GENDER STEREOTYPING AND WOMEN INVOLVEMENT IN CYCLING: A STUDY OF MARKET TRADERS IN KISUMU CITY, KENYA

BY

ORUKO MARY ADHIAMBO

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF ARTS IN PROJECT PLANNING AND MANAGEMENT

DEPARTMENT OF URBAN AND REGIONAL PLANNING

MASENO UNIVERSITY

Declaration

I certify that this thesis has not been previously submitted for a degree in any university or any award. The work presented herein has been carried out by me and all sources of information have been specifically acknowledged by means of reference.

…… ……..

Mary Adhiambo Oruko **Date**

PG/MA/032/2010

This thesis has been submitted for examination with our approval as the University Supervisors.

…… ……..

Prof. George Mark Onyango **Date**

Department of Urban Planning and Regional Development

Maseno University

…… ……..

Prof. Maria Onyango **Date**

School of Business and Economics

Jaramogi Oginga Odinga University

Acknowledgements

It is with gratitude that I acknowledge a number of people, many more than I can mention, who were very instrumental in seeing this thesis come to completion. First and foremost, I wish to thank my pleasant and dedicated supervisors, Prof. George Mark Onyango and Prof. Maria Onyango, who have put in their best in ensuring this work is done. I thank them for their patience, support and expert guidance. Thanks to the former Kisumu Town Clerk Mr. Chris Rusana who dedicated his time to ensure that I got the relevant information with ease.

My gratitude also goes to Mrs. Alice Halwenge-Migoya of Kenya Traders' Association and the Market Superintendent Mr. Edwin Kisia for their relentless effort in making sure that I was introduced to the officials heading different market welfare groups.

I am indebted to my family members who gave me the moral support that I so much needed during this period of great concentration.

Kisumu Girls' High School staff, led by the Senior Principal Mrs. Mary Akunja was always understanding and ready to assist whenever there was need. Particular mentions go to Rosemary Ichusa, Regina Ojwang and Barack Lusi.

Above all, I thank the Almighty God for sufficient grace, good health, providence and sustenance.

Dedication

This research is dedicated to my dear father Mzee Joram Oduor and my late mother Lucia Oduor who sacrificed their comfort to give me a positive future. It is also dedicated to my beloved children Calvine, Daisy, Japheth and Angie who motivated me to fight on. Thank you all for being there for me.

Abstract

Socially constructed basis of differences between women and men, and the need to challenge existing gender stereotyping marks a shift in thinking about gender issues. In Kisumu City, boda-bodas (bicycle taxis) account for 69% of passengers with market traders as the main users for their intra and inter estate transport needs. Discrimination against women in the use of this means of transport that is perceived to be cheaper than public transport, has however relegating them to being passengers other than cyclists, having to spend between Ksh100 and Ksh 150 daily on transport. Issues of gender stereotyping- gender identity, sex-linkage and gender roles in Kisumu City inform most behaviour as cultural dictates are very strong and patriarchal. This study sought to investigate whether there is gender stereotyping in women involvement in cycling among the market traders in Kisumu City. The objectives of the study were to: assess the influence of bicycle status on women involvement in cycling, determine the effect of bicycle ownership on women involvement in cycling; establish the relationship between dress code and women involvement in cycling. These are issues that have cultural implication in Kisumu City and exposing their effects on women involvement in cycling would help understand why there is low adoption rate of women in cycling. The researcher used a cross sectional study with a descriptive and contextual approach to highlight how conditions prescribed by the society can affect women's involvement in cycling having the individual as the unit of analysis. The study was done on 375 adult market traders who were sampled from 16243 market traders found in 11 markets in Township Location of Kisumu City through systematic random sampling. Purposive sampling technique was used to identify six key informants and a Focus Group Discussions (FGDs). Primary data was collected through questionnaires, interview schedules and observations. Documented reviews were used to collect secondary data. The questionnaire was piloted on 38 market traders and two supervisors assessed the relevance of the items. Triangulation enhanced validity and reliability, fortified by case cluster method. Data was coded, classified and organized into themes. Contingency tables were generated by cross tabulations and Cramer's *V* was used to measure association. The study established that there is gender stereotyping in women involvement in cycling with a focus on market traders in Kisumu City. Gender roles affected female market traders' attitude towards cycling; with a heavy leaning towards the belief that men were the ones to cycle. Females who believed that cycling was for men were 8 times more likely to be non-cyclists and about 4 times less likely to be regular cyclists compared to the male with the same belief. Bicycle ownership did not affect women involvement in cycling; power relations did. Among females who claimed ownership of at least a bicycle, or those whose mothers claimed ownership, 50.0% were regular cyclists while the other 50.0% were irregular cyclists; none was a non-cyclist. For those whose spouses and fathers claimed ownership however, the proportion of regular cyclists reduced almost 2.5 times. Dress code dictated the level of female traders' involvement into cycling. Majority (70.8 %) felt that the dress did not affect cycling chances, their level of involvement in cycling varied with the opinion on dress code. Among those who felt that it did, 45.0% were non-cyclists while 24.5% of them were regular cyclists. Among those who were for the contrary opinion, 30.5% were non-cyclists and 27.5% were regular cyclists. The study recommends the improvement of road infrastructure to entice more women into cycling, awareness creation on road safety and retrogressive culture, industrial development policy geared toward the building of a local bicycle industry that would manufacture affordable women-friendly bicycles.

Table of Contents

Acronyms and Abbreviations

AU	-	African Union
CBD	-	Central Business District
EP	-	European Parliament
FGD	-	Focus Group Discussion
GAD	-	Gender and Development
GoK	-	Government of Kenya
IMT	-	Intermediate Mode of Transport
KCC	-	Kisumu City Council
Ksh.s	-	Kenya Shillings
LA21	-	Localizing Agenda 21
MCK	-	Municipal Council of Kisumu
MDGs	-	Millennium Development Goals
MT	-	Motorized Transport
NMT	-	Non-Motorized Transport
SCP	-	Sustainable Cities Program
SSA	-	South Sahara Africa
SUM	-	Sustainable Urban Mobility
UN-Habitat	-	The United Nations Human Settlements Programme
WB	-	World Bank

Definitions of working terms

Bicycle Ownership – Right to possess a bicycle and control it. In this study, it is presumed that women cannot own bicycles

Bicycle Status – refers to the individual attitudes and societal perception of the 'image' of the bicycle in a natural set-up and informs who will cycle in the society.

Dress Code –This is the way of dressing among women and men accepted by the society to ultimately define gender.

Gender –In this study, gender has been used interchangeably with 'sex' where males are men while females are women.

Gender Identity – This is one's unconscious or conscious awareness and acknowledgement of being a member of a particular sex.

Gender Stereotyping – This is any situation that promotes the exclusion of women from accessing cycling opportunities.

Gender Roles – This are exclusive cycling behaviours that the society expects and male respondent to exhibit.

Involvement in Cycling – Market traders' level of participation in making decisions relating to cycling and the actual practice of cycling

Bicycle Use –bicycle use is the actual practice of cycling by market traders. The level of participation has been divided into three categories: Non-cyclists (not able to ride bicycle), Irregular cyclists (knows how to ride bicycle but cycled to the market less than 15 days the

month prior to the interview) and regular cyclists who cycled more than 15 days the previous month.

Market Traders –Persons who sell goods and services in the 11 markets of Township Location.

Sex-Linkage – Refers to market traders' biological and social status and is characterized as female or male

List of Tables

List of figures

List of Plates

CHAPTER ONE

INTRODUCTION

1.1. Background to the Study

Cycling, one of the strategies of achieving sustainable mobility finds significance not only in its spatial benefits but also as an alternative to the use of fossil fuels and reduced financial costs on transport among other benefits (Krizek, Pamela, & Nabiyou, 2004; Xing, Handy, & Buehler, 2010). Women's entry into the activity that had always been a male domain was met with skeptism and acrimony in the 19th Century when gender roles were clearly defined (Garrard, Rose, & Lo, 2007; Heesch, Salqvist, & Garrard, 2012; Van der Kloof, 2011; Hanlon 2012). Compelling scientific evidence suggests that cycling is still male dominated in most developing countries (Krizek *et al*., 2004; Titze, Stronegger, & Oja, 2007; Garrard, 2007; Emond, Tang, & Handy, 2009). Research on gender differences in cycling behaviour has revealed that while egalitarian nations like the Netherlands have high counts of women cyclists (55 percent), the converse is true in the traditional nations like China where it could go to as low as 8 percent for men and only 1 percent for women (Gerrard *et al.,* 2007; Emond *et al.,* 2009). To the traditional nations, the issues that would be of interest to explain the gender differences depends on whether exclusion of women in cycling is conditional or on their own volition. How are women cyclists viewed? Do women have bicycles? Must their thighs be covered while cycling? These are the areas of interest in this study.

It has been confirmed that countries that have a leaning towards cultural dictates have low adoption rates in cycling among their women (Cuddy, Crotty, Chong, Norton, M. I., & Harvard Business School, 2010). Most cultures have clear gender roles whereby female and male perform different tasks. Men as a group possess higher status, making them to be viewed as possessing more of whatever skills their society most values while women are

relegated to lower positions of submissiveness and interdependence (Cuddy *et al.,* 2010). It is worth noting that gender stereotyping are societal perceptions of myths, customs, science, ideas and religion; basically they are what individuals value as normal or true, based on their societal networks (Macrae, Stangor & Hewstone, 1996) Cultural values and gender stereotypes therefore seem to align. Sandra Bem's Gender Schema Theory (1981) and Alice Eagly's Social Role Theory (1987), in explaining how individuals become gendered in the society, underscore three elements- sex-linkage, gender identity and gender roles as prerequisites for the regulation of behaviour to conform to the cultural definition of what it means to be female or male (Shalala, 1995; European Parliament [EP], 2006; Polk 2009, Emond *et al.,* 2009). Different studies have revealed that gender stereotyping can influence who should cycle in the society (Hanson, 2010; Van der Kloof, 2011; Heesch *et al.,* 2012; Porras, Stoscheck, & Van der Kloof, 2012), who should own the bicycle (Peters, 2001; Johnson & Latham, 2007; Maramba & Kuzinya, 2010; Hanson, 2010), and how men and women should dress (Winterton, 2011; Hanlon, 2012; Porras *et al.,* 2012). The elements Sex-linked characteristics, gender identity and gender roles are thus cross-cutting issues that blend with culture in the process of socialization to bring about gender stereotyping in the society. This is what has evoked the researcher to get more information regarding obstacles to cycling behaviour, be it on women or men.

Several factors in an individual's biological and personal history increase the possibility of becoming either a victim or perpetrator of gender stereotyping in cycling behaviour. It is a universal assumption that while men are independent, women are interdependent, which causes hindrance to women's cycling behaviour due to negative perceived bicycle control, negative attitude towards cycling, inadequate cycling skills and lack of enough information on cycling benefits (Emond and Handy, 2009). Personal attitudes and perceptions towards women cycling have strong leaning on the gender roles to influence mode preference

(Hanlon, 2010). Additionally, the perception of cycling by an individual is important since the way that a person perceives cyclists has an effect on the individual's likelihood to cycle (Xing *et al., 2*010). The notion that women should not occupy public space like men and the perception that mobility and cycling are associated with masculinity and freedom of movement all limit women's cycling chances (Van der Kloof, 2011; Porras *et al.,* 2012; Mandel, 2004).

Mode ownership is a key factor in explaining mode use, with bicycle ownership being a natural precursor of bicycle use (Moudon, Lee, Cheadle, Collier, Johnson, & Weather, 2005; Xing *et al.,* 2010). Apart from ownership of the bicycle, the relative power of the bearer influences cycling behaviour as enforced by the community or culture (Shalala, 1995; Cresswell & Uteng, 2008). Bicycle ownership has therefore been found to be strongly associated with gender. Men are seen to having more power also because they are perceived to be more financially stable compared to their women counterparts, making men better endowed in the acquisition of the bicycle compared to women.

A study was done in Uganda by Maramba & Kuzinya (2012) to determine the effect of bicycle ownership on women transport. A significantly higher share of women than men had no access to bicycles as a means of transport. They thought that this could be due to biased bicycle ownership and control. The fact that men use their superior position within the household to allocate themselves more efficient means of transport and that women have weaker bargaining position for household resources makes the issue of control of the bicycle a big constrain to women cycling (Peters, 2001; Johnson-Latham, 2007; Maramba & Kuzinya, 2010; Hanson, 2010). A case is reported of a rural bicycle project for women in Mozambique where men took possession of all the bicycles and where women questioned there were cases of gender violence (Africa Union [AU], 2004).

Nearly every society throughout history has made distinctions between male and female gender by the type of clothing they are expected to wear (Hanlon, 2012). For centuries, clothing has been one of the most defining aspects of culture and society and is associated with gender roles (Van der Kloof, 2011). Apart from being a strong indicator of culture and gender, dress code also defines lifestyle, conveying social messages relating to individual or group identity (Porras *et al.*, 2012). Since cultural norms and expectations define clothing for both men and women, they are related to the meaning of being a man or woman. While conservatives of culture have in the past advocated for status quo in women dressing even while cycling; the liberals have augured that the dress is not appropriate for cycling. Despite the fact that women were not expected to expose their bodies, those who wore 'men's' clothing were ridiculed as prostitutes and in the process the bicycle branded as an agent of intoxicating women with immoral acts since the male gender was threatened (Winterton, 2011; Hanlon, 2012). Several attempts by the American women cyclists to adapt proper cycling clothing in the 19th Century were met with rejection by American conservatives of the time because of strong gender roles although the feminists supported it as a means of emancipation (Hanlon, 2012). While the Rational Dress Movement ushered in the Bloomers as the appropriate cycling clothing for women in America (Winterton, 2011; Vander Kloof, 2011; Hanlon, 2012), no structured transport cycling clothing for women has been identified in the African countries.

In Kenya, only 1 percent of the trips are done on bicycle (Republic of Kenya, 2010). No data on gendered aggregation is however documented. Angira (2010) observed that the use of the bicycle as a means of movement in Kenyan major cities has been declining over time because the use of the bicycle as a means of transport is associated with people of low economic status. Bicycle use was therefore relegated to the low-class in the society, an issue of attitude

and perception. This, he attributed to lack of consistent policy on urban transport in Kenya, together with lack of systematic planning for urban transport.

In Kisumu, boda-bodas (bicycle taxis) account for 69% of passengers, forming one of the key modes of intra-city transport. While the NMT fleet was estimated at 8000fleets in 2005, the motorized vehicle fleet was estimated at 10000 (Kisumu City Council [KCC], 2005) although the official documents are silent about the gender aggregation, studies show that only 1% of the cyclists are women (Mbidhi, 2010). Kisumu City therefore portrays an undisputed scenario of androcentric cycling where bicycles are synonymous to men. While bicycle taxis (boda-bodas) have for a long time been the cheapest and most reliable mode of transport for the urban poor, women have been denied the diversity of choice in the transport sector (KCC, 2005); obstacles to cycling abound (Mbidhi, 2010). In Kisumu City, cultural values are so strong that even the elites, the traders and the political class bow to the dictates hence the possibility of gender stereotyping.

While the field of gender studies has evolved, with research on gender differences in cycling behaviour having grown considerably, little attention has been given to factors that cause discrimination and biasness in opportunities related to cycling. Emond *et al.* (2009) having been motivated by the lower rates of bicycling among women compared to men in the US, carried out a study to explain gender differences in bicycling behaviour. The study revealed strong interaction between gender and certain individual factors like safety perception and household responsibilities but did not find out whether the residual behaviours were out of choice or they were incidental or stereotyped. In Kisumu City, emphasis on the automobile infrastructure design has resulted in less focus on non-motorized transport, particularly with regard to inclusiveness in cycling (Guitink, 1996). This has left women at the mercy of cultural dictates which prescribe the gender roles, sex-linkage and gender identity in cycling; a situation that may have discouraged cycling among the women hence the low adoption

rates. In this research, a study of market traders in Kisumu City was used to investigate whether there is gender stereotyping in the involvement of women in cycling in the City. Market traders are of particular significance because markets form social environments which act as important agents of socialization among adults hence perpetuation of cultural practices (Folkesson & Skarp, 2011). An important advancement in the current research has been the incorporation of cognitive psychology in the study of gender in cycling. Cognitive psychology pays explicit attention to the social, institutional and cultural contexts of people-environment relations. This perspective emphasizes the multiple dimensions, multiple levels and complexity of human situations. The perspective illuminates the conditions under which gender differences are more likely to appear in a natural set-up. This study is concerned with the discriminative aspects of these differences in the way they influence market traders towards cycling. This is therefore the reason why the researcher sought to investigate gender stereotyping and women involvement in cycling among the market traders.

1.2. Statement of Problem

In Kisumu City is one of the cities where the boda-bodas (bicycle taxis) have thrived, account for 69% of passengers and forming one of the key means of intra estate and inter estate transport (KCC, 2005). It is worth noting however that most of these passengers are market traders and in particular women, with a higher percentage of men getting to the same destinations through cycling. These passengers spend approximately Ksh. 100 to Ksh. 150 daily on transport, estimated at Ksh. 3,000 to Ksh. 4,500 monthly eating into the meagre profit that they get from market trade. This invokes the question; can more women also cycle to reduce their transportation cost? Is their cycling behaviour affected by the bicycle status, bicycle ownership or dress code?

The cultural values dictate that the sitting position while cycling is unwomanly, women have no ownership rights of the bicycle and they are not supposed to show their thighs to the

public. Sex-linkage, gender identity and gender roles are cross cutting issues that are prerequisites of gender stereotyping in the City. A critical look into the cultural issues in Kisumu City however, shows that these cultural dictates are not so rigid as to influence the participation of women in cycling. Why then are women criticized whenever they are seen cycling in Kisumu City?

Women also constrain while using public vehicles for transport as it affects their disposable income. They however opt for public vehicles to ensure more efficient operations of their businesses, calling for a cheaper means of transport; the bicycle. The open discrimination that hinders women from being cyclists yet they are the main users of public transport is however worrying. This is the reason why the researcher sought to investigate whether there is gender stereotyping in women involvement in cycling.

1.3. Objectives of the Study

1.3.1. Broad objective.

The overall objective of this study was to investigate whether there is gender stereotyping in women involvement in cycling among the market traders in Kisumu City.

1.3.2. Specific objectives

The specific objectives of the study were to:-

i. Assess the effect of bicycle status on women involvement in cycling among market traders in Kisumu City;
ii. Determine the effect of bicycle ownership on women involvement in cycling among market traders in Kisumu City;
iii. Establish the relationship between dress code and women involvement in cycling among market traders in Kisumu city.

