected using alternative response of 1= agree and 2= not agree.

The results from descriptive analysis showed that respondents disagree that they do not drink beer and join gangs or bad friends. Moreover, the results showed that students engage in premature sex and smoke like bang and marijuana.

The students' habits of engaging in premature sex and smoking as reported in this study is also emphasized by scholars as the explain that the effect of traffic

congestion has extended to family level as parents lack enough time to care as the result school drops, use of drugs, heterosexual and homosexual behaviours do prevail (Elisanguo, 2013). Nelson, (2013) in Dar es salaam explain that the problem has also led to misunderstandings among family member, lack of children parental care and lack of time to participate into social welfare.

Therefore, as the hours increased from below 7:00pm to 9:00 and above, the possibility of most of the students to late home increased because of the evening queues. However, only one third of the students were found to engage in ant-social practices as the result of reporting home late hours. Moreover, while they were found not to engage drinking beer and join gangs or bad friends, yet few of them engage in premature sex and smoke like bang and marijuana.

CHAPTER SIX

SUMMARY, CONCLUSION AND RECOMMENDATIONS

6.1 Chapter Overview

This chapter chronologically, presents summary, conclusion and policy recommendations and areas for further study.

6.2 Summary of the Main Findings

The first objective aimed to establish the relationship between academic staff late reporting hours caused by traffic congestions and academic staff work performance. The results from descriptive analysis showed that the academic tasks were not met at 25.72% equivalent to 18 academic staff and a total of 74.28 of the tasks were met equivalent to 52 academic staff. The findings from binary logistic regression showed that the relationship between late reporting hours caused by traffic congestion to academic staff work performance is weak explained by 27% of the model relationship.

The second objective aimed to explain how students' traffic harassments and disturbance caused by traffic congestions may affect students' academic performance. The results from descriptive analysis showed that while most of students were found to have been facing with traffic harassments on their way to school, such traffic harassments are reported to affect their academic performance. As they strongly agree to be become bored and stressful during morning learning sessions. Moreover, they agree that traffic harassments led to decline in listening

ability, poor participation during learning, fail to accomplish academic tasks, difficulty in understanding lesson and difficulty to follow instructions.

The third objective aimed to assess the extent to which students' traffic harassments may affect their school motivation rate. The results from descriptive analysis showed that traffic harassments has led to averagely students' demotivated on attending for school days, accomplishing the school assignments, school commitments and attending for other school activities. Moreover, most of students are highly demotivated in terms of listening for morning sessions.

The fourth objective aimed to assess how students' late reporting hours at home caused by traffic congestion may lead to students' ant-social practises. The results from descriptive analysis showed that as the hours increased from below 7:00pm to 9:00 and above, the possibility of most of the students to late home increased because of the evening queues. However, only one third of the students were found to engage in ant-social practices as the result of reporting home late hours. Moreover, while they were found not to engage drinking beer and join gangs or bad friends, yet few of them engage in premature sex and smoke like bang and marijuana.

6.3 Implications of the Findings

Firstly, this is to say that since most of academic staff reported late at early hours, they were able to take over their responsibilities early with only few of academic staff fail to take over their academic respectabilities at early hours provided that the city as launched both DART and SABRM that makes possible for secondary

teachers to report early at their working station. Secondly, the students' degree of learning concentrations during morning sessions are likely to be affected with the traffic harassments and this has a short- and long-term effect on their academic performance. Thirdly, the findings also imply that regarding the decline in motivation rate this might have coursed for school dropout. Lastly, because of the high queues during the evening hours most of the students in the city become not easy to monitor their practices as the result they engage in ant-social practices.

5.4. Conclusion

Traffic congestions on secondary education performance is a matter of variability depending on the unity of analysis and other intervening variables. For instance, academic staff performance seems to have a little effect with traffic congestions shown by Nagelkerke R^2 statistics test value of 27% provided that other factors such as Staff Attendance Biometric Registration Machine and Dar es salaam Rapid Transit system may affect the relationship. Students' academic performances are likely to decline as they all agree with the measured indicators in case of traffic harassments. Their school's motivations were also found to be jeopardizing at average rate.

6.4 Policy Recommendations

The researcher recommends as follow

- i) The Ministry of Education and Vocational Trainings should make sure that official transportation system is offered to students during morning and evening in the big cities like Dar es Salaam so that students could be motivated with classroom learning during morning session and to be avoided from ant-social

practices and thus control for school dropout.

- ii) The Ministry of Education and Vocational Training should re-schedule the school timetable especially in the city to start late morning and finish early evening so that students may not miss some of lessons and that may have relaxed before the start of the sessions and even reaching their home stead early as possible.

6.5 The Contribution of the Study to the Theories

Like other studies, the study contributes to the current theory like employee work performance theory (Agarwala, 2001) that the organisation should invest much inhuman so that they achieve both the quality and quantity of the organization performance, as the findings showed that traffic congestion had a little effect on staff work performance provided that DART and SABRM had been introduced to counter check the problem in the city. More over the study contributes to Social development theory from the ground that while the theory requires economic, social and technological structure that explain about social development (Hardin, 1968) yet the study contributes that physical structure once not well handed might bring about social unwell provided that students are likely to engage in ant-social practices as the result of traffic queues.

