IMPACT OF APPLIED COLOUR IN MIDDLE CLASS

INTERIORS

A Case Study of Nyayo Highrise Estate in Nairobi.
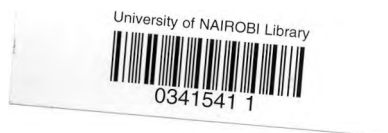
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A thesis submitted in partial fulfilment for degree of Master of Arts in design in the school of the Arts and Design, college of Architecture and Engineering, University of Nairobi
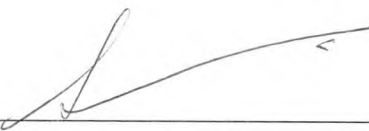
2007

DECLARATION

This thesis is my original work and has not been presented for the award of a degree or any other qualification in this or any other university.

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This thesis has been submitted for examination with my approval as University Supervisor.

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ACKNOWLEDGMENTS

PROLOGUE

"The desire to embellish our surroundings with patterns and colour, to create a visually pleasing

environment that both mirrors and projects our personality and sense of taste, is a basic human

characteristic that can be traced back to the cave paintings of our primitive ancestors.

Fortunately, paint has long since superseded charcoal and blood as the primary medium for

decoration." Wainwright, 1989 Pg 7

ABSTRACT

Colour is a major interior design tool than can be employed to change the ambience of interior spaces on a low budget. Walls for example, are the best surface that colour application can easily be emphasised on. Colour plays a part in giving an interior its character as well as depicting the perception of its dwellers. It can make a room seem larger or smaller, it can make ceilings seem higher or lower than they actually are. Colour is a matter of a person's perception and it has differing meanings and feelings depending on an individual's age, exposure, sex, or even character.

This study set out to investigate the opinions of middle class residents in Nyayo High Rise Estate, about the present colour in their houses and whether they were content with it or would like to change it. If the residents would like to have colours that were different from what they currently had, the study sought to find out what colours they would choose and why as well as what they felt about other different colours.

The study found out that residents would indeed like to change the colour in their interiors as often as possible to help them refresh, rejuvenate and grow if only they owned the houses or had enough disposable income.

In view of the major findings, the study concluded that colour is an important component of interior design and the occupants of a house or home should be given the freedom to choose the colours that they are serene with as they spend their waking hours consuming of a colour they are uncomfortable with but only have to put up with it because their choices are limited.

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CHAPTER ONE

1.0   Introduction

A pilot study conducted by the researcher showed that, not much thought has been given to the role of colour in living interiors as a way of reducing interior building costs. The study established that colour could be used to achieve pleasant sustainable living interiors. This may be so because Interior design[1] is assumed   to be a very expensive service in Kenya, and an elitist profession. This research seeks to examine one aspect of interior design, the use of colour and to a lesser degree texture as a cost effective method to enhance middle class[2] residential interiors in Kenya. Findings from casual observations show that past uses of colour in terms of paint and interior furnishings have been based on availability, or simply what the architect or contractor prescribes. Generally, National Housing Corporation indicate that the building contractors normally recommend white or cream colours for the residential houses so as to give the occupant freedom as well as an easy time to apply their preferred colour when they move into the house. This way, they do not impose a colour on the residents of a particular interior. As a result not much consideration has been given to the effect of colour in residential accommodation.

In order to investigate the inadequate use of colour, the study focused more on the use and preference of colour in living areas. This was specifically in living rooms of middle class

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1 As defined by the National Council for Interior Design Qualification (NCIDQ) 2004, Interior design is a multi-faceted profession in which creative and technical solutions are applied within a structure to achieve a built interior environment. These solutions are functional, enhance the quality of life and culture of the occupants, and are aesthetically attractive. Designs are created in response to and coordinated with the building shell, and acknowledge the physical location and social context of the project. Designs must adhere to code and regulatory requirements, and encourage the principles of environmental sustainability. The interior design process follows a systematic and coordinated methodology, including research, analysis and integration of knowledge into the creative process, whereby the needs and resources of the client are satisfied to produce an interior space that fulfils the project goals. Interior design includes a scope of services performed by a professional design practitioner, qualified by means of education, experience, and examination, to protect and enhance the life, health, safety and welfare of the public.

2 Middle class according to the statistical abstract of 1998 are those people that were earning between 15,000 and 29,999 thousand shillings.

Kenyan houses in the urban areas. In this case, Nairobi's Nyayo High Rise Estate (see plate 1 for an outside appearance of the houses in the- estate) was looked at to see the interior colour use presently and its effects on the residents as well as their feelings about colour.