1.3.3. Research Questions

This study sought to answer the following questions:-

i. How does bicycle status affect women involvement in cycling among market traders in Kisumu City?

ii. How does bicycle ownership affect women involvement in cycling among market traders in Kisumu City?

iii. What is the relationship between dress code and market traders' involvement in cycling in Kisumu City?

1.4. Justification of the Study

Since the 1995 Fourth World Conference on women in Beijing, there has been increasing awareness in realizing the inequalities between sexes; inequalities that have exacerbated gender differentiated role assignments and expectations; inequalities that have brought about exclusions, discrimination, and subordination; inequalities that have led to unequal distribution of power between female and male (Shalala, 1995; Polk 2009). Twenty years later, there has been insignificant change in cycling behaviour between female and male particularly in the traditional nations. This study investigated whether there is gender stereotyping in women involvement in cycling among market traders in Kisumu City, Kenya. It has contributed valuable information to the field of sustainable mobility by providing information on why there are more men cyclists than women in Kisumu City. It has also provided policy makers in the city with information appropriate for mainstreaming gender in cycling. This should inform policy formulation in the transport sector apart from influencing the balancing of projects that are gender sensitive. The decision makers and practitioners should be more sensitive to gender parity and avoid using theories that have no contextual backing.

1.5. Scope and Limitations of the Study

The aim of the study was to investigate whether there is gender stereotyping in women involvement in cycling among the market traders in Kisumu City. Geographically, the study focused on three hundred and seventy five market traders from eleven markets drawn from Township Location in Kisumu City. The study was cross sectional in nature and used interviews, Focus Group Discussion (FGD), observations and document analysis as the key methods of data collection from May 2012 to December 2012. Theoretically, the study narrowed down to the influence of bicycle status, bicycle ownership, dress code, and their effects on women involvement in cycling among market traders in Kisumu City.

The major limitation on the study was the delay caused by the market traders in submitting the questionnaires back. Efforts were however made to retrieve all the questionnaires.

CHAPTER TWO

LITERATURE REVIEW

2.1. Introduction

This chapter discusses the literature related to gender stereotyping and women involvement in cycling. The review has been conceptualized under the objectives of the study and focuses mainly on the influence of bicycle status, bicycle ownership, dress code and their effects on women's involvement in cycling. These are the main issues of this study. In all the three objectives, issues of sex-linkage, gender identity and gender stereotyping are cross-cutting.

2.2. Bicycle Status and Women Involvement in Cycling

A number of studies, mainly aimed at increasing women's participation in cycling, indicate that people have different perceptions of who should cycle; females or males? An important viewpoint however is that females have different perceptions about cycling compared to the male regardless of whether they are advanced or basic in cycling (Emond *et al.*, 2009; Van der Kloof, 2011; Heesch *et al.*, 2012).

Emond *et al* (2009) in their study on how gender influences the decision to use a bicycle in the US found strong interaction of gender with certain individual factors like safety perceptions and household responsibility and to a lesser degree with social and environmental factors to influence bicycle behaviour. Garrard *et al.* (2007) confirmed this when they stated that perceived lack of safety on the roads is fundamental to the decision on whether to cycle or not to cycle. Cuddy *et al.* (2010) however mentions cultural factors to influence the decision to cycle or not.

In acknowledging the role of individual attributes in determining whether to cycle or not, Porras *et al.* (2012) added factors like lack of confidence among women cyclists, comfort,

end trip facilities, bicycle security and limited choices for women's bicycles as some of the major constraints to women's cycling.

Porras *et al* (2012) also noted an association between gendered roles men and women play in our societies and accessibility to mobility and public space. They observed that the society still looks at women as being in charge of reproduction hence caretakers, a role that inevitably pushes women to occupy private space.

In a study in Accra, Nigeria Grieco (1995) explained how the male-dominated local cultures portray women's use of the bicycle as inappropriate and unwomanly, branding the more daring dissenting women as 'loose', 'behaving like 'men' and 'unfit for marriage'.

Other researchers like Hanson (2010), Porras *et al.* (2012) and Van der Kloof (2012) agreed that there was gender discrimination in cycling as early as the 19th Century when assertive women who dared to cycle were ridiculed as it was generally considered unsuitable for women at that time; the position while cycling was unladylike. Cycling was therefore seen as an activity of 'loose' women or prostitutes.

Despite these obstacles however, Van der Kloof (2011) deemed women's involvement in cycling as a bifurcated activity consisting of both spatial and social benefits. According to her, the infrastructure elements and their relationship to cycling define the spatial benefits on one hand while the human dimension defines the social benefits on the other hand. On a spatial lens she sees cycling among women as a way to actively participate in the society by occupying public space while on a social scale, cycling is seen as a tool that has emancipated women in history, challenging the male dominance by giving women independence, mobility and furthering women's rights.

Van der Kloof (2011) claimed that women have been socialized to believe that occupying public space is not appropriate for them but for their brothers and fathers since mobility and

cycling are associated with masculinity, speed, danger and freedom of movement. Cycling by women therefore implicates to be in public space, an aspect that is considered outside the appropriate roles of women.

According to Heesch *et al.* (2012), this discrimination in the line of gender, has limited the accessibility of women to bicycle use with a residual effect of limiting the number of affordable women's bicycles as the bicycle industry does not find any advantage in women bicycles.

Gender stereotypes are simplistic generalizations about the gender attributes, differences and roles of individuals. Although stereotypes can include positive traits, they most often consist of negative ones that are then used to justify discrimination against a given group. The assignment of negative stereotype can result in sexism, the belief that the status of women is inferior to the status of men. Sexism is perpetuated by systems of patriarchy where male dominated local structures lead to male–centred norms that become the 'standard' to which all persons appear, in the process leading to the oppression of women.

A prevalent view regarding gender-linked behaviour is that the qualities cultures associate with masculinity and femininity are not innately female. They are socially construed roles whereby individuals who violate them are perceived unfavourably, delineating how males and females should behave (Williams & Best, 1990).

Different researchers have addressed different aspects of bicycle status including individual's perception (Emond *et al., 2*009), culture (Cuddy *et al.,* (2010), gender roles (Van der Kloof, 2011) and the benefits and obstacles to women cycling (Garrard *et al., 2*007). Emond *et al* (2009) study in the US found the societal factors as being less significant in women's cycling, the researcher was aware of the fact that the cultural set up in the US may be different from the set up in Kisumu City where culture is patriarchal and people bow to the dictates. These cultural dictates are presumed to be correlated with women's perception of the benefits and

obstacles in cycling. Although the Accra studies by Grieco (1995) attributed women's lack of involvement in cycling to culture and gender roles, the aspects gender identity to get the perception of women was missing. Looking at gender identity, sex-linkage and gender roles as perspectives that inform gender stereotyping is core in understanding the 'bicycle' as the device that informs gender difference in cycling. The researcher therefore sought to assess the effect of bicycle status on women involvement in cycling.

2.3. Bicycle Ownership and Women Involvement in Cycling

The 1890s was the peak of the American bicycle craze causing bicycles to be bought in large numbers. In 1897 alone, more than two million bicycles were sold in the United States, about one for every thirty inhabitants. An estimated 133 million bicycles were produced and sold worldwide in 2011, twice as much as the number of cars manufactured and a 500% increase from 50 years ago. This trend in ownership has been positively associated with a similar trend in the number of cyclists.

Rwebangira and Byabato (2001) documented that in 2005, 42 % of households in Sydney, Australia owned at least one bicycle while the number of households with no bicycles fell by 4% from 2001. This increased ownership of the bicycle according to them supported increased availability, leading to growth in bicycle travel by 18%.

In studies done in Africa, Calvo, Sub-Saharan Africa Transport Policy Program., United Nations [UN], and World Bank (1994) found that only 15% of the households in Mbale Uganda, owned bicycles. Rwebangira and Byabato (2001) study in Kenya in 2001 revealed that the level of bicycle ownership was very low ranging from 0.2 to 0.6 bicycles per household. According to him, the main determinant of bicycle ownership was cost; majority could not afford to purchase a bicycle.

According to Grieco *et al* (2007) an examination of the influence of ownership of the bicycle on cycling found that more men than women owned bicycles and enjoyed family support to use them. Xing *et al* (2010), in their study of determinants of bicycle ownership and use in six U.S Cities, found strong effects of individual attitudes and physical and social environmental factors on bicycle ownership and use.

Peters (2001) on the other hand argued that most cultures that uphold tradition relegate women to subordinate positions because of their biasness towards patriarchy. To him, men have superior position within the household hierarchy and appropriate the most efficient means of transport for themselves. He attributed this to the male-dominated local cultures that portray women's use of the bicycle as inappropriate and unwomanly. According to him, these male-dominated local cultures portray women's use of the bicycle as inappropriate, denying them the opportunity to own bicycles.

According to Hanson (2010) also, women's weak bargaining position for household resources has placed the most flexible transport forms outside their routine reach. In her opinion, more women than men had no means of transport at all.

Maramba and Kuzinya (2010) supported this by noting that ownership of the bicycle was associated with use of the bicycle. In a study on a bicycle project in Uganda the study revealed that very few women owned bicycles while men owned most of the bicycles and therefore got priority to use them. This, they attributed to cultural beliefs and practices which dictate that men control women and most wealth-generating property in many African societies.

Cresswell & Uteng (2008) went beyond ownership; according to them accessibility and use of the bicycle depend on the relative power of the bearer; power which would command certain responses from other people; responses that are enforced by the community or culture.

In another study in rural Mozambique, Africa Union [AU] (2004) sites a situation where village women were issued with bicycles to alleviate transport burdens just for the bicycles to be taken from them by their husbands or other male relatives. Where women resisted, there were cases of domestic violence. According to the study, women's transport was frequently constrained by lack of ownership or access to means of transport.

Cuddy *et al* (2010) asserted that attitudes and expectations surrounding gender roles are typically based not on any inherent or natural gender differences, but on stereotypes. To them, gender stereotypes form the basis of sexism or prejudiced belief that values one sex over the other. Due to sexism therefore, women may not be given the same access to opportunities as men.

William and Best (1990) study of 14 countries concluded that gender stereotype differentiation tended to be higher in traditional countries that were conservatives and hierarchical with low level of socio-economic development.

Cuddy *et al* (2010) felt that although discrimination on the basis of sex is outlawed in many countries, unequal treatment of women continues to pervade social life with gender stereotyping limiting women choices and freedoms. According to them, women are not given the same access to opportunities as men and they grow up believing that they should be treated differently from men.

Different researchers have reported that bicycle ownership has an influencing effect on people's involvement in cycling. Association between gender and bicycle ownership has also been confirmed (Hanson, 2010; Maramba & Kuzinya 2010). Gendered power relations in bicycle ownership have been used to explain gender differences cycling (Peters, 2001). The question however is, are cultures identical across African countries? Has Article 27 of the Bill of Rights in the Constitution of Kenya (2010) not emancipated women from

discrimination? Apart from gender roles and categorization on the basis of sex, women's subjective experience of their own gender is important because it influences social judgements on whether to be involved in cycling or not. This current study investigated how bicycle ownership affects women's involvement in cycling among the market traders of Kisumu City.

2.4. Dress Code and Cycling

The dress has for centuries been one of the most defining aspects of culture and society (Hanlon, 2012). Researchers like Winterton (2011) and Hanlon (2012) have reported about the America of the Victorian era that rigidly upheld gender roles, with distinctly separate spheres of activity for men and women. According to them, the emancipation that the bicycle brought to the women during that era was immense but was only realized after women decided to move away from the norm in the society; to change their dress code into one that was more appropriate for cycling.

According to Porras *et al*. (2012) a dress has multiple social meanings. For instance, it is an article of clothing at a personal level while at a social level, dress code has structural dimensions.

Hanlon (2012) identified gender as a basis for regulating dress code for men and women. According to her, nearly every society throughout history has made distinctions between male and female gender by the type of clothing they are expected to wear. Apart from being a strong indicator of culture and gender they noted, dress code also defines lifestyle, conveying social messages relating to individual or group identity.

To Hanlon (2012) and Heesch *et al.* (2012), gender stereotyping in relation to dressing and cycling has a long history tracing back to the 1800s with the invention of the bicycle. The researchers used a visualized picture of the Victorian era when American women wore huge

dresses that were strapped tightly into corsets. They however mentioned that although the corsets gave a visual definition of gender roles by bringing out the curves on women, it was not practical for women to ride their bicycles in the 'proper' clothing.

Researchers like Beasely and Collins (2002) have argued that gender stereotypes are based on the presence or absence of female and male characters and the types of clothing the characters are supposed to wear.

Horton, Rosen and Cox (2007) mentioned one reason for choosing a cycling gear as the purpose of cycling. People cycling for sports they said, have a special cycling gear which are tight and fitting.

Winterton (2011) documented that although dressing code are standards prescribed by the society, women's desire for liberation during the Victorian era made them to "toss their dresses aside in favour of more appropriate cycling clothing." According to Porras *et al.* (2012) modifications had to be made on the clothing so that it may conform to the changing trends of cycling by casting off the unpractical clothing style that had long kept women's bodies "uncomfortably" covered. Very recently also, Tomlinson (2012) reported how the Iranian clerics were facing hostility from the public over efforts to impose a strict Islamic dress code on Iranian women.

William and Best (1990) observed that all these contrasting ideals for male and female behaviour restrict individual choices within the cultural boundaries. At cultural level, a particular kind of clothing or garment gives backing to perceived gender and status differences between women and men in the society.

Heilbrun (1981) agreed by saying that clothing for both men and women is culturally defined. Cultural norms and expectations to them are related to the meaning of being a man or woman. He gave examples of Indonesia, parts of West Africa and the traditional Scottish

dress, where men wear an article of clothing that closely resembles a Western definition of a skirt. While the Scottish 'kitt' is still worn at many social gatherings to establish a social and cultural identity and to represent the height of masculinity, in North American culture the 'kitt' would rarely be seen in men.

A number of studies examining the effect of dress code on cycling have found a strong association between dress code and cycling. Women's dress code has in particular influenced whether the woman should cycle or not; with are usually careful to cover their bodies properly even while cycling; they should not expose their thighs.

Religion has been found to prescribe dress code for its faithful, particularly in defining gender. Abubakar (2005) while comparing dress code between Christians and Muslims mentioned that while Christianity does not insist on a strict dress code, Islam insists that women should cover all parts of their bodies with a Hijab. The clothing must hang loose and should not resemble that of men. Both believe however those women should dress modestly.

Hanlon (2012) documented that the introduction of bloomers was delight in women cyclists although conservatives did not like it. The garment later became the centrepiece of the "rational dress" movement that sprung up at the end of the 19th Century to protect women from intimidation concerning what they should wear while cycling.

Hanlon (2012) reported that feminists pushed for the introduction of bloomers for women cyclists. Despite the bloomer explosion however, she noted that many bloomer clad women were ridiculed, fined and treated 'like prostitutes' by local authorities. To them, the bicycle promoted immodesty in women by intoxicating them to 'immoral acts.'

Earlier studies show that culture was a strong determinant of the type of clothing to be worn by men and women in the early days (Van der Kloof, 2011; Winterton 2011; Hanlon, 2012; Heesch *et al., 2*012; Porras *et al., 2*012). While there were aspects of gender roles and sex-

linkage in cycling clothing because of the need to preserve culture, culture is never identical. In recognizing that the Kenyan culture is unique, this current study takes cognizance of the fact that culture is also dynamic, with Women's Rights taking centre stage in almost all activities including the way they dress. Article 27 of the Constitution of Kenya (2010) the Bill of Rights seeks to protect women from discrimination. The study sought to answer the research question "what is the relationship between dress code and women involvement in cycling among the market traders of Kisumu City?"

2.5. Gaps in the Literature

In all the three objectives the researcher recognized the fact that culture is not uniform across communities but instead there is diversity. While sex-typing and gender roles are demonstrated as correlates to dress code as indicated, the researcher recognizes that the awareness creation caused by International Conventions and Article 27 of the Constitution of Kenya (2010) that protect women from discrimination have been acknowledged. The confirmation of gender identity, sex-linkage and gender identity are core in determining whether there is stereotyping or not. This current study has looked into all the three elements of gender stereotyping in all the three objectives.

2.6. Theoretical Framework

This study has adopted a gender-based belief structure that elaborates the key concepts and approaches that underpin gender in the cycling process and summarizes the state of gender stereotyping in the involvement of women in cycling in perspective and practices. The gender paradigm is based on the tenets that inter-gender differences are real; differences that cause skewed privileges to access and use of resources between women and men because of the roles they are expected to perform in the society (Eagly, Wood & Diekman *et al.,* 2000). The study recognizes two schools of thought regarding gender stereotyping: the Gender Schema

and the Social Role Theories; theories which promote the initiation and sustenance of gender stereotyping in the society through socialization and gender roles.

2.6.1. The Gender Schema Theory

This theory was formally introduced by Sandra Bem in 1981 as a cognitive theory to explain how individuals become gendered in society and how sex-linked characteristics are maintained and transmitted to other members of a culture (Bem, 1981). Bem purports that children learn about what it means to be male or female from the culture in which they live in and adjust their behaviour to fit in with the gender norms. Core gender identity therefore is tied up in the sex-typing that an individual undergoes and leads to the regulation of behaviour to conform to the cultural definition of what it means to be male or female.

While the gender Schema Theory does provide a backbone for understanding how gender stereotypes may continue to be maintained in current society, a major limitation however has been in its view that gender-typed behaviours are primarily a function of internalized gender identities. Indeed, Shalala (1995) has argued that the way we think may not even be directly related to our behaviour as posited by Bem (1981).

2.6.2. The Social Role Theory.

This theory was introduced by Alice Eagly in 1987 under the principle that men and women behave differently in social situations and take different roles due to the expectations that the society puts upon them (Eagly, 1987). It recognizes the historical division in labour between women and men with consequences on sex-differences in social behaviour. Eagly argues that the gender roles that emerge from a society's division of labour by sex are not arbitrary cultural constructions but are emergent from productive work of the sexes (gender roles). These characteristics become stereotypic of women and men and facilitate the activities typically carried out by the members of each sex. Eagly *et al.* (2000) further points out that

the consequences of gender roles and stereotypes are sex-typed social behaviour because roles and stereotypes are both socially shared descriptive and prescriptive norms.

In adapting the Social Role Theory, the researcher is fully aware of its shortcomings too. According to Shalala (1995) for instance, the enactment of gender takes place within the context of social interactions and is highly flexible and context-dependent. Gender related behaviours are therefore an outcome of an individual's self-perception, emitted expectation of one another and the context of the on-going social interactions.

Three elements stem from the two cognitive psychological theories: sex-linkage, gender identity and gender roles; these are the prerequisites of gender stereotyping in this study. The study is for the opinion that sex-linkage, gender identity and gender roles cut across bicycle status, bicycle ownership and dress code to determine whether women should cycle or not. Figure 1 shows the conceptual framework that summarizes the relationship between gender stereotyping and women involvement in cycling.