6.6 Limitation of the Study

Among the limitation encountered in this study is the reluctance of some of respondents in participating for data collection. However, the researcher made them aware through their teachers and finally most of them showed cooperation.

Moreover, the researcher encountered financial limitation in that case few enumerators were used to collect the data. However, this did not affect the effectiveness of the data collection as a researcher had a close monitoring of the collected questionnaires.

6.7 Areas for Further Research

This study focused on assessing the effect of traffic congestion on education performance of secondary schools in Dar es Salaam –Ilala Tanzania. There is need for further research to be done in the following areas: -

- i) The degree of students' commitments regarding their academic performance as far as traffic congestion is concern.
- ii) The influence of DART and SABRM on staff reporting hours as far as traffic congestion is concern.

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APPENDIX

PART I: BASIC PROFILE OF RESPONDENTS

Respondents, kindly should be informed that this section request you to fill information relating to both your background information.

Background Information for both Academic Staff and Students

Academic staff		Students	
Age		Age	
Sex		Sex	
Working Experience			
Education Level			

PART II:

1. This question is designed only to academic staff in the selected schools in Ilala District. The question aim to explain the effect late reporting hours caused by traffic congestions on working performance of secondary school teachers in Ilala District. You are kindly required to answer the questions below as instructed.

- a) What average time per week do you think you report late to your working station in case of traffic congestion?

S/N	Average hours per week	Tick the appropriate answer
1	Below one hour	
2	One hour	
3	Two hours	
4	Three hours and above	

- b) To what extent are your official works (work performance) affected weekly as the result of traffic congestion? You are asked to fill the response using 1= well attended with score ranging 60-100 (fill scores please) and 2= not well attended with scores ranging from 59 below.

S/N	Staff work performance	1	2
1	What is the status of your teaching lesson activities usually in the week?		
2	What is the status of on duty activities and other extra curriculum activities usually in a week i.e counselling and guidance, administrative works		
4	What is the status of scoring, evaluating, and giving feedback to students usually in a week?		
5	What is the status of attending remedial classes usually in a week?		

2. The question aims to investigate the effect students' traffic harassments and disturbance on students' level of academic performance. You are therefore required to answer the questions below:

- a) Are you among the students who face with traffic congestion harassments and disturbance from conductors and public passenger caused by long queues?

S/N	YES	NO
1		

- b) If you are among those students who are affected by traffic congestions, can you say how does the harassments affects you? You are kindly required to respond by ticking the appropriate answer from the box below: **use 1= strongly agree, 2. agree, 3. dis agree, 4. strongly disagree, 5. Not sure.**

S/N	Descriptions	1	2	3	4	5
1	Traffic congestion makes me so boring					
2	Traffic Congestions makes feel stress					
3	Traffic congestions makes me physical and mental tiresome					
4	Poor listening to morning session					
5	Poor participation during teaching and learning activities					
6	Difficulties in understanding the lesson					
7	Difficulties to follow instructions					
8	Difficulty to accomplish the activities timely					
9	others					

3. The question aims to explain the effects of students' late reporting hours to ward their rate of school motivation. You are kindly required to answer the questions that follows below:

a) State the average hours per week to which you may report to school late

S/N	Average hours per week	Tick the appropriate answer
1	Below one hour	
2	One hour	
3	Two hours	
4	Three hours and above	

b) How does the traffic congestions affect your rate of school motivation?

S/N	School motivation rate	Highly demotivated	Averagely demotivated	Low demotivated	Not at all
1	Accomplishing the school assignment				
2	School commitments				
3	Listening for morning session				
4	Attending for other school activities				
7	Others				

4. Do your report home late because of traffic congestions?

Yes	
No	

a) State the average hours per week to which you may report at home late

S/N	Average hours per week	Tick the appropriate answer
1	Below one hour	
2	One hour	
3	Two hours	
4	Three hours and above	

- b) If you have ever experienced any of the following as the student as the result of traffic congestions, you are kindly required to tick the appropriate answer from the following responses: **1. Agree 2. Not agree**

S/N	Ant-social crimes	Agree	Not Agree
1	I have been smoking, drinking or drug usage		
2	I have been drinking alcoholic such as beer		
3	I have been using drugs		
2	I have been practising premature sex		
4	I have Membership or friendship with gangs (bad friends)		

PART III

The structured interview is designed to be filled by students. The questions aim to answer the question of HOW as far the effect of traffic congestions is concern to student level of comprehension during classroom sessions.

- i) How do the traffic harassments affect your academic performance during classroom teaching and learning process?
- ii) If you sometime arrive late to school, can you explain how this situation affects your academic progress?
- iii) How do you think traffic congestions have affected your school motivation?

THANK YOU