Plate 1: Housing units in Nyayo HighRrise Estate Source: Author

1.1 Background of case study

Nyayo High Rise Estate in Nairobi's Kibera settlement is one of the middle class estates in the city. It caters for over one thousand households. The houses appear to have been given little thought about the colours used in them from the researcher's personal observation. Conducting the research on colour and interacting with the residents of the estate identified application of colour in terms of paint as a possible way of enhancing their interiors without

necessarily having to exceed their budget. Walls were specifically given more attention in this research as their surfaces are generally said to be a significant element in any room as has been stated by Ridley[3]. Through walls, any room and any major colour emphasis is usually placed.

The Nyayo High Rises were part of a slum-upgrading project in the 1990's. It was built for the lower income bracket, but a middle-income group moved in since the lower income bracket could not afford them. This study seeks to find a way of upgrading these dwellings from the low income (they were meant to be), to middle income that are currently occupying them by use of colour.

The estates parking lot as shown in plate 2 clearly indicates that middle-income earners and not low-income dwellers that were the intended occupants occupy this estate.

The findings of the study will be a beginning to colour use, for interior design in urban Kenya, and further research on the topic will be presented as there can be no doubt that colour has a tremendous effect upon outlook and mood[4].

1.2 Problem Statement

Building construction professionals in most cases determine the colours applied in residential interiors in Kenya without considering the culture or opinion of the occupants. This prompted the researcher to carry out this research to establish if middle class dwellers can achieve sustainable living environments, by making their own choice of colour. Respondents expressed that they had a problem with existing colours during a pilot study. Results from the pilot study indicated that a high percentage of the residents did not choose the present colours in their houses and that they would have wished to be involved.

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[3] Ridley.V 1955 pg iv
[4] Et al

Plate 2: The parking lots Source: Author

The colours painted in the Kibera Nyayo High Rises are in most cases selected and decided upon by somebody who is not a resident of the house. Two problems emerge;

1. The residents are forced to live with the colour they find in the house, as they either have no authority to replace it with a colour of their choice.

2. They lack the finances to do it.

This mostly results in people compensating by filling their interiors with lots of uncoordinated colours in furniture and soft furnishings as was observed by this researcher during the study. In summary, residents are not party to the colours they have to live with.

1.3 Objectives of the study

The main objective of the study is to investigate the preferences of colour by residents of Nyayo High Rise Estate. Another objective is to establish if colour is important to achieve satisfactory environments. To meet these objectives, the study sought to find out what effects colour has on emotions and ambience of public living interiors (living rooms) in middle class dwellings.

1.4 Hypothesis

The following hypothesis was developed to address the objectives of the study: -

Use of preferred colour on interior walls could produce more satisfactory environments in middle class housing.

1.5 Justification of the Study

This study is significant because it adds to the recognition of colour as an important and cheap means of creating lively and pleasant environments. It will also serve to develop guidelines for designers, students and professionals alike that are interested in the built environment. As envisioned in sessional paper No.6 of 1999 on Environment and Development, Kenya is committed to the ideas of sustainable development and with this, every Kenyan is entitled to an appropriate living interior.

This study will also evaluate and make a contribution on the effects of colour on humans and especially so in Kenya. This is because colour not only affects other colours, but also people viewing it.

1.6 Scope of the study

This study covered Nyayo High Rise Estate, Kibera in Lang'ata constituency, Nairobi, Kenya. Forty households were interviewed for comparative responses on the perception of colour in public living interiors in middle class dwellings in Nairobi. Though Mugenda[5] reccomends a sample of thirty, this responded chooses fourty for an accurate comparison. The data acquired in the study came from responses on colour from residents of Nyayo High Rise between January 2005 and July 2005. The study lasted for a period of one year between January 2005 and August 2005.

1.7 Organisation of the study

This thesis is organised into five chapters. Chapter one introduces the background the study problem and the chapter specifically highlights on the study objectives, the problem, hypothesis, and the justification for the research. Chapter two presents the review of literature and history of colour.

Chapter three outlines the methodology in the research while chapter four contains the findings and analysis of the study. Chapter five gives a summary and recommendations of the research.

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[5] Mugenda 1999

CHAPTER TWO

2.0   Literature review

In this chapter, the researcher examines the existing literature pertaining to the study of colour. The literature review also explores gaps in works already done by others.

2.1   History of Colour

Over more than two thousand years, there has been, and continues to be, a wealth of wonderful work contributing to our understanding of colour. There has never been a time when colour did not fascinate humanity and it has always been regarded as one of life's greatest mysteries, yet there is a lack of expressiveness in terms of colour in the interiors of Nyayo Highrise estate. Every civilisation had (and still has today) its myths and associations with colour, but oddly, none of them has named many colours. In the 1960s anthropologists Berlin and Kay conducted a worldwide study of colour naming. Many languages only contained two colour terms, equivalent to white (light) and black (dark). Of 98 languages studied, the highest number of basic colour terms was to be found in English - where there are eleven: black, white, red, orange, yellow, green, blue, purple, pink, grey and brown. The other millions of colours have 'borrowed' names, based on examples of them, such as avocado, grape, peach, tan and gold.