2.7. Conceptual Framework

Gender stereotyping is conceptualized to influence the involvement of women in cycling. In this study, gender stereotyping is defined as bicycle status, bicycle ownership, and dress code. The involvement of women in cycling on the other hand is defined as the ability to cycle and the frequency of cycling. In this study, gender stereotyping has three elements which are derived from Bem (1981) in her Theory of Gender Schema and Eagly (1987) in her Social Role Theory. These are: Gender Identity, Sex-linkage and Gender Roles. These three elements are considered to be prerequisites for gender stereotyping and are cross cutting in the three concepts studied. The relationship may however be modified by other factors like age, religion, level of education and income (see Figure 1). This approach focuses on the socially constructed basis of differences between women and men, and the need to challenges

existing gender roles and relations. It marks a shift in thinking about the need to understand how women and men are socially constructed and how those constructions are powerfully reinforced by the social activities that are both defined and are defined by them.

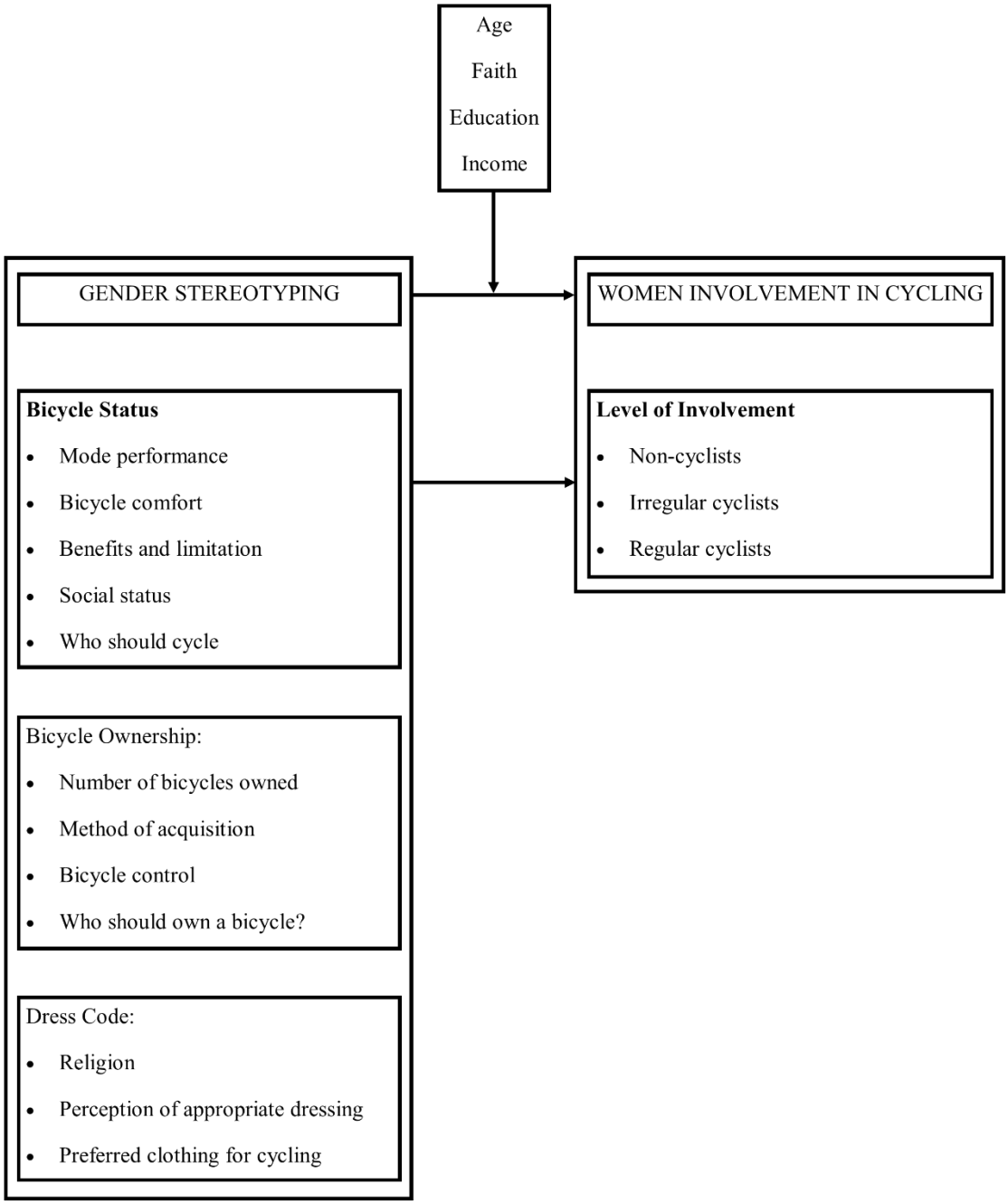

Figure 1: Conceptual Framework

Gender stereotyping and involvement of women in cycling, Model adapted from the Gender and Development Approach.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1. Introduction

This chapter specifically addresses itself to the methodology procedures of the study. This involves the research design, study area, study population, sampling procedure, and methods of data collection, sources of data, measurement of variables, data analysis and presentation.

3.2. Study Area

3.2.1. Location and size of Kisumu

The City covers an area of approximately 417Km^2 of which 260 Km^2 is dry land and about 157Km^2 is under water. The town is situated approximately 00^{0}06' South of the Equator and 34^{0}45' East of Greenwich (KCC, 2005). It is located in Western Kenya, on the shores of Lake Victoria's Winam Gulf. It is the third largest city in Kenya, about 350km to the west of Nairobi City and a significant town in the western region of the country and the East African region at large. It is bordered by major towns like Kakamega to the north, Kisii to the south, Kericho to the south-east and Siaya to the north-west. These are towns whose economies are mutually dependent and with inter-linkages in transport, trade and commerce (The United Nations Human Settlements Programme [UN-HABITAT], 2005). Figure 2 shows the location of Kisumu in the regional context while figure 3 shows the location of Kisumu in the national context.

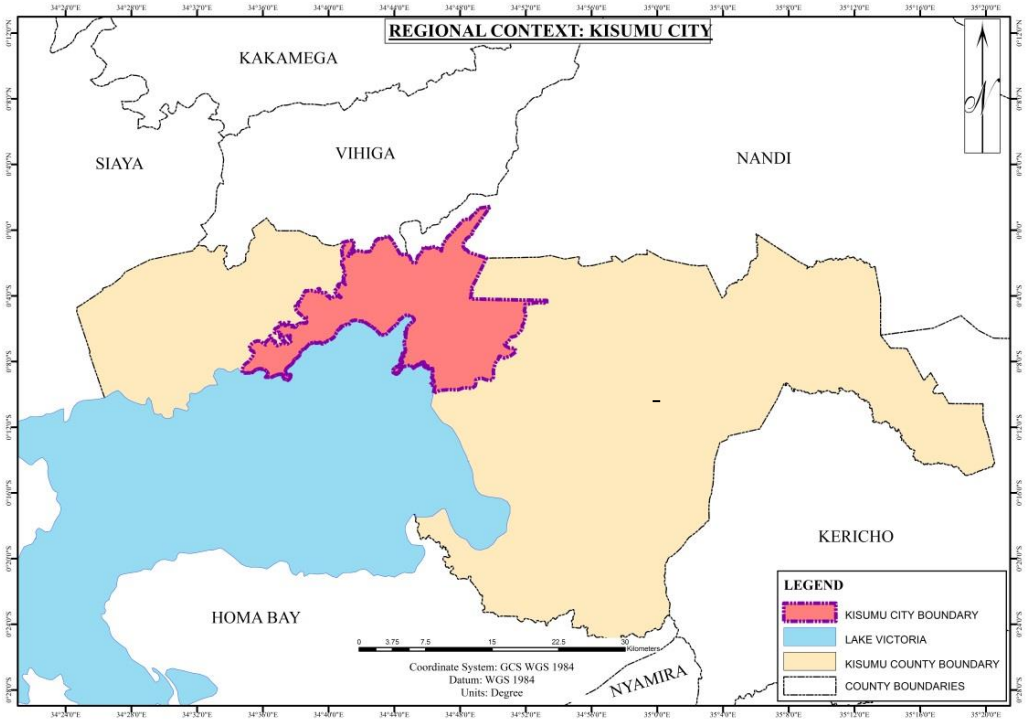

Figure 2: Map showing Kisumu in the regional context.

Source: Physical Planning Department- Kisumu (2014).

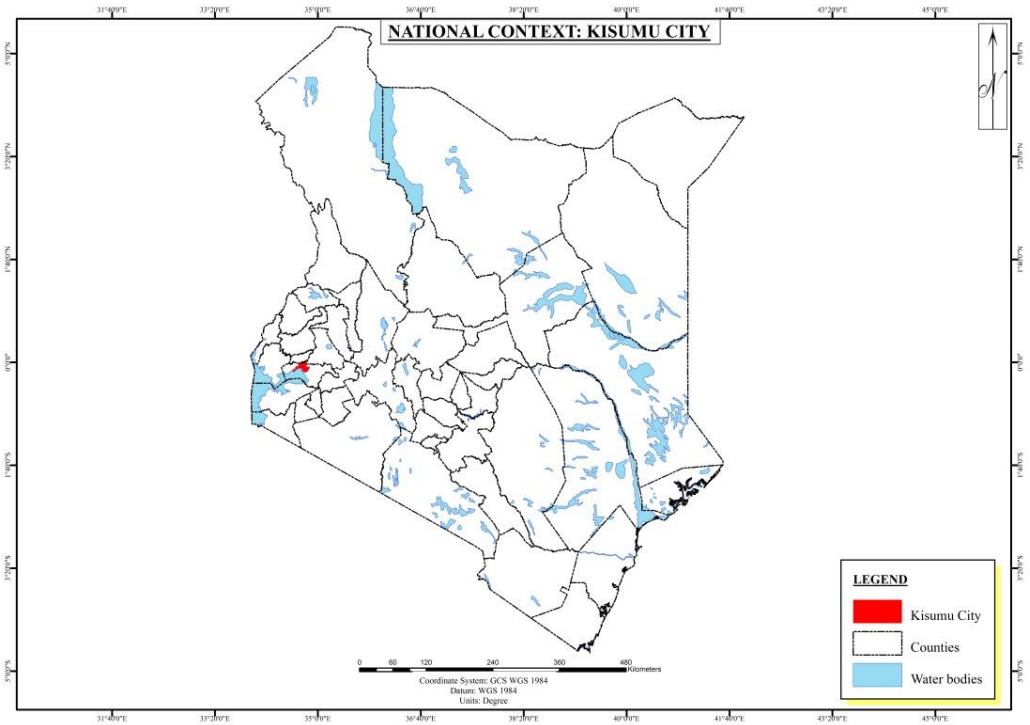

Figure 3: Map showing location of Kisumu Town in the national context.

Source: Physical Planning Department 2014)

3.2.2. Administrative units.

Administratively, the City is within Winam Division with 8 locations and 36 sub-locations. The Municipality has 3 Districts; Kisumu East and Kisumu West and Kisumu Central, with 3 different constituencies; Kisumu East, Kisumu West and Kisumu Central. The town is the major centre of commerce and trade in the Lake Basin region. Figure 4 shows the administrative units (Locations) found in Kisumu City.

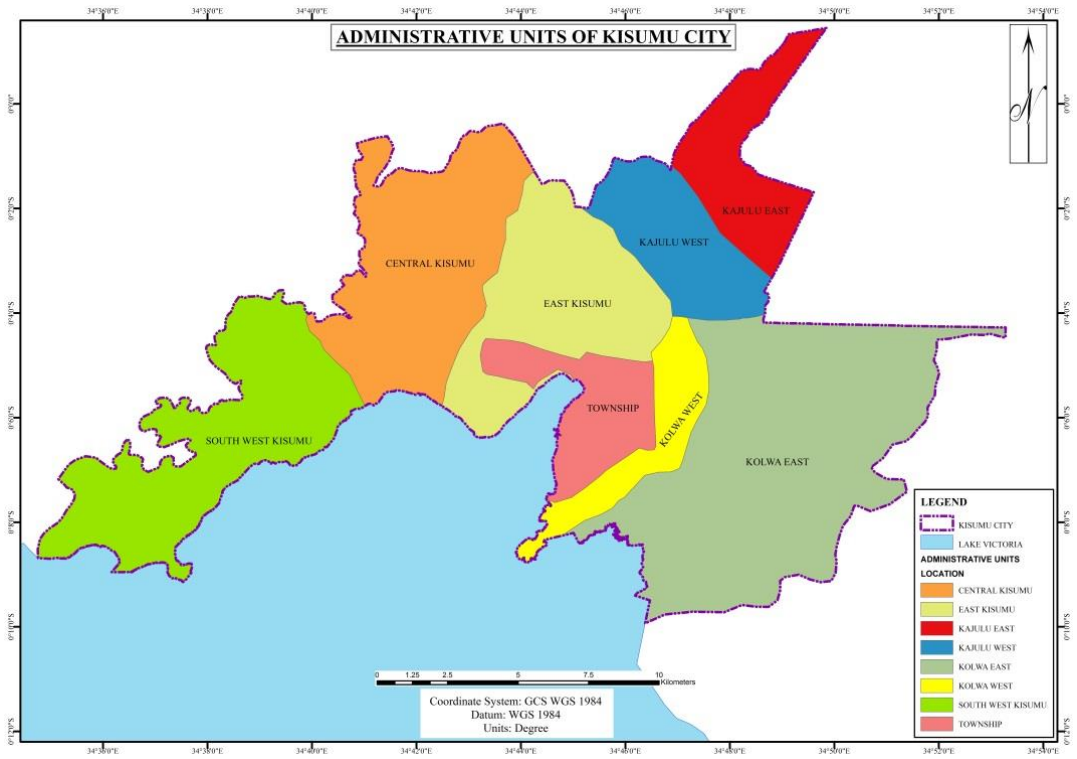

Figure 4: Map showing the locations found in Kisumu Municipality

Source: Physical Planning Department Kisumu (2014).

3.2.3. Markets locations in Kisumu City.

Kisumu City has 46 markets in total, both designated and non-designated. 18 of the markets are designated market-points where revenue is collected by the city managers, 14 are collection-points where revenue is collected, and a further 14 are neither designated nor sources of revenue for the city. These markets are strong social units, some registered by the

Department of social Services, and with clear administrative structures (Kisumu City Council, 2012). Figure 5 shows the positions of the markets in Kisumu City.

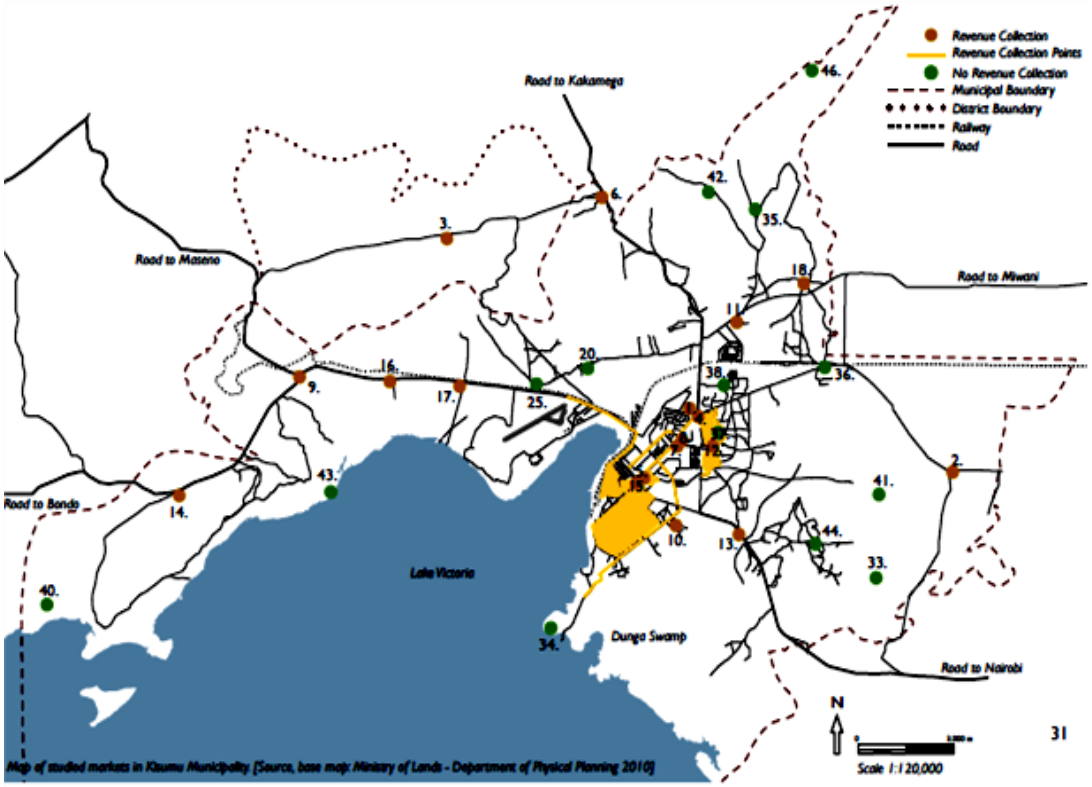

Figure 5: Sketch showing the locations of marketplaces in Kisumu City.

Source: Modernity and Informality by Steyn (2012).

Key:

a) Markets where revenue is collected

1. Ayanga	2. Chiga	3.Dago
4. Flamingo	5. Jubilee	6.Kiboswa
7. Kibuye Retail	8.Kibuye Wholesale	9.Kisian
10. Kowino	11. Mamboleo	12. Manyatta
13. Nyamasaria	14. Obambo	15.OilePark
16. Ojuok	17. Otonglo	18.Wathorego

b) Revenue Collection Points.

19. Jubilee Bus Park	20. Jubilee Fish Market	21. Jubilee Sports Ground
22. Manyatta Lower	23.Manyatta Road	24. Manyatta Upper
25. Milimani Lower	26.Milimani Upper	27.OpononoJua Kali
28. Oponono Road	29.Pand-Pieri Water	30.Pand-Pieri Western

31. Pundo
32. Stadium

c) Markets where revenue is not collected

33. Angola
34.Dunga Fish Market
35. Gita
36. Kibos
37. Manyatta Kosawo
38.Migosi
39. Ofunyu
40. Ogal
41.Omungi
42. Ong'adi
43.Ongalo Fish Market
44. Ragumo
45. Riat
46. Soweto

3.2.4. Land use pattern.

The City derives its livelihood from subsistence fishing and agriculture. It is also the nerve centre of business, industry and employment in Western Kenya (Government of Kenya, 2008). Kibuye market, the second largest open air market in East Africa after Karatina in Nyeri, confers Kisumu's position as the region's commercial centre (KCC, 2005). Land use in the hinterland includes small-scale rain-fed mixed farming, large-scale sugarcane farming, fishing, small-scale river irrigation and settlement infrastructure. Frequent droughts, together with severe floods and poorly drained soils have however limited the provision of enough livelihood; resulting to increased rural-urban migration, with a consequence of unplanned and uncontrolled urban expansion (KCC, 2005). Usually, a significant relationship exists between land-use and transport as depicted in figure 6 where the relationship between land-use and transport is depicted.

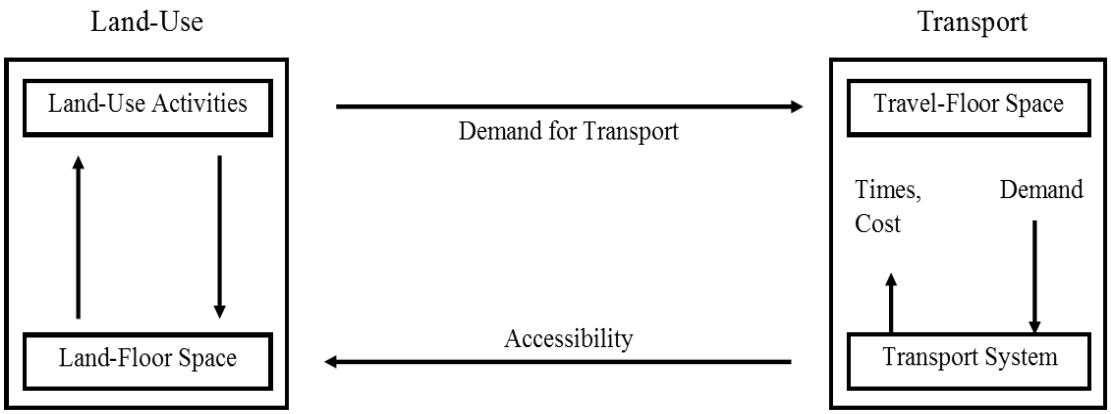

Figure 6: Relationship between land - use and transport.

Source: Cities without slums. UN-HABITAT (2005).

3.2.5. Socio-cultural and economic factors.

Kisumu City has the highest population of Luos compared to any other town in Kenya (KCC, 2005). This influences the cultural trends of the people adversely with heavy leaning on common value systems. The cultural and traditional values are so strong that even the elites, the business and the political class bow to the dictates. Due to high unemployment levels, incomes are relatively low, resulting to increased poverty. The unemployment level of both skilled and unskilled labour is estimated at 30% of the working population, with 53% involved in informal activities. The town experiences high incidences of food poverty of 53.4% with most of the food stuff consumed in the town having to be imported from the neighbouring districts. 48% of the urban population lives within the absolute poverty bracket (UN-HABITAT, 2005).

3.2.6. Modal split.

Matatus are the main form of transport, catering for 34.8% of the population while bicycle taxis (boda-bodas) are the most common form of non-motorized transport, catering for 32.3% of the population. Bicycles offer cheap and environmentally friendly mode of transport, affordable to the urban poor (UN-HABITAT, 2005). Figure 7 shows the diagrammatic representation of the modal shares in Kisumu town as it was in 2010.

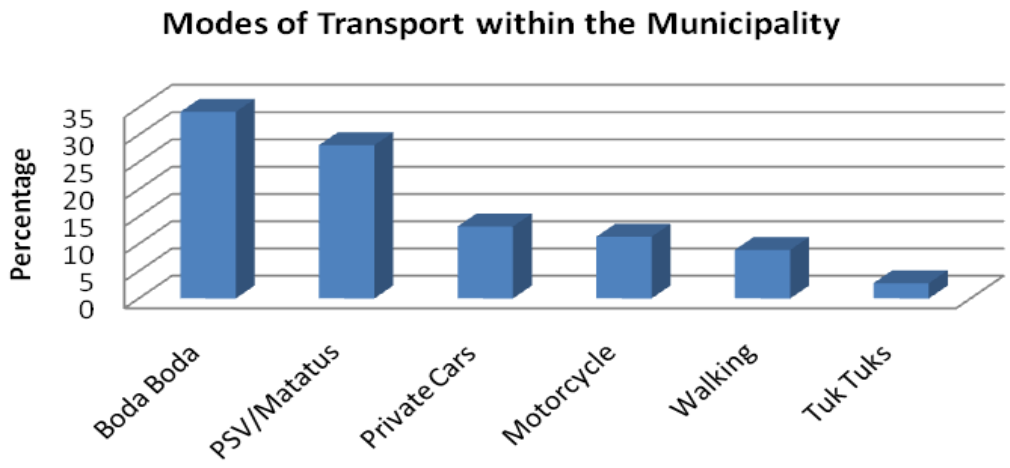

Figure 7: Graph showing the modes of transport within the Municipality.

Source: Source: Modernity and Informality by Steyn (2012).

3.3. Research Design

This was a cross sectional study that employed a qualitative research approach to investigate the influence of bicycle status, effect of bicycle ownership and relationship between dress code and women involvement in cycling. Patton (2002) defines a cross sectional study as prevalence study that involves the analysis of data from a population, or a representative sub-set, at one specific point in time. It has been used in this study to describe the market traders of Kisumu City with respect to gender stereotyping in women involvement in cycling. The study was qualitative, exploratory, descriptive and contextual in nature. Qualitative research is based on the view that reality is constructed by individuals reacting with their social worlds (Yin, 2003). In this investigation, the focus was amongst other things on the meaning market traders attach to their experiences in relation to their involvement in cycling; experiences that reflect discrimination against women.

Qualitative approaches are useful when the researcher intends to have an understanding of a human phenomenon, as well as to discover the meaning given to events that subject experience (Yin, 2003). This study was concerned with an understanding of how market

traders' attitude and perceptions about women's cycling affect women's involvement in cycling.

According to Mouton and Marais (1988), the aim of exploratory research is "the exploration of a relatively unknown research area". This study was exploratory in that it attempted to understand how people-environment relations affect women's involvement in cycling on the backdrop of a patriarchal society. Bless, Higson-Smith and Kagee (1988) indicates that a qualitative exploratory approach enables the researcher to share in the understanding and perception of others in explaining how people structure and give answers to their daily lives..

According to Flyvberg (2006) contextual research comprises a study of phenomena because of their intrinsic and immediate contextual significance. Yin (2003) asserts that contextual research focuses on participants within a particular context, so as to gain an understanding of the participants within that context. Since individuals take much of their meaning from their context, a phenomenon should be studied in its natural setting (Peil, Mitchell & Rimmer, 1982). This study was contextual in nature because it was concerned with the unique context of market traders in Kisumu City, Kenya. Market traders were expected to provide their experiences in cycling in relation to influence of bicycle status, bicycle ownership and dress code. In this way, the researcher hoped to uncover the true behaviour shown by people when observed in their real life context (Thomas, 2011).

3.4. Study Population

Kisumu City has about 30000 market traders out of which about 20000 are women drawn from different markets as was reported by the KCC (2005). During the study, an overview of all the markets within the City was done, with the main focus on the eleven found in Township Location with an accessible population of about 16243 as revealed by KCC in

2012. This accessible population had a significant difference between female and male market traders at 10329 (63.5%) female and 6094 (37.5%) male.

3.5. Sampling

Sampling is the process of selecting units from a population of interest so that by studying the sample, one may fairly generalize the results back to the population from which they were chosen (Kothari, 1992). It is important in the consideration of time and cost when the universe is large.

3.5.1. Sampling techniques

In this study, area sampling was used to select Township Location from the eight locations of Kisumu City. Township Location was of great significance to the study because it hosts the largest market in Western Kenya (Kibuye Market), it is where one of the oldest closed markets is found (Jubilee Market), and where we used to find one of the most successful undesignated markets (Oile market), apart from having the highest number of market traders in the city (16243). Kothari (1992) defines area sampling as a type of cluster sampling where the primary sampling unit represents a cluster of units based on Geographical area. To him, this sampling design reduces cost albeit less precise than random sampling.

3.5.2. Sample size.

The sample size was derived as follows:

$$n = \frac{Z^2 \cdot p \cdot q \cdot N}{e^2(N-1) + Z^2 \cdot p.q}$$

Where: - Z = the value of the standard variate at a confidence level of 95%

e = precision rate (0.05)

p = sample proportion, q = 1 – p

n = desired sample size

N = target population

$$\frac{1.96^2(0.5)(1-0.5)(16{,}243)}{0.05^2(16{,}243-1)+1.96^2(0.5)(0.5)} = \frac{15599.777}{41.5654} = 375$$

A reasonable sample size of 375 (250 female : 125 male) was sought from the 16,243 market traders in the eleven markets of Township Location using the precision of estimation method at a precision rate of 0.05 and a confidence level of 95% as adduced by Kothari (1992).This method was preferred over the Bayesian statistics approach since it is capable of giving a more mathematical solution (Kothari, 1992). Its limitation however is its inability to analyse the cost of gathering information vis-à-vis the expected value of information as would be seen in the Bayesian approach.

3.5.3. Sample population

The sample was drawn from a sampling frame consisting of all the eleven markets in Township Location; both designated and collection points. A sampling frame enables the researcher to identify the items to be selected for sampling in a randomized procedure (Kothari, 1992).

A total of 375 adult market traders were sampled from the eleven markets of Township Location based proportion in relation to the accessible population as shown below.

$$Sample\ population = \frac{Number\ of\ traders\ in\ the\ market}{Accessible\ population}\ X\ Sample\ size$$

Table 3.1 illustrates the sampling frame from the markets in Township Location.

Table 3.1: Sampling frame from the markets in Township Location.

Name of market	Accessible population N=16243	Female N=10329	Male N=6094	%	Female n=250	Male n=125	Sample n=375
Kibuye Retail	3855	2211	1644	23.7	59	30	89
Kibuye Wholesale	2383	1388	995	14.7	37	18	55
Jubilee	953	695	258	5.9	15	7	22
JubileeBus Park/Oile	4071	2687	1384	25.1	63	31	94
Fish Market	390	262	128	2.4	6	3	9
Milimani Lower	303	218	85	1.9	5	2	7
Milimani Upper	520	348	172	3.2	8	4	12
Stadium	390	262	128	2.4	6	3	9
Jubilee/Sports Ground	1342	867	475	8.3	21	10	31
Oponono Road	346	262	84	2.1	5	3	8
Oponono Jua-kali	1690	1129	561	10.3	26	13	39
	16243			100			375

Source: Field study (2012)

Systematic random sampling was employed to get the respondents from each market at a sampling interval of 43. The sampling interval was determined by dividing the accessible population by the sample size. This gave all the market traders in Township Location a 50/50 chance of being selected into the study (Mugenda O. & Mugenda A., 1999). Kothari (1992) confirms that the technique is used when the cluster sampling units are dissimilar in terms of number of elements.

3.6. Methods and Instruments of Primary Data Collection

3.6.1. Interviews.

Questionnaires were administered to three hundred and seventy five market traders drawn from the eleven markets in Township Location in May 2012. The questions sought to find out whether there is gender stereotyping in women involvement in cycling (see appendix 1). The questionnaires used contained both structured and semi-structured questions. This was important because it enabled the balancing between the quantities of data collected in relation to the objectives while on the other hand, providing valuable information about gender stereotyping and women involvement in cycling. This balance between the quality and quantity is useful for a fuller explanation of the phenomenon (Peil *et al.*, 1982). Questionnaires were useful because this study was concerned with variables that could not be directly observed; views, perceptions, opinions and feelings of the respondents which are best collected using questionnaires (Oso & Onen, 2009).

Majority of the traders expressed their wish to be given time to fill the questionnaires by themselves at their convenience and the filled questionnaires were retrieved after two days. The researcher adhered to professional research ethics to avoid unnecessary misunderstandings, conflict and ethical dilemmas throughout the study. Participants' permission was sought and efforts were made to protect their confidentiality. Permission was sought from the Town Clerk to conduct the research.

Attitude of the market traders was measured using both the arbitrary scale and the Likert-type scales developed from the arbitrary and the item analysis. The respondents were asked to respond to different statements in terms of five degrees of agreement or disagreement; strongly agree, agree, neutral, disagree and strongly disagree. Such opinions are useful in

measuring attitudes of the people, although people may also conceal their attitude and express socially acceptable opinions (Kothari, 1992).

3.6.2. Interviews on key informants.

Purposive sampling was further used to identify the six key informants namely, the Town Clerk of Kisumu City, the Market Superintendent of Kisumu City, the Chairman Luo Council of Elders, the Imam from Kondele Mosque, the Bishop of Holiness and Repentance Ministry and the chairman of Victoria Boda-boda Association. Purposive sampling was used because there were predefined groups that were to be sought. The method is usually used to illicit the views of persons who have specific expertise and is useful when one needs to reach a targeted sample quickly. It is however likely to overweight some sub-groups in the population (Bless *et al*, 2005).

This was used to get information that could not be directly observed and to get historical information on gender stereotyping. In this case, non- scheduled interviews were used on a member of the Boda-boda Association, the Town Clerk, the Market Superintendent, a Christian Bishop, a Muslim Kadhi and the Chairman of the Luo Council of Elders. A group from Kibuye Market was also engaged in a Focused Group Discussion (FGD) (appendix 2 – 8).The non-scheduled interview is important in descriptive research where the research questions cannot be narrowly defined and also when each participant is considered as a specific case (Kothari, 1992). Cross cutting issues of sex-linkage, gender identity and gender roles are the issues to be assessed.

3.6.3. Focus Group Discussion.

According to Gloria *et al.* (2002), a Focus Group Discussion (FGD) "is a special type of interview that is structured to gather detailed opinions and knowledge about a particular topic from selected participants". Maykut and Morehouse (1994) qualifies it as a qualitative

method with the primary objective of describing and gaining insight into the perceptions, interpretations, beliefs of a selected population to gain an understanding of a particular issue from the perspective of the group's participants. In this study, one focus group interview was conducted, with eleven participants, one from each market - four males and seven females. The chairmen of the different markets identified the participants. The interviews were open conversations in which participants contributed by either giving their views or asking questions. Interviews were conducted over a period of one to two hours. Cross cutting issues of sex-linage, gender identity and gender roles would be addressed. Only one FGD was conducted because the cross cutting factors were common across the area under study. Responses were therefore bound to be similar.

3.6.4. Direct observation.

Direct observation was used to get what people do rather than what they say they do in order to bridge the gap between what people say they do and what they actually do. Information was recorded by taking notes and photographs at different positions. It allowed the researcher to gain first hand experiences without informants as eluded by Dooley (2001).

3.6.5. Secondary data.

Secondary data were obtained from the government records obtained from the District Information Office, Kisumu City Council, associated organizations like CO-OP Africa and related literature.

3.7. Model Structure and Variable Definitions

The dependent variable is the binary variable of whether the respondent reported cycling or not in the last one month before the survey. Cycling behaviour was assessed by two questions: 1) Do you know how to ride a bicycle (Yes/No)? 2) If yes, how many days did you cycle to the market in the past one month (number of days)?

Market traders who were not able to ride a bicycle were defined as non-cyclists (NC). Those who knew how to ride a bicycle and cycled to the market once to fifteen times during the past one month were defined as irregular cyclists (IC) while those who cycled to the market more than fifteen times were classified as regular cyclists (RC).

Reduction of the concepts of the dependent variable was done by creating a dichotomy in the involvement of market traders in cycling. The model structure is based on the assumption that a respondent confronts three alternatives according to the sequence: unable to cycle, able to cycle but is an irregular cyclist, able to cycle and is a regular cyclist. It shows how and to what extent bicycle status, bicycle ownership and dressing code influence the involvement of market traders in cycling in Kisumu City. The researcher assumed that the cycling behaviour exhibited by individuals depicts the way the individual had been socialized into cycling.

In this study, explanatory variables were tested for gender-specific effects using interaction terms.

3.8. Reliability and Validity

The questionnaire was piloted on 38 market traders (10% of the sample population) from markets of Township Location to ensure reliability of the tool. Reliability is the extent to which the observable measures that represent a theoretical concept are accurate and stable when used for the concept in several studies (Bless *et al.*, 2007). Thomas (2011) advises that a 10% proportion of the intended sample size would give a reliable and dependable reflection of the true picture of the population. Validity, defined by Charles (1979) as the trustworthiness and authenticity of a qualitative study was determined by expert guidance from two supervisors who assessed the relevance of each item in the instrument to the objectives. Validity in this current study was further strengthened through triangulation: interviews, focus group discussion and observations were used to determine if the questions

were prompting the type of responses expected. Patton (2002) advocates for the use of triangulation methods in qualitative research, especially in Case-studies. Cresswell and Miller (2000) defined triangulation as "a validity procedure where researchers search for convergence among multiple and different sources of information to form themes or categories of a study." They advocate the use of triangulation by stating that it "strengthens a study by combining methods". The "case cluster method" fortified the triangulation further when the researcher randomly sampled the respondents from all markets within Township location of Kisumu City. Peer consultation was invaluable as a technique to improve validity and reliability.

According to Schwenk (1979) nevertheless, qualitative research should be judged as "credible and confirmable as opposed to valid and reliable". He argued that there is more sense in developing an understanding of generalization that is reflective of the basic characteristics of the qualitative inquiry rather than transplanting statistical, qualitative notions of generalization.

3.9. Ethical Consideration

The researcher undertook to comply with the requirements of all ethical principles. This included the researcher competency, relationship with participants, anonymity and confidentiality, no deception of the subjects, and debriefing where necessary. In particular, the researcher undertook to comply with the requirements of confidentiality.

3.10. Data Analysis and Presentation

Qualitative data was processed through editing, coding, classification, tabulation and percentages so that they are amenable to analysis. In this study, the independent variable (gender stereotyping) is categorical, while the dependent variable (women's involvement in

cycling) is continuous. The research questions (i), (ii) and (iii) in this study are all "what" questions which require univariate and bivariate descriptive analysis.

Univariate descriptive analysis was used because it was concerned with summarizing the characteristics of gender stereotyping in cycling in terms of distributions, frequency counts on some variables. Dooley (2001) asserts that it helps the researcher to discover patterns or trends and then be able to communicate this properly.