The great philosopher, Aristotle[6], in the fourth century BC, considered blue and yellow to be the true primary colours, relating as they do to life's polarities: sun and moon, male and female, stimulus and sedation, expansion and contraction, out and in. Furthermore, he associated colours with the four elements: fire, water, earth and air. Artists universally adopted his principles and applied them for two thousand years, until Newton's discoveries in the seventeenth and eighteenth centuries replaced them in general colour theory.

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[6] Littlemonkeymurals.com

The greatest contributions to our understanding of colour came from men whose work combined science and mathematics with art, metaphysics and theology - indeed the sum of human study. However, in the fifteenth century, with the arrival of humanist thinking, and Martin Luther[7], there was tremendous intellectual upheaval. The Church lost its grip on education and many disciplines 'went their own way' - leading to the virtual separation of art from science. Further study of colour appears to have been placed in the 'Science' camp.

In 1672, the great scientist, Sir Isaac Newton[8], published his first, controversial paper on colour, and forty years later, his work 'Opticks'. When Newton shone white light through a triangular prism, he found that wavelengths of light refracted at different angles, enabling him to see the separate components of colours. He was able to shine them back through a prism and achieve white light again, but unable to see any further breakdown if he shone a single colour through a prism.

. For almost three hundred years after Newton[9], all further work. with colour was essentially concerned with appearance and vision - and most of it strictly scientific. By the latter part of the nineteenth century, the medical community had virtually put paid to the age-old practice of colour therapy, dismissing it as 'mumbo-jumbo'.

However, there was one shining example of scientific study leading to great strides in art the work of Chevreul[10], the nineteenth century French chemist who, in studying the chemistry of dyeing, developed a colour system that became the heart of pointillism and neo-impressionism. Artists such as Seurat and Signac only ever used Chevreul's fundamental palette of colours.

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[7] Littlemonkeymurals.com
[8] Et al
[9] Et al
[10] Et al

In the twentieth century, however, interest in colour exploded. The art of colour therapy was re-born and today even the most mainstream doctors use colour as an everyday part of their work.

Nevertheless, when Wright[11] began to pursue deeper understanding of the effects of colour, in the mid 1970s, she found that not much progress had been made since the 1920s. There was no shortage of scientific material describing experiments to establish the psychological effects of different colours. However, the findings were often contradictory and no firm theories had emerged, so it was considered totally subjective, and therefore totally unpredictable.

2.2   How the Eye Sees Colour

Colour originates in light. Sunlight, as we perceive it, is colourless. In reality, a rainbow is testimony to the fact that all the colours of the spectrum are present in white light. This can be seen in the illustraton on plate 3.

Plate 3: Light source   **Plate 4: Light, object and eye**
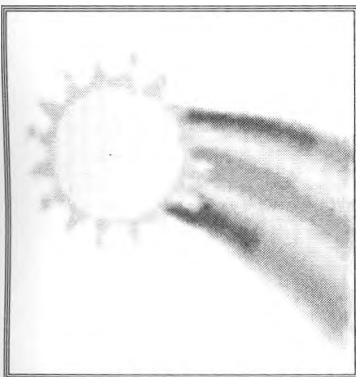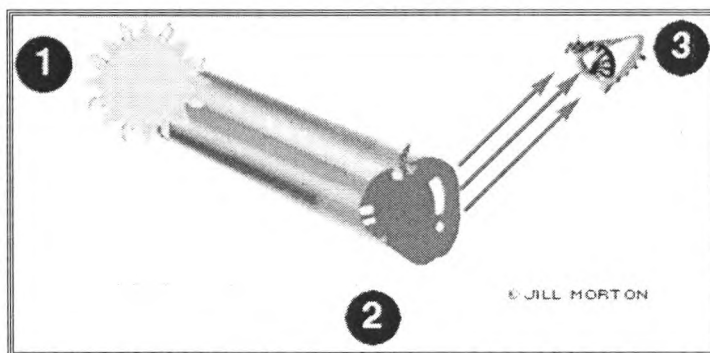
Source: Morton J.L, 1995-2002   Source: Morton J.L, 1995-2002

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[11] Wright Angela 2000-2006

As illustrated in Plate 4, light goes from the source (the sun) to the object (the apple), and finally to the detector (the eye and brain). The most technically accurate definition of colour is: Colour is the visual effect that is caused by the spectral composition of the light emitted, transmitted, or reflected by objects.[12]

2.3 Colour Theory

Colour theory encompasses a multitude of definitions, concepts and design applications. All the information would fill several encyclopaedias. As an introduction, here are a few basic concepts as have been discussed by Colour Voodoo. [13]