Bivariate descriptive analysis was used because it was concerned with describing the form and strength of associations between bicycle status, bicycle ownership and dress code and market traders' involvement in cycling. According to Nahid (2003), bivariate descriptive analysis can also be useful in comparing the characteristics of the same variable in different populations, or different variables in the same population. Contingency tables were generated by cross-tabulating the distribution of the two variables and Cramers' *V* was used to measure strength of association. Chi-square test was used to measure significance of association at 0.05 and 0.01 levels of significance.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1. Introduction

Gender and mobility are factors that rate highly in the integration of cycling in the transport industry. Great gender disparity has been noted in the level of integration of cycling as a means of transport. Women in particular, suffer discrimination in cycling denying them easy mobility using this means of transport. This study investigated whether there is gender stereotyping in the involvement of women in cycling. This was necessitated by the fact that culture is able to prescribe discriminatory conditions that compromise women's involvement in cycling, pushing women into being more of passengers than cyclists. Data was analysed using descriptive statistics to summarize the characteristics of gender stereotyping in cycling and to measure the strength of the association. This chapter shows the findings of the study, identifies the cycling gaps and the resulting effect of gender stereotyping on women involvement in cycling among market traders of Kisumu City. The organization of the chapter is such that the findings are outlined according to the three objectives of the study and the discussions of the findings infused within the texts of the corresponding objectives.

4.2. Bicycle Status and women involvement in cycling

Bicycle status is the position of cycling in a social society relating to individual attitudes and societal perceptions of the bicycle. To have an insight into the study, the researcher sought to investigate preference of means of transport, bicycle comfort, social status of bicycle and opinion on who should cycle on market traders' involvement in cycling to answer the question, what is the effect of the bicycle status on women involvement in cycling? Gender identity, sex-linkage and gender identity were cross-cutting issues in the study.

The bicycle was a more preferred means of transport to the market (55.7%) compared to the car (44.3%). There was however a negative moderate association between mode preference and level of involvement in cycling among the market traders (V = 0.4). While those who preferred the bicycle had equal chances of either being non-cyclists or being regular cyclists, those who preferred the car were about 8.3 times more likely to be regular cyclists than being non-cyclists. Car preference therefore affected the respondents' involvement in cycling more than bicycle preference.

This association between mode of transport and level of involvement in cycling impacted more on the female market traders than the male. Among the female respondents who preferred the car, a high proportion comprised regular cyclists at 40.2%, an even higher proportion comprised the irregular cyclists at 53.35 and only 6.3% were non-cyclists. For the male respondents who preferred the car, 5.1% were non cyclists, 12.8% were irregular cyclists and a high of 82.1% were regular cyclists. While there is no much difference in the percentage of male and female who prefer the car to be non-cyclists, there is significant difference in their being regular cyclists. The male were almost twice more likely to be regular cyclists than the female. Looking at the effect of bicycle preference, the highest percentage among the females were the non-cyclists at 64.2%, irregular cyclists were at 12.2% while the regular cyclists were at 23.6%. Among the male on the other hand, only 4.7% were non-cyclists while 80.2% were regular cyclists. It therefore means that while the males who preferred the bicycle were about 13.7 less likely to be non-cyclists, they had 3.4 higher chances of being regular cyclists than their female counterparts. The results suggest that while the male market traders had a positive image of the bicycle and used it more, the females used alternative means of transport more although they also had a positive image of the bicycle. Other factors must have contributed to this state of affairs where females end up

either using the car consequentially or using the bicycles as passengers other than cyclists. Plate 1 confirms that the females are more of passengers other than cyclists.

Plate 1*: A female passenger boarding a boda-boda bicycle taxi*

Source: Field study (2013)

The findings agree with Emond *et al.* (2009) who concluded that mode preference is a correlate of an individual's attitude towards the bicycle when they were explaining gender differences in bicycling behaviour in the US. They also agree with studies carried out by researchers like Van der Kloof (2011) and Heesch *et al* (2012) who noted that females have different perceptions about cycling compared to male regardless of whether they are advanced or basic in cycling. Table 4.2 shows the association between mode preference and market traders' involvement in cycling by gender by total population.

Table 4.2: Mode preference versus market traders' involvement in cycling by gender by total population

Mode preferred	Market traders' involvement in cycling											
	Female				Male				Total			
	NC	IC	RC	Total	NC	IC	RC	Total	NC	IC	RC	Total
Car	8	68	51	127	02	05	32	39	10	73	83	166
	6.3%	53.5%	40.2%	50.8%	5.1%	12.8%	82.1%	31.2%	6.0%	44.0%	50.0%	44.3%
Bicycle	79	29	15	123	04	13	69	86	83	42	84	209
	64.2%	23.6%	12.2%	49.2%	4.7%	15.1%	80.2%	68.8%	39.7%	20.1%	40.2%	55.7%
Total	87	97	66	250	06	18	101	125	93	115	167	375
	34.8%	38.8%	26.4%	100%	4.8%	14.4%	80.8%	100%	24.8%	30.7%	44.5%	100

X^2=61.543, df=2, *V*=0.4

The discord between women preference of the bicycle and their involvement in cycling could be explained by the fact that bicycles are cheaper than public transport or that bicycles are more flexible and can reach the different corners of the estates. Strong cultural dictates however in Kisumu City which supress the gains that could have been achieved through advocacy.

There was a positive moderate relationship between opinion on bicycle comfort and level of involvement in cycle (V = 0.46). Respondents' opinion on bicycle comfort affects their attitude towards cycling. Majority of the respondents thought that there was discomfort in cycling but they cycled all the same (43.7%). Others (23.2%) could not withstand the discomfort hence could not cycle while an additional 33.1% felt that cycling was comfortable hence cycled. Out of the 124 respondents who felt that the bicycle was comfortable, 91.1% were regular cyclists while only 4.9% were non-cyclists. Among those who cycled despite the discomfort, majority were irregular cyclists (67.1%) while the rest cycled more than 15 days that month with none of them reporting as non-cyclists. However, respondents who

could not withstand the discomfort of the bicycle were all non-cyclists. Bicycle discomfort was therefore a strong obstacle to market traders' involvement in cycling.

Bicycle discomfort was an obstacle to female respondents more than their male counterparts. Females who found the bicycle to be uncomfortable but cycled all the same and those who found the bicycle too uncomfortable to ride were all non-cyclists. Among the females who found the bicycle to be comfortable, there was overrepresentation of regular cyclists at 91.7%. Among the male respondents in comparison, those who found the bicycle uncomfortable but cycled had no non-cyclist although 80.6% were regular cyclists and the rest were irregular cyclists. Those who were comfortable with the bicycle had no non-cyclists although the regular cyclists were overrepresented at 90.4%. The results show that females valued bicycle comfort more than the male. Table 4.3 shows the opinion of respondents on bicycle comfort versus level of involvement in cycling by gender

Table 4.3: Opinion on bicycle comfort versus level of involvement in cycling by gender

Opinion on bicycle comfort	Market traders' involvement in cycling											
	Female (n=250)				Male (n=125)				Market traders (n=375)			
	NC	IC	RC	Total	NC	IC	RC	Total	NC	IC	RC	Total
uncomfortable but rides	00	97	00	97	00	13	54	67	00	110	54	164
	0.0%	100%	0.0%	38.8%	0.0%	19.4%	80.6%	53.6%	0.0%	67.1%	32.9%	43.7%
uncomfortable/cannot ride	81	00	00	81	06	00	00	06	87	00	00	87
	100%	0.0%	0.0%	32.4%	100%	0.0%	0.0%	4.8%	100%	0.0%	0.0%	23.2%
comfortable	06	00	66	72	00	05	47	52	06	05	113	124
	8.3%	0.0%	91.7%	28.8%	0.0%	9.6%	90.4%	41.6%	4.9%	4.0%	91.1%	33.1%
Total	87	97	66	250	06	18	101	125	93	115	167	375
	34.8%	38.8%	26.4%	100%	4.8%	14.4%	80.8%	100%	24.8%	30.7%	44.5%	100%

X^2=157.736, df=4, *V*=0.46

While those who knew how to cycle could easily become irregular cyclists, the male who knew how to cycle could easily be regular cyclists. These results are consistent with Porras *et*

al. (2012) who mentioned comfort as one of the factors that determine whether women would cycle or not.

Opinion of market traders on the social status of the bicycle had a negative moderate association with their involvement in cycling (V= 0.48). Responding to the statement "bicycles are used only when people cannot afford public or private transport", majority of the respondents disagreed at 65.0%. Those who agreed comprised 31.2% while a small percentage of 3.7% were not sure. Among those who agreed with the statement, majority were non-cyclists (65.8%) with a minority of them as regular cyclists (7.7%). Respondents who did not think that cycling was for the poor were actively involved in cycling (62.3%), with only 5.3% of them being non-cyclists. However, those who associated cycling with poverty had low involvement in cycling with only 7.7% as regular cyclists. These results were congruent to the findings of a Chinese study by Schwartz (2011) who concluded that inability to express one's status on a bicycle is a barrier to bicycle transportation. Table 4.4 shows the association on opinion on the statement: bicycles are used only when people cannot afford public or private transport versus market traders' involvement in cycling by gender.

Table 4.4: Opinion on the statement: bicycles are used only when people cannot afford public or private transport versus market traders' involvement in cycling by gender

Opinion of market traders	Market traders' involvement in cycling											
	Female (n = 250)				Male (n = 125)				Total population (n = 375)			
	NC	IC	RC	total	NC	IC	RC	Total	NC	IC	RC	Total
Agree	76	16	00	92	01	15	09	25	77	31	09	117
	82.6%	17.4%	0.0%	36.8%	4.0%	60.0%	36.0%	20.0%	65.8%	26.5%	7.7%	31.2%
Disagree	11	77	60	148	02	02	92	96	13	79	152	244
	7.4%	52.0%	40.6%	59.2%	2.1%	2.1%	95.8%	76.8%	5.3%	32.4%	62.3%	65.1%
Not sure	00	04	06	10	03	01	00	04	03	05	06	14
	0.0%	40.0%	60.%	4.0%	75.0%	25.0%	0.0%	3.2%	29.4%	35.7%	42.9%	3.7%
Total	87	97	66	250	06	18	101	125	93	115	167	375
	34.8%	38.8%	26.4	100%	4.8%	14.4%	80.8%	100%	24.8%	30.7%	44.5%	100%

X^2= 170.685, df=4, *V*=0.48

There was gender difference in the opinion on social status of the bicycle, with more females looking at the bicycle as a symbol of poverty at 36.8% while more males were of the contrary opinion at 76.8%. Female market traders who agreed with the statement were about 20.6 times more likely to be non-cyclists and 2.4 times fewer chances of being regular cyclists compared to the male. The question "who in the family should ride bicycle?", generated biased reactions where respondents who felt that cycling was for men were about 9 times more than those who felt that it was for women. Out of 36 respondents who felt that women should be the ones to cycle, regular cyclists had the highest representation of 66.7% while none of them was classified as non-cyclists. For those who felt that cycling was for men, 42.2% were regular cyclists while 27.4% were non-cyclists and an additional one-third comprised irregular cyclists. The study found a weak association between attitude on who should cycle and market traders' involvement in cycling (V = 0.2). The fact that more respondents believed that cycling was for men and not women must have been acquired from

existing institutions that define and sustain the gender roles. Researchers like Heesch *et al.* (2012) and Edmond *et al.* (2013) confirmed that perception about cycling and gender roles were found to influence cycling behaviour.

Gender biasness in cycling behaviour was confirmed further from a gender perspective. Higher percentages of both male and female believed that cycling was for men (females at 87.2% and male at 96.8%). While the female respondents who believed that cycling was for men, 40.0% were non-cyclists, all the females who felt that women should cycle were either irregular at 34.0% or regular cyclists at 65.6%; none was a non-cyclist. None of the male respondents who supported women cycling was a non-cyclist either. However, 75.0% of them were regular cyclists although they were only 3.2% of the male population in the sample. Table 4.5 shows the association between opinion on the question "who is to cycle in the household?" and market traders' involvement in cycling.

Table 4.5: Attitude on who is to cycle versus market traders' involvement in cycling by gender

	Market traders' involvement in cycling											
	Female (n = 250)				Male (n = 125)				total population (n = 375)			
	NC	IC	RC	Total	NC	IC	RC	Total	NC	IC	RC	Total
Women to cycle	00	11	21	32	00	01	03	04	00	12	24	36
	0.0%	34.4%	65.6%	12.8%	0.0%	25.0%	75.0%	3.2%	0.0%	33.3%	66.7%	9.6%
Men to cycle	87	86	45	218	06	17	98	121	93	103	143	339
	40.0%	39.4%	20.6%	87.2%	5.0%	14.0%	81.0%	96.8%	27.4%	30.4%	42.2%	90.4%
Total	87	97	66	250	06	18	101	125	93	115	167	375
	34.8%	38.8%	26.4%	100%	4.8%	14.4%	80.8%	100%	24.8%	30.7%	44.5%	100%

X^2=14.349, df=2, *V*=0.2

The male respondents who believed that cycling was for men were 8 times less likely to be non-cyclists than the female who also felt that cycling was for men. They were however 4 times more likely to be regular cyclists than their female counterparts. These results agree with the EP (2006) survey which found that the gendered roles men and women play in our societies have an ultimate effect on accessibility to mobility and public space. It also agrees with Cuddy *et al.* (2010) who observed that judgments, perceptions and attributes might be closely linked with stereotype knowledge and beliefs in their study on influence of perception on behaviour. The findings show that cycling behaviour was dictated by what the society considered appropriate, accepted and desirable.

Results from the market traders' interview revealed that although their females preferred the bicycle to the car, they were more of passengers than cyclists. Most of them were either irregular cyclists or non- cyclists; some obstacles must have prevented them from full involvement in cycling. Females were more sensitive to bicycle comfort than the males. While those who felt that the bicycle was uncomfortable were non-cyclist, those who felt that the bicycle was comfortable were regular cyclists. Unfortunately more females than males had an attitude that bicycles were to be used only when people cannot afford public or private vehicles. Those who had such negative attitude towards the bicycle had low involvement in cycling. Most market traders believed that cycling should be done by men and not women. Those who believed that women should not cycle were mostly non-cyclists while those thought that women should cycle had a great percentage of regular cyclists.

Results from the Focus Group Discussion showed that the public vehicle was the most commonly means of transport used by most women although it would cost about Ksh 100 daily on transport compared to the bicycle that would cost about half the money. According to the discussion, women cyclists are rare in the city mainly because of fear due to poor and

congested roads and harassment from the members of the society who feel that cycling is too strenuous an exercise for women.

The Town clerk admitted that fewer women than men cycle in the city. Most of the cycling done by women was for recreation other than transport. Road infrastructure was being improved particularly in the upcoming road projects. Gender inclusion in cycling however was still a challenge that the city had not tried to address. The chairman of the boda-boda Association affirmed that there is only one active boda-boda rider in their group. According to him, cycling is too strenuous for women and would not advice women to cycle to the market. Religious leaders, one from a Christian faith and the other from a Muslim faith, both gave assurance that their faiths were not against women cycling. According to the Chairman of the Luo Council of Elders, cycling by women is not a problem; the problem is the sitting position while cycling; "it is unladylike and disrespectful" according to him.

Apart from gender roles expressing gender identity, there was strong internal sense of one's gender classification through internalized gender identities manifested in the respondents' attitude about who should cycle. Due to the prevailing perception of men being the ones to cycle, women have ended up with fewer opportunities of being involved in active cycling. Gender roles therefore restrict freedom of behaviour and expression and therefore used as a basis of discrimination.

4.3. Bicycle Ownership and women involvement in Cycling

The second objective of this study was to determine the effect of bicycle ownership on women's involvement in cycling in Kisumu City. To achieve this objective, the respondents were asked about their ownership of the bicycle, how the bicycle was acquired, who claimed ownership of the bicycle in the household. Data Collected was analysed under the question: how does bicycle ownership affect women involvement in cycling among market traders?

Among the market traders, there exists a weak negative association between bicycle ownership and the market traders' involvement in cycling (V= 0.346). While about two-thirds of the respondents did not own any bicycle, there was no significant difference in their involvement in cycling. Among those who owned a bicycle however, 62.9% were regular cyclists and only 7.1% were non-cyclists. The rest were irregular cyclists. This means that the level of one's involvement in cycling was associated with bicycle possession. Out of the 235 respondents who lacked ownership of the bicycle, 33.6% were regular cyclists while 35.3% were non-cyclists. This shows that bicycle ownership was an important determinant of level of involvement in cycling. The findings agree with a study done by Moudon *et al.* (2005) on travel mode choice where he cited mode ownership or availability as a key factor explaining mode use. According to them, bicycle ownership is a vital and decisive component of cycling behaviour. Table 4.6 shows the association between bicycle ownership and market traders' involvement in cycling by gender

Table 4.6: Bicycle ownership versus market traders' involvement in cycling by gender

Bicycle ownership	**Market traders' involvement in cycling**											
	Female (n=250)				**Male (n=125)**				**Total (n=375)**			
	NC	IC	RC	Total	NC	IC	RC	Total	NC	IC	RC	Total
Owns bicycle	10	28	28	66	00	14	60	74	10	42	88	140
	15.2%	42.4%	42.4%	26.4%	0.0%	18.9%	81.1%	59.2%	7.1%	30.0%	62.9%	37.3%
Doesn't own bicycle	77	69	38	184	06	04	41	51	83	73	79	235
	41,8%	37,5%	20.7%	73.6%	11.8%	7.8%	80.4%	40.8%	35.3%	31.1%	33.6%	62.7%
Total	87	97	66	250	06	18	101	125	93	115	167	375
	34.8%	38.8%	26.4%	100%	4.8%	14.4%	80.8%	100%	24.8%	30.7%	44.5%	100%

X^2=44.955, df=2, V=0.346

The involvement of respondents in cycling was therefore associated with bicycle ownership, with a biased gender representation where male market traders had a higher involvement in

cycling than their female counterparts. The findings agree with Hanson (2010) who reported that women's lack of ownership of means of transport affected their mobility and that more women than men have no means of transport at all. The findings are also comparable to the case study of Maramba and Kuzinya (2010) on the Ugandan project where they documented that men owned most bicycles and therefore got priority to use them. It also confirms the assertion of African Union [AU] (2004) that ownership of the bicycle by women may not necessarily signify their use of the bicycle. This study was on the viewpoint that the disparity in bicycle ownership was a result of discrimination on gender lines. This is informed by the fact that gender-linked behaviours are the qualities culture associate with masculinity and femininity and are not innately male or female. Culture shapes the contents of gender stereotypes such that men are perceived as possessing more of whatever traits are culturally valued (Bandura, 1986; Cuddy *et al., 2*010).