Plate 5: The Colour Wheel
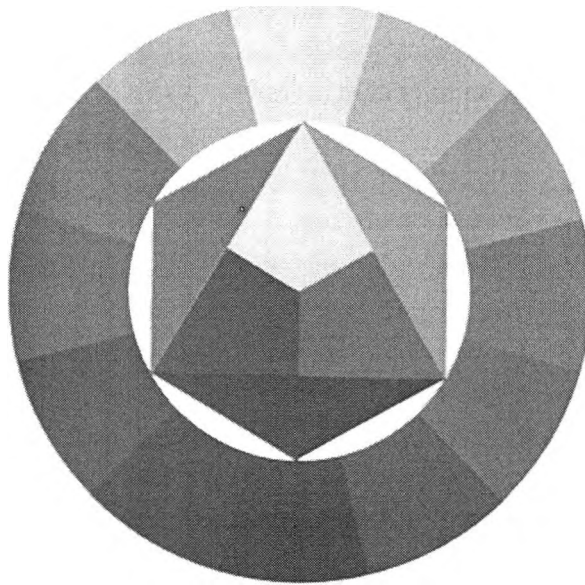
Source: ArtSparx.com.2001-2004

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12 Morton J.L, 1995-2002

13 Illustrations and text, courtesy of
Colour Logic and Colour Logic for Web Site Design
Colour Voodoo Publications (2000)

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The basic principles of colour theory and design are simple. The colour wheel becomes a visual aid in helping us understand the principles of colour. It is also an excellent tool to help create harmonious colour schemes for painting, interior decorating, and commercial design. It is said to create an orderly progression of colour that helps us understand colour balance and harmony. A colour circle, based on red, yellow and blue, is traditional in the field of art. Sir Isaac Newton developed the first circular diagram of colours in 1666 and since then scientists and artists have studied and designed numerous variations of this concept. Differences of opinion about the validity of one format over another continue to provoke debate. In reality, any colour circle or colour wheel, which presents a logically arranged sequence of pure hues, has merit according to VOODOO.

A colour wheel starts with the **3 primary colours**, placed in an equilateral triangle.

Plate 6: Primary colours
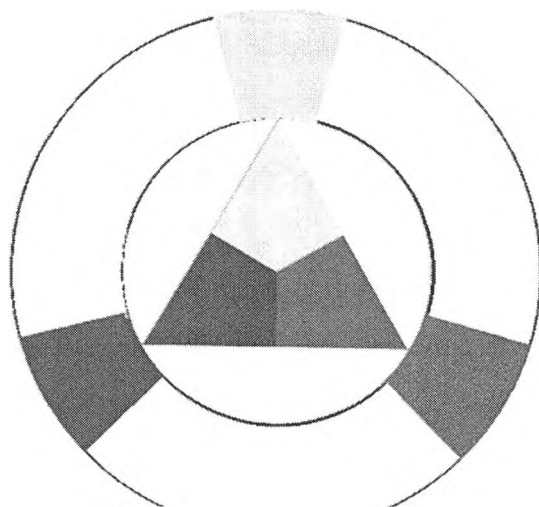
Source: ArtSparx.com.2001-2004

Secondary or Complementary Colours: When any one primary colour is mixed with another a secondary colour effect is produced. 3 secondary colours are produced from the mixing of one primary colour with another.

Plate 7: Secondary colours
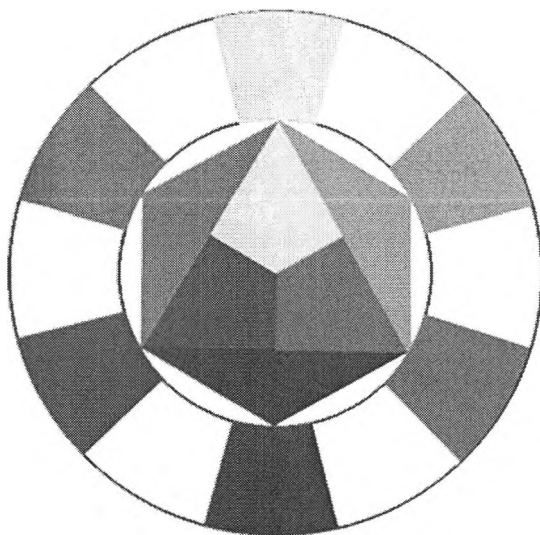
Source: ArtSparx.com.2001-2004

The secondary colours are:

- Orange (mix red + yellow)

- Green   (mix yellow + blue)

- Violet   (mix blue + red)

The final step to creating the 12-step colour wheel will be to create a ring around the newly formed primary and secondary colour form. Divided into 12 equal segments, the primary and secondary colours shall be repeated to their corresponding segment within the surrounding ring. This will leave a blank segment between every two colours. In these blank segments the *tertiary colours* will be created.

Tertiary Colours: These colours are created when mixing one secondary and one primary colour. For example; blue + violet = blue violet. Three or more separate colours are mixed (one primary and one secondary – the combination of two primaries), and in our colour wheel each

tertiary colour being created will be an equal combination of the two colours, left and right, surrounding an open segment.

The tertiary colours are: yellow-orange, red-orange, red-violet, blue violet, blue-green, and yellow-green.

Plate 8: Tertiary colours
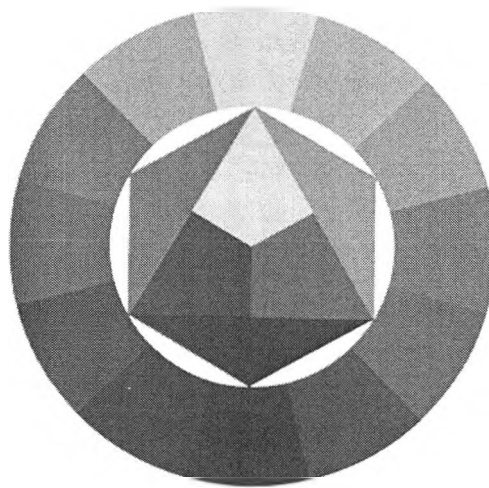
Source: ArtSparx.com.2001-2004

Complementary colours are opposite on the colour wheel. Red and green, yellow and violet, blue and orange, are the three simple pairs of complementary colours. These colours always go well with each other, hence the term complimentary. These would work well with the residents of Nyayo Highrise estate if they understood and appreciated the complements.

Plate 9: Complementary colours

primary   complementary
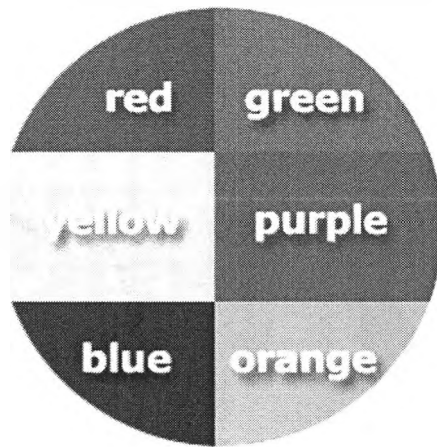
Source:ArtSparx.com.2001-2004

Harmony: Colour Harmony[14] and some of its formulas can possibly be described as

follows;

Plate 10: Analogous scheme

Quill Morton Color Matters
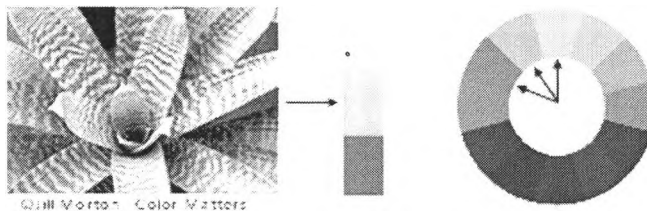
Source: Morton J.L, 1995-2002

Analogous colours are any three colours, which are side by side on a 12-part

colour wheel, such as yellow-green, yellow, and yellow-orange. Usually one of the three

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14 Harmony can be defined as a pleasing arrangement of parts, whether it is music, poetry, colour, or even an ice cream sundae. In visual experiences, harmony is something that is pleasing to the eye. It engages the viewer and it creates an inner sense of order, a balance in the visual experience. When something is not harmonious, it's either boring or chaotic. At one extreme is a visual experience that is so bland that the viewer is not engaged. The human brain will reject under-stimulating information. At the other extreme is a visual experience that is so overdone, so chaotic that the viewer can't stand to look at it. The human brain rejects what it can not organize, what it can not understand. The visual task requires that we present a logical structure. Colour harmony delivers visual interest and a sense of order. In summary, extreme unity leads to under-stimulation, extreme complexity leads to over-stimulation. Harmony is a dynamic equilibrium

colours predominates. These colours can be used together just as they also appear in nature through the above plant.

Plate 11: Complementary scheme
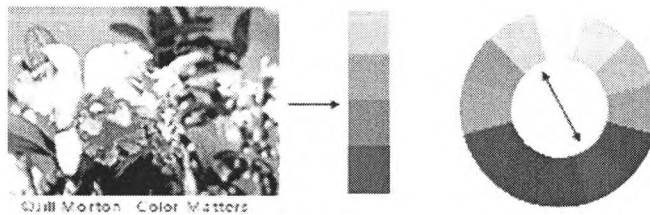
Source: Morton J.L, 1995-2002

Complementary colours are any two colours, which are directly opposite each other, such as red and green and red-purple and yellow-green. In the illustration above, there are several variations of yellow-green in the leaves and several variations of red-purple in the orchid. These opposing colours create maximum contrast and maximum stability.