The market traders who owned at least a bicycle were tested on three main sources of bicycle acquisition: whether inherited, donated or bought. Most of the traders bought their bicycles (56.4%) while 22.2% of them inherited them. A further 21.4% acquired them as donations. A very weak association (V= 0.17) between method of bicycle acquisition and market traders' involvement in cycling was revealed. Although some of the non-cyclists owned some bicycles which they had bought (6.4%) or acquired through donation (0.7%), none of them inherited any bicycle. The study revealed that even the irregular and the regular cyclists had bought their bicycles at 26.6% and 62.0% respectively. The proportion of male regular cyclists who inherited the bicycle were almost ten times that of female while the proportion among the females who bought the bicycle was slightly higher at 31.8% for females compared to 20.0% for male. Bicycle inheritance was therefore gender biased, with more advantage to the male market traders. Since inheritance of property takes place within the confines of the family. The family therefore becomes the unit of discrimination. Table 4.7

shows the association between bicycle acquisition and market traders' involvement in cycling by gender by gender.

Table 4.7: Method of bicycle acquisition versus market traders' involvement in cycling by bicycle owners only

Method of acquisition of bicycle	Market traders' involvement in cycling											
	Female (n=66)				Male (n=74)				Total (n=140)			
	NC	IC	RC		NC	IC	RC		NC	IC	RC	Total
Inherited	00	01	02	03	00	05	23	28	00	06	25	31
	0.0%	33.3%	66.7%	4.5%	0.0%	17.9%	82.1%	37.8%	0.0%	19.4%	80.6%	22.2%
Donated	01	13	05	19	00	02	09	11	01	15	14	30
	5.3%	68.4%	26.3%	28.8%	0.0%	18.2%	81.8%	14.9%	3.3%	50.0%	46.7%	21.4%
Bought	09	14	21	44	00	07	28	35	09	21	49	79
	20.5%	31.8%	47.7%	66.7%	0.0%	20.0%	80.0%	47.3%	11.4%	26.6%	62.0%	56.4%
Total	10	28	28	66	00	14	60	74	10	42	88	140
	15.1%	42.4%	42.4%	100%	0.0%	18.9%	81.1%	100%	7.1%	30.0%	62.9%	100%

X^2=21.946, df=4, *V*=0.17

The lack of good-will for women to inherit property (embedded in the society) leaves them with fewer options than men in the acquisition of the bicycle hence reduced opportunities to become cyclists. Moreover, more females bought their bicycles compared to men. This conforms to Hanson (2010) who suggested that women had weaker bargaining for household resources, limiting their chances for bicycle ownership. Weak institutional policies and non-adherence to relevant legal frameworks to mainstream gender in cycling is still common in the transport sector in Kisumu City although Article 27 of the Bill of Rights in the Constitution of Kenya (2010) recognizes the need to protect women from discrimination. Most of the respondents claimed ownership of the bicycles that they owned (44.3%). Out of these respondents who claimed ownership, a majority of them (87.1%) were regular cyclists while none was a non-cyclist. Only a small percentage of the respondents who owned a

bicycle reported that their mothers claimed ownership (9.3%) whereas those who reported that their fathers claimed ownership were a higher percentage at 22.1%. The study revealed that there existed a weak association between bicycle control and respondents' involvement in cycling ($V = 0.21$). Claiming ownership of the bicycle was a factor in the involvement of the respondents in cycling although it did not perfectly relate to the level of involvement in cycling. To some extent, it expressed power to have control over the bicycle, gave respondents extra confidence in the usage of the bicycle and improved their skills in bicycle usage hence higher levels of involvement. This agrees with Cresswell & Uteng (2008) who concluded that accessibility and use of the bicycle depend on the relative power of the bearer which would command certain responses from other people as enforced by the community or culture.

Gender differences in bicycle control were observed in the way the female and male claimed ownership and the residual effect of this on their cycling behaviour. Most female respondents who owned a bicycle reported that those bicycles were claimed majorly by their spouses (39.4%) or their fathers at 30.2%. The male had more claim over the bicycle compared to the females. This conform with Peter (2001) who asserted that men in their superior position in the household hierarchy appropriate the most efficient means of transport for themselves, attributing it to the male-dominated local culture that portray women's use of the bicycle as inappropriate and unwomanly. Only a small proportion of the female (15.2%) said that they claimed ownership themselves and an equal proportion reported that their mothers claimed ownership. Out of the female respondents who claimed ownership of the bicycle, or whose mothers claimed ownership 50.0% were irregular cyclists, another 50.0% were regular cyclists while none was a non-cyclist. For the larger percentage who mentioned their spouses or fathers, as claiming ownership of the bicycle, the proportion of regular cyclists reduced compared to the percentage among those who claimed ownership of bicycle themselves.

Additionally, some respondents even reported being non-cyclists (25.0% for those whose fathers claimed ownership and 19.2% for those whose spouses claimed ownership of the bicycle). For the male respondents on the other hand, 70.0% of those who owned a bicycle claimed ownership themselves. This was followed by those who claimed that their fathers claimed ownership (14.9%), 10.8% mentioned their spouses while only 4.0% suggested their mothers. Table 4.8 shows the association between question "who claims ownership of the bicycle" versus market traders involvement in cycling by bicycle owners only.

Table 4.8: Opinion on "who claims ownership of the bicycle" versus market traders involvement in cycling by bicycle owners only.

Who claims ownership?	Market traders' involvement in cycling											
	Females (n=66)				Males (n=74)				Total (n=140)			
	NC	IC	RC	Total	NC	IC	RC	Total	NC	IC	RC	Total
Self	00	05	05	10	00	03	49	52	00	08	54	62
	0.0%	50.0%	50.0%	15.1%	0.0%	5.8%	94.2%	70.3%	0.0%	12.9%	87.1%	44.3%
Spouse	05	11	10	26	00	02	06	08	05	13	16	34
	19.2%	42.3%	38.5%	39.4%	0.0%	25.0%	75.0%	10.8%	14.7%	38.2%	47.1%	24.3
Father	05	07	08	20	00	08	03	11	05	15	11	31
	25.0%	35.0%	40.0%	30.3	0.0%	72.7%	27.3%	14.9%	16.1%	48.4%	35.5%	22.1%
Mother	00	05	05	10	00	01	02	03	00	06	07	13
	0.0%	50.0%	50.0%	15.2%	0.0%	33.3%	66.7%	4.0%	0.0%	46.2%	53.8%	9.3%
Total	10	28	28	66	00	14	60	74	10	42	88	140
	15.1%	42.4%	42.4%	100%	0.0%	18.9%	81.1%	100%	7.1%	30.0%	62.9%	100%

$X^2 = 32.92$; df = 6; $V = 0.21$

Male respondents had five times more chances of claiming ownership of the bicycles and about ten times more chances of being regular cyclists than their female counterparts. This is a case of power relations between female and male, which is derived from the society. Maramba and Kuzinya (2010) attributes this to cultural beliefs and practices which dictate

that men control women and most wealth-generating property in many African societies. The findings show that a higher percentage of female (73.6%) than male (40.8%) respondents lacked ownership of the bicycle. Three factors may have led to these: first, that the females may have had negative attitude, towards the bicycle, so they so no need to acquire them, second that the females had less money compared to the male for the acquisition of bicycles and third is that cultural factors may have inhibited the females from cycling. Method of acquisition of the bicycle was related to market traders' involvement in cycling and the fact that the method was biased towards the male gender might have brought in sexism in that discriminated against women. Claiming ownership of the bicycle was an important factor in the involvement of women market traders in cycling. To some extent, it expressed power to have control over the bicycle, gave respondents extra confidence in the usage of the bicycle and improved their skills in bicycle usage hence higher levels of involvement. Unfortunately, female market traders had less control that led to low involvement in cycling.

From the Focus Group Discussion, it was clear that the females claimed that they had control over the bicycles they could be having, while the male insisted that only men owned property in a household. It was a general consensus that females bought their bicycles while the made had opportunity to inherit from their fathers.

The Chairman of the Luo Council of Elders (Ker) attests to this in his affirmative statement: "the traditional stand among the Luo is that a woman has no property in a matrimonial home; all property belong to the husband. The woman is therefore a passive partner in a marriage in terms of ownership of property".

Christian faithful however believe that men and women are equal before God. Referring to the Holy Bible, Bishop Gero of Holiness and Repentance Church cited from Job 42:15 where Job granted inheritance to his daughter alongside his sons. Among the Muslims too, women

have a right to own property within the context of Shariah as explained by Imam Sadeeq referring to the Quran (Q4:11-12).

4.4. Dress Code and Market Traders' Involvement in Cycling

The third objective of this study was to establish the relationship between dress code and women's involvement in cycling in Kisumu City. To achieve this objective, the respondents were asked about their opinion on dress code and cycling, women clothing and cycling and appropriate cycling clothing. Data collected was analysed under the question: what is the relationship between dress code and women involvement in cycling among market traders?

Market traders valued the gender identity that is preserved in the dress code. Generally, more respondents (80.2%) supported the statement "Natural law demands that women put on long dresses even when cycling" than those who were against it (16.3%). Respondents who strongly agreed and those who agreed with the statement comprised 15.2% and 65.0 respectively while those who strongly disagreed and those who disagreed comprised 8.8% and 7.5% respectively. The respondents were therefore five times more likely to support women putting on long dresses than those who would question the long dresses while cycling. The results further revealed that there were more regular cyclists among the respondents who were against women putting on long dresses while cycling (54.5% for those who strongly disagreed and 50.0% for those who disagreed) than among those who supported the practice (35.1% for those who strongly agreed and 44.1% for those who agreed).

While the liberal nature towards women's dressing increased the respondent's chances of being regular cyclists, the conservative nature reduced their chances of being regular cyclists. Furthermore, the liberal respondents also had fewer non-cyclists (9.1% for those who strongly disagreed and 14.3% for those who disagreed) than those found among the conservatives (35.1% for those who strongly agreed and 27.0% for those who agreed with the

statement). The attitude of respondents towards women's dressing therefore had a positive association of *V*=0.49with their involvement in cycling. While a slightly higher percentage of male than female supported the statement (18.4% of the male strongly agreed and 68.0% agreed) than their female counterparts (13.6% strongly agreed and 63.6 agreed), a higher percentage of female than male did not support it (3.2% of the male strongly disagreed and 6.4% disagreed while 11.6% of the female strongly disagreed and 8.0% disagreed). The results suggest that female traders were more liberal than their male counterparts when it came to dressing. This is in line with the studies carried out by Hanlon (2012) and Heesch *et al.* (2012) which depicted gender stereotyping in relation to dressing and cycling at the time when the women were just discovering that the Victorian dress was an obstacle to cycling. Table 4.9 shows the association between the opinions on dress code versus market traders' involvement in cycling by gender

Table 4.9: Opinions on dressing code versus market traders' involvement in cycling by gender

	Market traders' involvement in cycling											
	Female				**Male**				**Total**			
	NC	IC	RC	Total	NC	IC	RC	Total	NC	IC	RC	Total
SD	03	12	14	29	00	00	04	04	03	12	18	33
	10.3%	41.4%	48.3%	11.6%	0.0%	0.0%	100%	3.2%	9.1%	36.4%	54.5%	8.8%
D	04	10	06	20	00	00	08	08	04	10	14	28
	20.0%	50.0%	30.0%	8.0%	0.0%	0.0%	100%	6.4%	14.3%	35.7%	50.0%	7.5%
N	00	07	01	08	00	00	05	05	00	07	06	13
	0.0%	87.5%	12.5%	3.2%	0.0%	0.0%	100%	4.0%	0.0%	53.8%	46.2%	3.5%
A	65	56	38	159	04	10	71	85	69	66	109	244
	40.9%	35.2%	23.9	63.6%	4.7%	11.8%	83.5%	68.0%	28.3%	27.0%	44.7%	65.0%
SA	15	12	07	34	02	08	13	23	17	20	20	57
	41.1%	35.3%	20.6%	13.6%	8.7%	34.8%	56.5%	18.4%	29.8%	35.1%	35.1%	15.2%
Total	87	97	66	250	06	18	101	125	93	115	167	375
	34.8%	38.8%	26.4%	100%	4.8%	14.4%	80.8%	100%	24.8%	30.7%	44.5%	100%

X^2=17.7465, df= 8, *V*=0.49

Opinion about the long dress for women impacted more on female respondents' involvement in cycling than it did to the male respondents. Although the percentage of respondents that agreed with the statement was highest among both female and male, the female conservatives were almost six times more likely to be non-cyclists than their male counterparts. The likelihood of the female respondents to be non-cyclists reduced 2.5 times as they became more liberal while none of the liberal males was a non-cyclist. Among the females who supported the statement, 41.1% strongly agreed and 40.9% agreed while among the male, only 8.4% strongly agreed and 4.7% agreed. Among those who did not support the statement however, 10.3% were females who strongly agreed including 20.0% who disagreed. The results suggest that although the male respondents were more likely than their female counterparts to maintain the status quo in women dressing even when cycling, this did not affect their involvement in cycling. Among the female respondents who were conservatives however, there were more non-cyclists and fewer regular cyclists. The converse was true for the more liberal female respondents who did not agree with the statement. These results suggest that long dresses worn by women acted as a hindrance to their involvement in cycling, although they lived in denial about this fact. They agree with Hanlon (2012) who noted that clothing has been one of the most defining aspects of culture and society for centuries although it limits women dressing options for cycling. Plate 3 is a photograph of one of the female cyclists in one of the estates in Kisumu City who may be feeling that the skirt is not an impediment to cycling.

Plate 2*: A female cyclist in Obunga estate.*

Source: Field study (2012)

Dress code therefore was associated with gender identity and sexism; long dresses for females meant less involvement in cycling. These results agree with what have been revealed in other feminist studies on cycling. For instance, Hanlon (2012) stated that the type of clothing women and men are expected to wear has made distinctions between male and female gender by nearly every society throughout history. The findings also agree with Hanlon (2012) who documented about the American Victorian dress that was a big hindrance to women cycling although the conservatives thought that it symbolized the identity of the woman at that time. While it was revealed that women dress code affected their involvement in cycling in this study, it was not clear whether the respondents' cycling behaviours were out of their choice or if they could be doing it conditionally.

Asked the question, "How does women's dress code affect their cycling chances?" the respondents who felt that it did not were more than those who felt that it did at 2.23 : 1.

Although there was no significant difference in level of involvement in cycling among the respondents who said "yes" those who felt that dress code did not affect women cycling chances were mainly regular cyclists at 48.7%, followed by irregular cyclists at 30.1% and the rest were non-cyclists. The results show that while the respondents who felt that dress code does not affect women's cycling chances had a higher percentage of regular cyclists, the ones who felt that it did had a higher percentage of non-cyclists instead. Involvement in cycling therefore was associated with one's attitude on whether dress code affects women's cycling chances or not. This is a similar observation to Winterton (2011) who documented that women's attitude on dressing code pushed them into demanding for more appropriate cycling clothing.

Among the females who felt that women's dress code did not affect their cycling chances, majority were irregular cyclists at 42.4% while the regular cyclists comprised 27.1%. This category also had a lower percentage of non-cyclists (30.5%) compared to the percentages of the females who were affirmative (45.2%). An overwhelming majority of the male who felt that women's dress code did not affect their cycling chances were regular cyclists (95.1%) and only 1.2% were reported as non-cyclists. Among the ones who accepted that it did, more than half of them were regular cyclists while 11.6% were non-cyclists. Irregular cyclists however comprised 34.9%. The results show that the respondents were very much aware of the effect of dressing code on their involvement in cycling as seen in the similarity in their response between this section and the former section. The increased percentage of irregular cyclists was however noted in this section compared to the former. This was particularly noted among the female respondents compared to the male. Table 4.10 gives a reflection of the association between opinion on women clothing and market traders' involvement in cycling.

Table 4.10: Opinion on the question 'does dressing code affect women's cycling chances?' versus market traders' involvement in cycling

Opinion	Market traders' involvement in cycling											
	Female (n=250)				Male (n=125)				Total (n=375)			
	NC	IC	RC	total	NC	IC	RC	total	NC	IC	RC	total
Yes	33	22	18	73	05	15	23	43	38	37	41	116
	45.2%	30.1%	24.7%	29.2%	11.6%	34.9%	53.5%	34.4%	32.8%	31.9%	35.3%	30.9%
No	54	75	48	177	01	03	78	82	55	78	126	259
	30.5%	42.4%	27.1%	70.8%	1.2%	3.7%	95.1%	65.6%	21.2%	30.1%	48.7%	69.1%
Total	87	97	66	250	06	18	101	125	93	115	167	375
	34.8%	38.8%	26.4%	100%	4.8%	14.4%	80.8%	100%	24.8	30.7%	44.5%	100%

While it is true that a higher proportion of female respondents felt that dress code did not affect women's cycling chances, they had 3.4 higher chances of being irregular cyclists than the female respondents who felt that dress code did not affect women's cycling chances. Socialization in this case must have played a significant role in informing the behaviour of the female respondents in terms of their dress code and their level of involvement in cycling. This is in agreement with Porras *et al*., (2012) who noted that apart from being a strong indicator of culture and gender, dress code also defines lifestyle, conveying social messages relating to individual or group identity

Although most respondents felt that they did not mind having the long dresses for women, and that dressing code did not affect women's cycling chances, the results show that women's dress code was a correlate of their involvement in cycling. The high percentage of irregular cyclists among female respondents also suggests that they must have cycled at some

point in time but had since either stopped or become less regular. This sub-section sought to find out the feelings of the respondents towards a possible cycling outfit for women.

In the investigation, the respondents were asked to comment on the statement "A cycling outfit for women should be designed." Opinion of the respondents had a very weak association with their involvement in cycling (V=0.17). However, a higher percentage of respondents supported the idea (50.9% agreed with 14.7% strongly agreeing) compared to those who did not support the idea (7.7% disagreed and 14.4% strongly disagreed). Most of the respondents who supported the idea were regular cyclists (46.0% agreed while 23.6% strongly agreed. Incidentally, regular cyclists were also the majority out of the respondents who did not support the idea since 61.1% had strongly disagreed and 41.4% had disagreed. Out of the 93 non-cyclists, 20 respondents had disagreed with the statement while 57 of them had supported it. The findings revealed that supporters of the idea of a new cycling outfit for women were three times more likely to be non-cyclists than the opposers of the idea. At the same time, they were almost twice more probable to be regular cyclists than those who disagreed, suggesting that respondents' opinions on new cycling outfit for women was not associated with their involvement in cycling. The very weak association registered must have been caused by the significant difference in the cycling involvement between those who agreed with the statement and those who disagreed with it. The weak association could be a result of the fact that 93.6% of the respondents were Christians who do not have a rigid dressing code. The findings however do not conform to the attitude of the ancient American women who had to substitute their corsets for bloomers as documented by researchers like Hanlon (2012) and Porras et al (2012).

Although there was no significant difference in the proportions of male and female respondents' opinion concerning the statement, there was significant difference in there levels of involvement in cycling; Females who supported the statement had 2.7 higher chances of

being non- cyclists and twice more likely to be regular cyclists compared to females who opposed it. Among the male respondents who disagreed with the statement however, there were no chances of male being non-cyclists but they were 2.4 times less likely to be regular cyclists compared to the male who supported the statement. Female respondents' attitude towards designing a cycling outfit for women was not associated with their involvement in cycling while males' attitude was associated with their involvement in cycling. This means that other factors could explain their low involvement in cycling other than dress code. The results contradict the behaviour of the Rational Dress Movement as explained by Winterton (2011) where women pushed for change of the dress code of the time for a more appropriate cycling clothing. Table 4.11 is a summary of market traders' opinions on the statement "cycling outfit for women to be designed" by gender by level of involvement in cycling.

Table 4.11: Market traders' opinion on "cycling outfit for women should be designed" by gender and by level of involvement in cycling

	Level of involvement in cycling											
	Female (n=250)				Male (n=125)				Total (n=375)			
	NC	IC	RC	total	NC	IC	RC	Total	NC	IC	RC	total
SD	11	10	16	37	00	00	17	17	11	10	33	54
	29.7%	27.0%	43.2%	14.8%	0.0%	0.0%	100%	13.6%	20.4%	18.5%	61.1%	14.4%
D	09	07	03	19	00	01	09	10	09	08	12	29
	47.4%	36.8%	15.8%	7.6%	0.0%	10.0%	90.0%	7.6%	31.0%	27.6	41.4%	7.7%
N	13	08	09	30	03	01	12	16	16	09	21	46
	43.3%	26.7%	30.0%	11.9%	18.8%	6.2%	75.0%	12.9%	34.8%	19.6%	45.6	12.3%
A	35	61	34	130	02	05	54	61	37	66	88	191
	26.9%	46.9%	26.2%	52.1%	3.3%	8.2%	88.5%	48.8%	19.4%	34.6%	46.0%	50.9%
SA	19	11	04	34	01	11	09	21	20	22	13	55
	55.9%	32.3%	11.8%	13.6%	4.8%	52.4%	42.8%	16.7%	36.4%	40.0%	23.6%	14.7%
total	87	97	66	250	06	18	101	125	93	115	167	375
	34.8%	38.8%	26.4%	100%	4.8%	14.4%	80.8%	100%	24.8%	30.7%	44.5%	100%

X^2=21.432; *V*=0.17

The results show that as the level of agreement with the statement increased, the percentage of respondents decreased while as the level of agreement decreased, the percentage of respondents increased. This observation suggests that respondents who strongly agreed with the statement were more likely to be non-cyclists and less likely to be regular cyclists while those who strongly disagreed were less likely to be non-cyclists but more likely to be regular cyclists Among the respondents who agreed with the statement, the percentage of non-cyclists increased with level of agreement (19.4% of respondents who agreed and 36.4% of respondents who strongly agreed) while the percentage of regular cyclists decreased with increase in the level of agreement (46.0% of respondents who agreed and 23.6 of respondents who strongly agreed). Among the respondents who were for the contrary opinion however, the percentage of non-cyclists decreased with increase in disagreement with the statement while the percentage of regular cyclists increased with increase in the level of disagreement. According to Porras *et al.* (2012), modifications had to be made on women clothing to conform to the changing trends of cycling by casting off the unpractical clothing style that had long kept women's bodies "uncomfortably" covered.

In this objective, it has been observed that females who did not insist on the long dress were more likely to be regular cyclists while conservatives had more non-cyclists and few regular cyclists. Those who felt that dress code affected their cycling chances actually had lower cycling chances than those who felt it did not. Although Kisumu City is predominantly occupied by the Luo, it is a Cosmopolitan City with people from a diverse background, with a strong patriarchal traditional Kenyan culture and strong religious backgrounds; men should not dress like men, yet they should not expose their thighs.

The FGD suggested that probably a buggy trouser be introduced. They were certainly not happy with the cycling clothing for sports, saying it overexposed the body structure since it fitted too tightly.

According to the Chairman of the Luo Council of Elders, the current dress code is right because it is long enough and covers a woman's thigh adequately.

The Religious Leaders, Imam Sadeeq and Bishop Gero added that while women cycling was not prohibited, decency in dressing is paramount, particularly among the Muslim women. The Imam cited that in Iran there are special bicycles for Muslim Women.

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

5.1. Summary of Findings

This study investigated whether there is gender stereotyping in women involvement in cycling among market traders in Kisumu city. It was intended to reveal whether the low involvement of women in cycling in the city is an effect of gender stereotyping or there could be other salient reasons which are yet to be identified. This should inform decision makers, planners and project implementers on matters relating to social inclusion in cycling. The study has been built on the premise that women market traders use public transport more than the men, a phenomenon that could be avoided if they cycled to the markets. The study specifically sought to assess the influence of bicycle status, determine the effect of bicycle ownership and establish the relationship between dress code and women involvement in cycling.

5.1.1. Bicycle Status and women involvement in cycling

Mode preference and market traders' involvement in cycling in the pooled model was a moderate negative at $V = 0.4$. Car preference however affected the respondents' involvement in cycling more than bicycle preference. More market traders preferred the bicycle at 55.7%. This association impacted more on the female market traders than the male with gender difference being significant in both car preference and bicycle preference. The results suggest that while the male market traders viewed the bicycle positively, the converse was for the female market traders. Females who preferred the bicycle were about 8 times more likely to be non-cyclists compared to the females who preferred the car. The findings suggest that bicycle preference caused greater gender disparity in cycling compared to car preference.

Bicycle comfort had a moderate association (V=0.46) with respondents' involvement in cycling. Out of the 124 respondents who felt that the bicycle was comfortable, 91.1% were regular cyclists while only 4.9% were non-cyclists. Among those who cycled despite the discomfort, majority were irregular cyclists (67.1%) while the rest cycled more than 15 days that month with none of them reporting as non-cyclists. However, respondents who could not withstand the discomfort of the bicycle were all non-cyclists. Bicycle discomfort was an obstacle to female respondents more than their male counterparts. Where bicycle discomfort was reported, the females were either non-cyclists (45.5%) or irregular cyclists (54.4%) and none was a regular cyclist.

While the percentage of respondents who cycled despite the discomfort of the bicycle was the highest among both female and male respondents, females were about 7 times more likely to shun away cycling because of discomfort. They were also about 1.4 times less likely to appreciate the bicycle for its comfort. The females valued comfort more than the males hence their lower adoption into cycling.

Social status of the bicycle had a moderate association with respondents' involvement in cycling at a coefficient of V= 0.48. Responding to the statement "bicycles are used only when people cannot afford public or private transport", majority of the respondents disagreed at 65.0%. Regular cyclists formed the majority of those who disagreed with the statement at 62.3% while respondents who did not think that cycling was for the poor were actively involved in cycling (62.3%), with only 5.3% of them being non-cyclists. However, those who associated cycling with poverty had low involvement in cycling with on 7.7% as regular cyclists. There was gender difference in the social status of the bicycle, with more females looking at the bicycle as a symbol of poverty at 36.8% while more males were of the contrary opinion at 76.8%. Association of the bicycle with poverty by the female respondents did not only affect their ability to cycle, but also their frequency of cycling.

The question “who in the family should ride bicycle?”, generated biased reactions where respondents who felt that cycling was for men were about 9 times more than those who felt that it was for women. Out of 36 respondents who felt that women should be the ones to cycle, regular cyclists had the highest representation of 66.7% while none of them was classified as non-cyclists. For those who felt that cycling was for men, 42.2% were regular cyclists while 27.4% were non-cyclists and an additional one-third comprised irregular cyclists. While the female respondents who believed that cycling was for men, 40.0% were non-cyclists, all the females who felt that women should cycle were either irregular at 34.0% or regular cyclists at 65.6%; none was a non-cyclist. None of the male respondents who supported women cycling was a non-cyclist either. However, 75.0% of them were regular cyclists although they were only 3.2% of the male population in the sample. The male respondents who believed that cycling was for men were 8 times less likely to be non-cyclists than the female who also felt that cycling was for men. They were however 4 times more likely to be regular cyclists than their female counterparts.

5.1.2. Bicycle ownership and market traders’ involvement in cycling

Among the market traders, there exists a weak association between bicycle ownership and the market traders’ involvement in cycling (V= 0.346). Those who had at least a bicycle comprised more of the regular cyclists at 62.0% with very few being non-cyclists at 7.1%. Out of the 235 respondents who lacked ownership of the bicycle, 33.6% were regular cyclists while 35.3% were non-cyclists. This shows that bicycle ownership was not an important determinant of one’s involvement in cycling. Incidentally, a higher percentage of female (73.6%) than male (40.8%) respondents lacked ownership of the bicycle. While none of the male respondents who owned a bicycle was a non-cyclist, 15.2% of the female respondents were non-cyclists.

Most of the traders bought their bicycles (56.4%) while 22.2% of them inherited them. A further 21.4% acquired them as donations. Although some of the non-cyclists owned some bicycles which they had bought (6.4%) or acquired through donation (0.7%), none of them inherited any bicycle. The study revealed that even the irregular and the regular cyclists had bought their bicycles at 26.6% and 62.0% respectively. The proportion of male regular cyclists who inherited the bicycle were almost ten times that of female while the proportion among the females who bought the bicycle was slightly higher at 31.8% for females compared to 20.0% for male. Bicycle inheritance was therefore gender biased, with more advantage to the male market traders.

Most of the respondents claimed ownership of the bicycles that they owned (44.3%). Out of these respondents who claimed ownership, a majority of them (87.1%) were regular cyclists while none was a non-cyclist. Only a small percentage of the respondents who owned a bicycle reported that their mothers claimed ownership (9.3%) whereas those who reported that their fathers claimed ownership were a higher percentage at 22.1%. Claiming ownership of the bicycle was a factor in the involvement of the respondents in cycling although it did not perfectly relate to the level of involvement in cycling. Gender differences in bicycle control were observed in the way the female and male claimed ownership and the residual effect of this on their cycling behavior. Most female respondents who owned a bicycle reported that those bicycles were claimed majorly by their spouses (39.4%) or their fathers at 30.2%. Male respondents had five times more chances of claiming ownership of the bicycles and about ten times more chances of being regular cyclists than their female counterparts.

5.1.3. Dress code and market traders' involvement in cycling

The study actually revealed a moderate association of 49% between gender identity in dress code and respondents' involvement in cycling. Generally, more respondents (80.2%)

supported the statement “Natural law demands that women put on long dresses even when cycling” than those who were against it (16.3%). The respondents were five times more likely to support women putting on long dresses than those who would question the long dresses while cycling. Opinion about the long dress for women impacted more on female respondents’ involvement in cycling than it did to the male respondents. The likelihood of the female respondents to be non-cyclists reduced 2.5 times as they became more liberal while none of the liberal males was a non-cyclist. Dress code therefore was associated with gender identity; long dresses for females meant less involvement in cycling.

Although there was no significant difference in level of involvement in cycling among the respondents who said “yes” those who felt that dress code did not affect women cycling chances were mainly regular cyclists at 48.7%, followed by irregular cyclists at 30.1% and the rest were non-cyclists. The results show that while the respondents who felt that dress code does not affect women’s cycling chances had a higher percentage of regular cyclists, the ones who felt that it did had a higher percentage of non-cyclists instead. Involvement in cycling therefore was associated with one’s attitude on whether dress code affects women’s cycling chances or not. Opinion on appropriate cycling clothing for women was a correlate of their involvement in cycling. This observation suggests that respondents who strongly agreed with the possibility of a cycling clothing for women were more likely to be non-cyclists and less likely to be regular cyclists while those who strongly disagreed were less likely to be non-cyclists but more likely to be regular cyclists

5.2. Conclusions

Mode preference affected women’s involvement in cycling. While there was no significant difference in female respondents’ preference for the car to the bicycle (50.8% :49.2%), females who preferred the bicycle were about 8 times more likely to be non-cyclists compared to females who preferred the car, suggesting that females constituted a greater

percentage of bicycle passengers. Bicycle discomfort was an obstacle to more female market traders than male. Where it was registered, females were either non-cyclists at 45.5% or irregular cyclists at 54.4%. None was a regular cyclist. Furthermore, more females looked at the bicycle as a symbol of poverty at 36.8% while more male were of the contrary opinion at 76.8%. Gender roles affected female's attitude towards cycling, with heavy leaning on the belief that men were the ones to cycle. While the male who believed that cycling was for men were 8 times less likely to be non-cyclists, they were also about 4 times more likely to be regular cyclists than the females with the same opinion. In the context of this study, the females had obstacles touching on gender identity from their own attitudes, sex linkage from the community and gender roles from a cultural perspective, aspects of gender stereotyping.

Bicycle ownership was not a determinant of female market traders' involvement in cycling although a higher percentage of females (73.6%) lacked ownership compared to 40.0% of the male. The chances of females inheriting he bicycles was almost 10 times lower than for the male while more female bought the bicycles at 31.8% compared to their male counterparts at 20.0%. Claiming ownership of the bicycle was however a determinant of cycling involvement. Unfortunately, most females who owned at least a bicycle reported that the people who claimed ownership were mostly spouses at 39.4% or fathers at 30.2%. Generally, female market traders were 5 times less likely to claim ownership of the bicycle and 10 times less likely to be regular cyclists. In the context of this study discrimination against females is seen in both bicycle acquisition and ownership. Power relations in ownership of the bicycle (an aspect of gender roles) is however significant in determining the involvement of female market traders in cycling. Bicycle ownership therefore does not affect women's involvement in cycling but power relations between women and men does.

The study revealed a moderate association between market traders' opinion on whether women should put on long dresses and their involvement in cycling. Most of them agreed that women should cover their bodies well even while cycling (80.3%). Conservative females had a higher percentage of non-cyclists than the percentage of regular cyclists. Ironically, among the women who felt that dress code did not affect their cycling chances, most of them (42.4%) were females who knew how to cycle but had not done it for at least 15 days the previous month. Regular cyclists did not think that there was need to introduce a cycling gear for women cyclists but those who felt that there was need for a cycling gear for women had the highest percentage of non-cyclists at 61.1%. Female traders' involvement in cycling was therefore affected by ones' attitude on the dress code in relation to cycling. Apart from this gender identity indicator, societal expectations determined the appropriate clothing depending on the gender roles. Dress code therefore dictates the level of women involvement in cycling.

The researcher finally concludes that there is gender stereotyping in women involvement in cycling.

5.3. Recommendations

The researcher has argued in this report that bicycle status, power relations in bicycle ownership and dress code affect women involvement in cycling. The study has shown that gender identity, sex-linkage and gender roles are element that should not be taken for granted when mainstreaming gender in the cycling industry. It is against this background that the recommendations below are made. Despite its limitation, the study should contribute valuable information to the field of sustainable mobility and also provide planners, policy makers and project implementers with information appropriate for enhancing gender parity in

cycling. Basing generalizations on the findings of this study, the researcher recommends that:-

- Any new measures proposed for cyclists should aim at improving infrastructural conditions on the roads to entice more women cyclists. Laws on Road Safety should be made public and all road users obliged to follow them to improve women's confidence on the roads. Awareness creation campaigns on best practices regarding the bicycle will help change attitude about the bicycle and who should cycle. The City managers should organize for benchmarking opportunities for the most vulnerable members of the society to countries like the Netherlands where cycling has succeeded as a dependable mode of travel for both men and women.
- Deliberate industrial development policy geared towards the building of a sustainable local cycling manufacture and maintenance industry that will manufacture affordable men and women bicycles to be availed on the local market. The City manager should seek partnership with other bodies in order to create awareness on the need to look beyond certain retrogressive cultural practices that compromise the vision of this country of becoming a middle level economy by 2030.
- More female-model bicycles should be encouraged so that women's dress code does not become a hindrance to cycling. The possibility of introducing an Islamic bicycle for the Muslim women like it has been done in Iran will encourage more of them to cycle.

5.4. Suggestion for Further Research

This study, being the first reported research of its kind, triggers further research which should identify and quantify the characteristics of female-friendly cycling infrastructure and practice in a range of urban environments. Gender differences in utility cycling (real and perceived)

suggest that stereotypes are important determinants of female cycling. Further studies should however allow a larger number of variables to be examined. Future research is needed to identify and quantify additional personal, environmental and economic determinants of utility cycling for women in cities with low bicycle mode share among women.

REFERENCES

Abubakar, A. (2005). Bunga Rampai Pelaksanaan Syariat Islam (Pendukung Qanun Pelaksanaan Syariat Islam) [The Mixed Blossoming of Implementation of Shari'a Islam: Advocator of the Qanun on Implementation of the Shari'a Law). Banda Aceh: Dinas Syariat Islam Provinsi Nanggroe Aceh Darussalam

African Union [AU]. (2004). *The Road to Gender Equality in Africa: An overview.* Addis Ababa: The African Urban Commission.

Angira, O.C.A. (2010). *Challenges and Opportunities for Sustainable Urban Mobility (Non-Motorized Transport): ACase Study of 'Nyamakima Area', Nairobi County, Kenya.* (Thesis Report – Unpublished). Maseno University, Maseno.

Bandura, A. (1977). *Social Learning Theory*. Englewood Cliffs, N.J: Prentice Hall.

Beasley, B., & Collins, S. T. (2002). Shirts vs. Skins: Clothing as an Indicator of Gender Role Stereotyping in Video Games. *Mass Communication & Society, 5*(3), 279-293.

Bem, S.L. (1981). Gender Schema Theory: A Cognitive Account of Sex-Typing. *Psychological review*, 354-364.

Bless, C., Higson-Smith, C., & Kagee, A. (1988). *Fundamentals of Social Research Methods. An African Perspective.* Lusaka: Juta and Co. Ltd.

Calvo, C. M., Sub-Saharan Africa Transport Policy Program, United Nations., & World Bank. (1994). *Case study on intermediate means of transport: Bicycles and rural women in Uganda*. Washington, D.C.: Environmentally Sustainable Development Division, Technical Dept., Africa Region, World Bank.

Cresswell, J.W., & Miller, D.L. (2000). Determining Validity in Qualitative Inquiry. *Theory into Practice, 39*(3), 124-131.

Cresswell, T., & Uteng, T. P. (2008). *Gendered Motilities: Towards a Holistic Understanding.* Retrieved June 18, 2013, from:

http://royalholloway.academia.edu/TimCresswell/papers/536271/Gender_mobilities_towards_an_holistic_undersanding.

Cuddy, A.J.C., Crotty, S., Chong, J., Norton, M. I., & Harvard Business School. (2010). *Men as Cultural Ideals: How Culture Shapes Gender Sterotypes*. Boston: Harvard Business School.

Dodd, C., Clarke, I., Baron, S., & Houston, V. (2000). Looking the Part: Identity, Meaning and Culture in Clothing Purchasing: Theoretical Considerations. *Journal of Fashion Marketing and Management*, *4*, 41-48.