Plate 12: Natural scheme
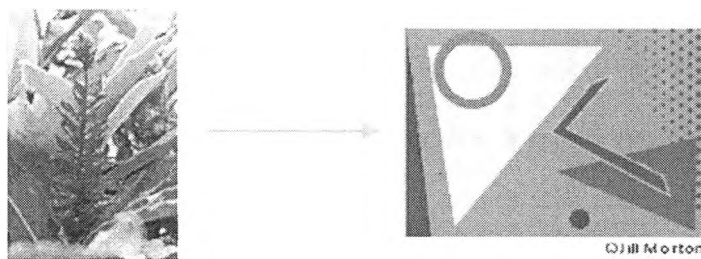
Source: Morton J.L, 1995-2002

Nature provides a perfect departure point for colour harmony. In the illustration above, red yellow and green create a harmonious design, regardless of whether this combination fits into a technical formula for colour harmony.

2.4 Physiology of colour

According to Morton[15], Colours do affect our emotions (actions and reactions) in interior environments, colour can create conditions that can cause fatigue, increase stress, decrease visual perception, damage eyesight, and negatively affect orientation. The wrong use of colour can create accidents for example; an office worker suffers constant headaches and visual fatigue after working at a computer terminal. The wall colour behind the monitor and glare from surrounding fixtures are straining her eyes. After several years, her once perfect vision is impaired.

Plate 13: Computer terminal
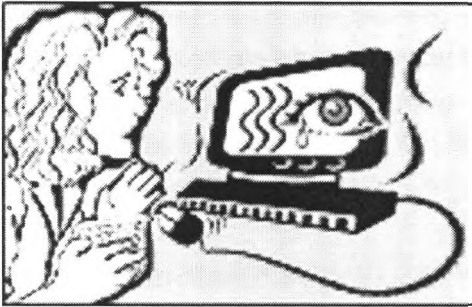
Source: Morton J.L, 1995-2002

An office worker suffers constant headaches and visual fatigue after working at a computer terminal. The wall colour behind the monitor and glare from surrounding fixtures are straining her eyes. After several years, her once perfect vision is impaired[16].

Positively, colour can also play an important role in creating accident – free, physically and visually sound interiors. This is because colour according to the researchers' casual observations affects the other colours around it.

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[15] Morton J.L, Colour matters .com
[16] Morton J.L, 1995-2002

Often people think that colour is just a matter of how things look and it is often dismissed as being purely cosmetic according to findings from a pilot study carried out by the researcher. However, Kaufman[17] states that colour is light - the source of life itself; there is nowhere that colour does not exist and our instinctive, unconscious response to it is a vital element in our survival.

2.5 Aesthetics of colour

Regnier[18] says that, the creative use of colour in interior design stimulates senses, while Wainwright[19] feels that the success or otherwise most decorative schemes depend largely on an appropriate use of colour. However Wainwright goes on to say that, colours can be combined to have a good or bad effect, and may be spectacularly impressive in one setting and an eyesore in another.

Ching[20] believes that like shape and texture, colour is an inherent visual property of all forms and that we are surrounded by colour in our environmental settings, and the colours we attribute to objects, find their source in the light that illuminates and reveals form and space and that without light, colour does not exist.

Faulkner[21] from another perspective describes colour as one plastic element that can only be perceived visually. With eyes closed, one cannot detect the difference between black, white or red but with eyes open, colour evokes more varied responses than shape does.

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[17] Carol Kaufman-Scarborough, associate Professor of Marketing at Rutgers University.
[18] Regnier 1994
[19] Wainwright 1989
[20] Ching 1987
[21] Faulkner 1966

Typically he argues that clear and positive colours arouse immediate, deeply rooted emotional reactions. He also states that in recent years people have learned more about the power of colour and with knowledge came courage, and that clearly, colour is an actual force.

2.6 Psychology of colour and gender

Mandi[22] in an article featuring in the Saturday nation magazine states that colour helps create moods, and even improve a person's mental well being, while achieving a harmonious home. This is especially very important for residents of Nyayo High Rise who have limited living spaces that should be enhanced by use of colour to create positive moods, improve mental well being as well as achieve harmonious homes.

Kuller[23] looked at the effect of colour in gender and found that, heart rates were faster in the grey room than in the colourful room. Moreover, men were found to have stress reactions more than women and men also became more bored than did women in the grey room. Kuller also postulated that men could not achieve the same degree of mental relaxation as women. Whitfield[24] on the other hand examined the appropriateness of colours used on the walls of a simulated domestic interior furnished in any style and concluded that internal consistency among women is higher than for men.

Colour contributes to the way of living as well as physical, physiological and psychological conditions of people living in given interiors. It determines the productivity levels of an individual. What we see and interact with in colour includes both natural and build environments. About 80% of the information, which we assimilate through the sense, is said to be visual. However, colour does more than just give us objective information about our world, it

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[22] Mandi June 2005
[23] Kuller 1976 on the effects of colour in two opposite environments, one room colourful and complex, while the other was grey and sterile. The experiment involved six men and six women.
[24] Whitfield 1984

affects how we feel. The presence of colour becomes more important in interior environments, since most people spend more time inside than outside. Kuller and Whitfield show a difference in colour perception caused by gender and this can only be proofed after this research, as the researcher is not convinced by this observation.

2.7 Colour Effects on emotions, mood and desires

Colour plays an integral role in defining our perceptions, whether it is of us, our environment or our perceived notions about space and design. The following are perceptional descriptions of some selected colours:

RED: Red is a warm colour that excites people's perceptions and warms their desires. Red is often associated with hunger, anger, passion and vitality[25]. This colour is particularly well suited for environments that serve food, be it a restaurant, corporate dining facility or domestic dining room. Often red can invoke excitability so it is not typically well suited for medical or educational environments, where calm is most desirable. Red is a bold, dominant colour, overshadowing most other colour tones by its intensity, therefore, when one is considering red as a part of their colour palette, they should be very creative. A room all painted in red can be dark and very atmospheric, even moody.

While this might be perfect for your intimate dining room at home, of perfect for the hip new club you are opening, a corporate dining place, with its larger dining area, will most likely be oppressive in all red. Consider painting one wall only in a red, with the remaining walls white or off white. This will add a lively, colourful and festive feel; generate interest as a visual space, while staying approachable and palatable. The one wall is where that is painted red is where the

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[25] Artsparx

primary focus will be in the space.

Plate 14: Red interior

Source: artsparx.com

BLUE: Blue is generally a calming colour. Though an intense, rich cobalt blue may be stimulating and vibrant, the energy created is still one of calm, happiness and comfort. Pale blues remind us of the ocean and sky, expansive colours and relaxing. When you think of your beach holiday, umbrella drinks aside, blue sky, warm sun and clear waters often jump to mind. The image alone is calming. Blue is also a fresh, crisp colour and is considered a 'cool' tone. Variations of blue values work well in institutions like educational and medical environments, as well as corporate spaces. Barclays bank for example uses a middle value blue tone in its logo and hence, associates that blue with its corporate identity. Viewing the logo and its associated blue colour implies strength, security and calmness and is a very effective marketing tool of that corporate entity. When using neutral blues (blues that are almost grey in tone) one can utilize the advantages of integrating colour under the Neutral Colour Schemes approach.

YELLOW: Yellow is a warm, vibrant and clear colour. In its pure form it is intense, hot and generally unpractical in use as an interior colour tone. Though this is not always the case, as can be seen in many interior environments, yellow can work extremely well when muted with white to a paler tone like butter or cream. In these instances yellow becomes a very useful interior design element in both commercial and residential environments.

Plate 15: Yellow Interior

Source: artsparx.com

A warmer yellow will be lively and can add interest and vitality to a space, white a softer yellow can inspire feelings of sun-drenched walls, antique linen and cool spring mornings.

GREEN: Green, a combination of blue and yellow in its purest form, offers many characteristics of both blue and yellow. Green can be vibrant, crisp and lively as well as muted, soft and calming. Examples of this are; Hunter Green, Grass Green for strong colours (often found in northern crafts of Scandinavia, and North America); Lime Green and Kelly Green are vibrant and lively (found among warm and island cultures like the Caribbean, Mexico and regions in Asia); and Celadon Green and Sage Green, calming and neutral colours evoking images of Italy's Venice, and the earthy palette of the Arts & Crafts movement.

Earth Tones (Browns, Umbers, Sienna's and terracotta's): Earth tones are just that, colours we see in nature like browns, umbers, terracotta and brick tones. These colours tend to be harmonious, rich in colour and depth and impart a feeling of solidity and permanence. Used well, earth tones complement most other colour tonalities (except perhaps the vibrant, pure primary colours of Red, Blue and Yellow – suited more for open, uncluttered contemporary spaces). We see earth tones all around us, wood flooring, natural stone and tile surfaces, fabrics and wovens such a sisal and Hessian grass cloths. Integrating earth tones into your environment allows the viewer a sense of approachability and connection.

These tones are part of our everyday existence, they are familiar and comforting. In addition, incorporating earth tones into your environment by using materials other than paint (like stone, plasters, natural fabrics, etc) not only introduces new colour schemes, but also integrates alternate elements into your living or working space. Diversity, however harmonious, adds interest and uniqueness to any environment. From the most minimalist contemporary interior to a sumptuous, over stuffed and darken Victorian setting, blending of materials from wood, fabric, stone, metal and glass, results in a myriad of solutions that create unique, impressionable interior spaces.[26]

2.8 Colour in a Kenyan context

The National Anthem, the National flag, the national language and the loyalty pledge unify the Kenyan people. Kenya is otherwise too diverse in terms of size and ethnicity to have one unified opinion on colour. There are various opinions on colour from almost every province and culture in the country.

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[26] Artsparx

Colour is most expressed by the Kenyan people through adornment. As it was noted in a casual interview with Oduho[27], the Luo of Nyanza tends to associate a lot with colour Blue. This is seen especially in the school uniforms that are worn by ninety percent of the pupils in the area. This colour could also be said to be derived from the lake, which is the livelihood of a large percentage of the Luo people.