Dooley, D. (2001). *Social Research Methods*. New Delhi: Prentice - Hall of India Private Ltd.

Eagly, A. (1987). *Sex Differences in Social Behavior: A Social Role Interpretation.* NJ, Eribaum: Hillsdale.

Eagly, A., Wood, W., & Diekman, A, B. (2000). Social Role Theory of Sex Differences and Similarities: A Current Appraisal. *The Developmental Social Psychology of Gender*, 123-174.

Emond, C., Tang, W., & Handy S., (2009) *Explaining Gender Differences in Bicycling Behavior*. Washington, D.C.: Transportation Research Board.

European Parliament [EP]. (2006). *Women and Transport Study: Policy Department on Structural and Cohesion Policies*. Brussels: European Union.

Flyvberg, B. (2006). Five Misunderstandings about Case study Research. *Qualitative Inquiry, 12* (2), *219-245.*

Folkesson, E., & Skarp, F. (2011). *An Exploration of Food Market Places in Kisumu, Kenya.* . (Thesis Report – Unpublished). Blekinge Institute of Technology & Chalmers University of Technology, Karlskrona.

Garrard, J., Rose, G., & Lo, S. K. (2007). Promoting Transportation Cycling for Women: The Role of Bicycle Infrastructure. *Prev Med, 46*(1), 55-9.

Gocco, J., (2001). *Market Definition in World Trade: Organization Law*. Bern: World Trade Institute.

Government of Kenya. (2008). *First Medium Term Plan 2008-2012. Kenya Vision 2030: A Globally Competitive and Prosperous Kenya.* Nairobi: Government Printer.

Grieco, M. (1995). *Gender and Transport in Less Developed Countries*. Retrieved May 4, 2013, from www.earthsummit2002.org/worKsh.op/gender%20%26%Transport%20S%20D

Grossman, S.J. & Hart, O.D. (1986). The Costs and Benefits of Ownership: A Theory of Vertical and Lateral Integration. *Journal of Political Economy, 94*, 691–719.

Guitink, P. (1996). *Strategic Planning for Non-motorized Mobility. Transport No OT- 4.* Washington D.C.: The World Bank.

Hanlon, S. (2012). *Cycling to Suffrage: The Bicycle and Women's Rights, 1890 – 1914.* Retrieved Mar 19, 2013, from http://www.sheilahanlon.com.

Hanson, S. (2010). Gender and Mobility: New Approaches for Informing Sustainability. *Gender, Place and* Culture, *17*(1), 5-23.

Heesch, K., Sahlqvist, S., & Garrard, J. (2012). Gender Differences in Recreational and Transport Cycling: A Cross-sectional Mixed Method on Comparison of Cycling Patterns, Motivators and Constraints. *International Journal of Behavioral Nutrition and Physical Activity*, *9*(1), 106.

Heilbrun, A.B. (1981). Gender Differences in the functional linkage between androgyny, social cognition, and competence. *Journal of Personality and Social Psychology*, *41*, 1106-1114.

Horton, D., Rosen, P. & Cox, P. (2007). *Cycling and Society*. Aldershot: Ashgate.

Johnson-Latham, D. (2007). *A Study of Equality as a Prerequisite for Sustainable Development. Report to the Environmental Advisory Control, Sweden.* Retrieved May 4, 2013. from http://www.genderenvironment.org/arcangel2/document05/447.pdf.

Kidder, D. (2002). The Influence of Gender on the Performance of Organizational Citizenship Behaviors. *Journal of Management*, *28*(5), 629–648.

Kisumu City Council [KCC]. (2005). *Sustainable Urban Mobility; Environmental Profile for Kisumu City.* Nairobi: UN-HABITAT.

Kothari, K.H. (1992). *Research Methodology: Methods and Techniques.* New Delhi: Willey Eastern Ltd.

Krizek, K.J., Pamela J.J., & Nebiyou, T. (2004). Gender Differences in Bicycling Behavior and Facility Preferences. Research on Women's Issues in Transportation. *Transportation Research Board, Special Report, 2*, 31-40.

Linton, R. (1936). *The Study of Man: An Introduction*. New York, N.Y.: D. Appleton-Century Co.

Macrae, C.N., Stangor, C., & Hewstone, M. (1996). *Stereotypes and Stereotyping*. New York N.Y.: The Guilford Press.

Mandel, J. (2004). Mobility Matters: Women's Livelihood Strategies in Porto Novo, Benin. *Gender, Place and Culture, 11*(2), 257-87.

Maramba, P., & Kuzinya, D. (2010). *Gender and Rural Travel and Transport Initiative: Facilitators' Guide.* Washington D.C.: World Bank.

Markham, S. (2013). *Women as Agents of Change: Having Voice in Society and Influencing Policy*. Washington, D.C.: World Bank.

Maykut, P. S., & Morehouse, R. (1994). *Beginning Qualitative Research: A Philosophic and Practical Guide*. London: Falmer Press.

Mbidhi, M.O. (2010). *Planning for Cyclists as a Measure towards Improved Road Safety in Kisumu City, Kenya.* (Thesis Report – Unpublished). Maseno University, Maseno.

Moudon, A.V., C. Lee, A.D. Cheadle, C.W. Collier, D. Johnson, T.L. Schmid, & R.D. Weather. (2005). Cycling and the Built Environment, A US Perspective. *Transportation Research, 10*, 245-261.

Mouton, J., & Marais, H. C. (1988). *Basic Concepts in the Methodology of the Social Sciences*. Pretoria: Human Sciences Research Council.

Mugenda, O.M., & Mugenda, A.G. (1999). *Research Methods. Quantitative and Qualitative Approaches.* Nairobi: ACTS Press.

Nahid, G. (2003). Understanding Reliability and Validity in Qualitative Research. *The Qualitative Report*, *8*(4), 597-607.

Oso, Y.W. & Onen, D. (2009). *A General Guide to Writing Research Proposal and Report.* Nairobi: Jomo Kenyatta Foundation.

Patton, M.Q. (2002). *Qualitative Evaluation and Research Method.* Thousand Oaks, CA: Sage Publications.

Peil, M., Mitchell, P.K., & Rimmer, D. (1982). *Social Science Research Methods: An African Handbook.* London: Hodder and Stonghton.

Peters, D. (2001). *Gender and Transport in Less Developed Countries: A Background Paper in Preparation for CSD-9.* Retrieved May 4, 2013, from http://www.earthsummit2002.org/worKsh.op.

Polk, M. (2009).*Gender Equality: A key Tool for Reaching Sustainable Development in the Transport Sector. International Conference on Women Travel Issues.* Irvine: University of Gothenburg.

Porras, M.F., Stoscheck, C., & Van der Kloof, A. (2012). *Balance on the Bike: The Relationship Between Gender and Cycling.* Retrieved May 12, 2013, from http://www.slideshare.net/AvdKloof/balance-on-the-bike-an

Republic of Kenya. (2010). *Ministry of Transport Seasonal Paper on Integrated National Transport Policy*. Nairobi: Government Printer.

Rwebangira, T., & Byabato, A. (2001). Evaluation of road transit investment projects in developing countries. *Transport Policy, Management & Technology Towards, 3.*

Schwartz, J.D. (2011). *The Bicycle as a Status Symbol.* Retrieved June 18, 2013, from www.theurbancounty.com/2011/09/bicycle-as-status.html

Schwenk, C. R. (1979). Why Sacrifice Rigour for Relevance? A Proposal for Combining Laboratory and Field Research in Strategic Management. *Strategic Management Journal, 3*(3), 213-225.

Shalala, D.E. (1995). *Women's Mobilities, Women's Choices: An Introduction to Women's Studies*. New York, NY: Oxford University Press.

Srivastava, S. (1990). *Sex roles of Children in Contemporary Indian Society*. New Delhi: Northern Book Centre.

Steyn, G. (2012). Modernity and Informality - Conflicting Forces Shaping Urban Form in Kisumu. *International Journal for Housing Science and Its Applications*, 36(3), 171-180.

The United Nations Human Settlements Programme [UN-HABITAT]. (2005). *Cities without Slums: Situation Analysis of Informal Sectors in Kisumu. Kenya Slum Upgrading Programme.* Nairobi: UN- HABITAT.

Thomas, G. (2011). A Typology for the Case –Study in Social Science. *Qualitative Inquiry*, 511-621

Titze, S., Stronegger, W.J., Janschitz, S., & Oja, P. (2007). Environmental, Social, and Personal Correlates of Cycling For Transportation in a Student Population. *Journal of Physical Activity & Health*, *4*(1), 66-79.

Tomlinson, H. (2012, Sep 21). Women Beat Up Clerics in Anger at Islamic Dress Code. *The Times*. Retrieved from http://www.thetimes.co.uk/tto/news/world/middleeast/article3544793.ece

Van der Kloof, A. (2011). *Balance on the BikFe: Six Reasons Why Women Cycle Less than Men.* Retrieved May 12, 2013 from, http://balanceonthebike.blogspot.com/2011/02/six-reasons

Williams, J. E., & Best, D.L. (1990). Sex And Psyche: Gender And Self-Viewed Cross-Culturally. Newbury Park, CA: Sage Publications.

Winterton, J. (2011). *Women in Cycling: Get Me Out of This Dress.* Retrieved May 12, 2013 from http://jodiwinterton.blogspot.com/2011/03/women-rights-blame-bicycle_03.html

Xing, Y., Handy, S.L., & Buehler, T.J. (2010). Factors Associated With Bicycle Ownership And Use: A Study Of Six Small U.S. *Cities. Transportation: Planning - Policy - Research - Practice, 37*(6), 967-985.

Yin, R.K. (2003). *Case-Study Research Design and Methods.* Thousand Oaks, CA: Sage Publications.

ANNEXES

ANNEX 1: AUTHORIZATION LETTER

CITY COUNCIL OF KISUMU

Tel. Nos: Kisumu
***Office:** (057) 202 3812*
***Tel/Fax:** (057) 202 3812*
***Email:** townclerk_kisumu@yahoo.com*

Town Hall, Court Road
P.O. Box 105 - 40100
Kisumu, Kenya

Our Ref: **MCK/ADM/18VOL.XXIII**

2nd August, 2012

Your Ref:.....

Date:.....

TO WHOM IT MAY CONCERN

RE: MARY ORUKO-PG/MA/032/2010

The above named student from Maseno University has been granted permission to undertake a Research Study on **"Gender Stereotyping and the Involvement of Women in Cycling: Case study of Women Market Traders in Kisumu Municipality"**.

While conducting your research:

a) The Council will not be responsible for any injuries or inconveniences incurred by you during the period of research.

b) You will strictly observe all rules and regulations that govern the management of this Council in the same manner as a regular staff of this Council.

Peter O. Anditi
FOR: TOWN CLERK

All correspondences to be addressed to the Town Clerk

APPENDICES

APPENDIX 1: QUESTIONNAIRE TO TRADERS

Questionnaire for market traders drawn from selected clusters in Kisumu Municipality

This questionnaire has been developed to collect data in a study regarding the use of bicycles by women market traders in Kisumu City. Please complete the questionnaire form to aid in the study. The findings are to determine whether there is gender stereotyping in the involvement of women in cycling among market traders. The data is required for academic purposes only and will be treated with maximum confidentiality. Your cooperation will be highly appreciated.

Market identity ……...……..

PERSONAL DETAILS

Name:……(OPTIONAL)

Please tick (√) in the box next to the most appropriate answer.

1. **Sex**

1. Male [ ] 2. Female [ ]

BICYCLE STATUS

Please put a tick (√) in the box with the most appropriate response

2. State the means of transport that you prefer to use to the market

1. Car [ ] 2. Bicycle [ ]

3. How can you rate the comfort of a bicycle?

1. Uncomfortable but I ride [ ]

2. Uncomfortable, can't ride [ ]

4. Bicycle are used only when one cannot afford public or private vehicle

1. True [ ] 2. False [ ]

5. Who is supposed to ride the bicycle in a household?

1. Male [ ] 2. Female [ ]

BICYCLE OWNERSHIP

Please put a tick (√) in the box with the most appropriate response.

6. Do you own a bicycle?

1. Yes [ ] 2. No [ ]

7. How was the bicycle acquired?

1. Inherited [ ] 2. As a donation [ ]

3. Bought [ ]

8. Who claims ownership of the bicycle?

1. Self [ ] 2. Spouse [ ]

3. Father [ ] 4. Mother [ ]

5. Others specify ……..

DRESS CODE

9. Please tick (√) the best response that describes your feelings about women's dressing code and cycling.

1 = strongly disagree, 2 = disagree, 3 = are neutral, 4 = agree, 5 = strongly agree

	1	2	3	4	5
Natural law demands that women put on long dresses all the time.					
A cycling outfit should be designed to cater for women cyclists					

10. In your opinion, does dress code affect women's cycling chances?

1. Yes [ ] 2. No [ ]

The End

Thank you for your cooperation

APPENDIX 2: INTERVIEW SCHEDULE FOR BODA- BODA ASSOCIATION

This interview schedule has been developed to collect data in a study regarding cycling among market traders in Kisumu City. The findings are to determine whether there is gender stereotyping in the involvement of women in cycling among market traders. The data is required for academic purposes only and will be treated with maximum confidentiality. Your cooperation will be highly appreciated.

Mary A. Oruko

Maseno University

Name of Officer…….**Designation**……..…….……

1. In your view, what is the importance of having a bicycle?
2. Which are the different models of bicycles currently in use?
3. What is the difference between the different models?
4. What is the cost of buying a bicycle?
5. On average, how much money is spent on bicycle repairs per month?
6. If cycling was to be encouraged among the market traders, what benefit would they get?
7. What is the involvement of women in bicycle transport?
8. What is your view about women cyclists in the City

APPENDIX 3: INTERVIEW SCHEDULE FOR MARKET SUPERITEDANT

This interview schedule has been developed to collect data required to study the effect of gender stereotyping on women involvement in cycling in Kisumu City. The findings are to investigate whether there is gender stereotyping and the involvement of women in cycling among market traders. The data is required for academic purposes only and will be treated with maximum confidentiality. Your cooperation will be highly appreciated.

Mary A. Oruko

Maseno University

Name of Officer……. **Designation**……..…….……

1. Which is the most common mode of transport among the market traders?
2. If cycling was to be encouraged for market traders, what benefits would they get?
3. What is the position of women's involvement in cycling among market traders in the Municipality?
4. In your view, how does gender affect men and women's mobility among market traders?
5. Give your opinion about women market traders and cycling.

APPENDIX 4: INTERVIEW SCHEDULE FOR THE TOWN CLERK.

This interview schedule has been developed to collect data required to study the effect of gender stereotyping on women involvement in cycling in Kisumu City. The findings are to investigate whether there is gender stereotyping in the involvement of women in cycling among market traders. The data is required for academic purposes only and will be treated with maximum confidentiality. Your cooperation will be highly appreciated.

Mary A Oruko

Maseno University

Name of Officer……. **Designation**……..…….……

1. What is Sustainable Urban Mobility all about?
2. What are some of the Non-motorized transport systems commonly used in the City?
3. What are some of the utility areas of the bicycle in the City?
4. What are some of the challenges of bicycle transport in the City?
5. Do you have any plans as a Municipality to promote Non-motorized transport?
6. What can you say about the effectiveness of the bicycle if used by market traders?
7. Comment on the efficacy of cycling as a strategy for sustainable urban mobility.
8. How has the City embraced the policy of gender mainstreaming in the transport sector?

APPENDIX 5: INTERVIEW SCHEDULED FOR THE KADHI

This interview schedule has been developed to collect data required to study the effect of gender stereotyping on women involvement in cycling in Kisumu city. The findings are to investigate whether there is gender stereotyping in the involvement of women in cycling among market traders. The data is required for academic purposes only and will be treated with maximum confidentiality. Your cooperation will be highly appreciated.

Mary A Oruko

Maseno University

Name of Officer……. **Designation**……..…….……

1. What are the roles of a woman in the house hold according to Islam?
2. How much say does a Muslim woman have in the ownership of family property?
3. How free is a Muslim woman to seek employment/ do business outside the household?
4. How is a Muslim woman expected to dress?
5. To what extent does the “ideal” dressing code hinder women cycling patterns?
6. What is the position of Islam on women cyclists?

APPENDIX 6: INTERVIEW SCHEDULE FOR THE BISHOP

This interview schedule has been developed to collect data required to study the effect of gender stereotyping on women involvement in cycling in Kisumu City. The findings are to determine whether there is gender stereotyping in the involvement of women in cycling. The data is required for academic purposes only and will be treated with maximum confidentiality. Your cooperation will be highly appreciated.

Mary A. Oruko

Maseno University

Name of Officer……. **Designation**……..…….……

1. What are the roles of a woman in the household according to Christianity?
2. To what extent do the gender roles hinder women's mobility patterns?
3. How much say does a Christian woman have in the ownership of family property?
4. How free is a Christian woman to seek employment/ do business away from the household?
5. How is a Christian woman expected to dress?
6. To what extent does the "ideal" dressing code hinder women mobility patterns?
7. What is the position of Christianity on women cyclists?

APPENDIX 7: INTERVIEW SCHEDULED FOR THE CLAN ELDER

This interview schedule has been developed to collect data required to study the effect of gender stereotyping on women involvement in cycling in Kisumu City. The findings are to investigate whether there is gender stereotyping in the involvement of women in cycling. The data is required for academic purposes only and will be treated with maximum confidentiality. Your cooperation will be highly appreciated.

Mary A. Oruko

Maseno University

Name of Officer……..…….

Designation……..…….……

1. To what extent do the gender roles hinder women's mobility patterns?
2. How much say does a Luo woman have in the ownership of family bicycle and to what extent does this affect her mobility?
3. How free is a Luo woman to seek employment/ do business outside the household?
4. How is a Luo woman expected to dress?
5. To what extent does the "ideal" dressing code hinder women cycling patterns?
6. What is the position of the Luo on women cyclists?

APPENDIX 8: FOCUS GROUP DISCUSSION

This interview schedule has been developed to collect data required to study the effect of gender stereotyping on women involvement in cycling in Kisumu City. The findings are to determine whether there is gender stereotyping in the involvement of women in cycling. The data is required for academic purposes only and will be treated with maximum confidentiality. Your cooperation will be highly appreciated.

Mary A. Oruko

Maseno University

1. Mode of transportation of goods
2. The society's perception of the bicycle compared to the car
3. Benefits of the bicycle
4. Reasons why women cyclists are very rare in the municipality
5. Opinion concerning Government's effort to encourage cycling
6. Opinion concerning Government's effort to encourage women to cycle
7. Benefits of cycling to women market traders
8. Recommendations to mainstream gender policy in cycling?