The Gusii people who are in the same province as the Luo have a different perception of colour, from casual observed by this reseacher. Their colour preference is also well displayed through school uniforms, as it is derived from nature. Being largely farmers, they use colours Green and brown in their day-to-day living.

The Maasai and other pastoralist communities tend to use very bright colours especially red, as they are said to scare away wild animals as well as make them visible from a distance. These communities display their colour through cloth and jewellery, as a larger part of their adornment is jewellery.

Akamba is another Kenyan community who are believed like bright and luminous colours. Anything yellow is said to belong to a Kamba by people from most of the other communities. There is no evidence for most of these preferences, though it was indicated by Mr. Mutua.[28] The Coastal people on the other hand tend to use white due to the high temperatures present at almost all times according to Ms. Amina.[29] The white colour is complemented by Green, which is religious as a very high percentage of the Coastal people are Muslims. Black is also dominant as it is part of Islamic tradition to wear dark colours to minimise showing off ones figure.

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[27] Oduho,R. A postgraduate student at the University of Nairobi, who came from the Luo community in Kenya.
[28] A man from the Kamba community who was in the sample population
[29] An elderly lady practicing Islam and hailing from Mombasa, among the sample population

CHAPTER THREE

RESEARCH METHODOLOGY

This chapter describes the procedure that was followed in conducting the study. Techniques of obtaining data and hypothesis testing are outlined. The sampling design of the study, sources of data, and methods of data analysis and presentation have been discussed in detail.

3.0 Research approach

As this is a theoretical study that seeks to investigate the effects of colour application and use in middle class interiors within Nairobi, samples of computer-generated graphics where the same room was represented in different colours were shown to the respondents during interviews. Nyayo High Rise Estate was chosen because it provided a good setting for testing the hypothesis since a middle class sample as is defined by the central bureau of statistics 2004 lives there. The researcher was engaged for a period of three months on different days between April and June 2005.

The researcher first carried out a pilot study of colour for interiors. It indicated that true colours on the colour wheel excited people more than the neutral colours that are highly used for interiors. They were however more homely with tints[30] and shades[31] of a colour more than the pure colour.

AS stated above, the target population middle class residential area, Nyayo High Rise, with a sample of forty respondents. [32] These forty respondents were selected from each block at random to respond to questionnaires that were provided. The number of forty respondents was

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[30] A colour produced by addition of white
[31] A colour produced by addition of black
[32] Mugenda and Mugenda pg 42

settled upon, because forty people are more likely to give varied views that can represent the entire population. Due to time constraint, it was not feasible to work with more than forty respondents although the estate houses over three thousand people. The responses on why particular colours were used and the alternative oral discussions and interviews aided in data collection.

Living rooms were selected for this study as they come in a number of guises[33]:

1. Formal reception areas reserved for special occasions and entertaining guests.

2. Communal family rooms in which to relax, listen to music, watch television and eat informal meals.

3. Rooms which, often out of necessity, must accommodate all of the above functions, and more such as serving, in part, as a study-cum-library, or putting up friends overnight on a sofa bed.

Obviously the use to which a living room is put should play some part in the choice of a decorative scheme.

3.1 Criteria for selection

Nyayo High Rise Kibera was selected for the study because:

i)   There is inadequate literature on middle class residential interiors.

ii)   Nyayo High Rise was initially a slum-upgrading project. The houses were never occupied by the low income people as they were intended but rather by the middle income.

iii)   The houses in Nyayo High Rise are uniformly designed, making the responses ideal for this research, as the respondents were perceiving the same amount of space differently.

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[33] Wainwright John 1989 pg 21

3.2 Data collection

Various sources of primary and secondary data and relevant research tools were employed in data acquisition and processing. The primary data collection method included;

(a) Interview schedules-The respondents were shown computer-generated pictures of a room in seven different colours. The colours chosen for the rooms were red, yellow, blue, green, orange, violet and white. These comprised primary colours, secondary colours and one neutral colour white.

(b) Photographic data comparisons-for the atmosphere resulting from different colours

The secondary source of data included journals, books and relevant theses. The Internet was used for information that was not available in books.

3.3 Analysis of data

After the data was collected, the analysis of the data was done by calculatin percentages, comparing sets of data as well as testing the hypothesis. The data was coded and analysed using SPSS to get analysis in the form of tables. The tables were entered in Microsoft word for purposes of presentability. The tables were exported from Microsoft Word to Microsoft Excel for ease of analysis to create charts and graphs, which were then exported back to Microsoft Word for discussion. Finally, the findings of the research were presented with recommendations suggested.

CHAPTER FOUR

Data Analysis, Presentation and Findings

This chapter concerns itself with the findings from data collected through the use of interviews and discussions with various middle class residents by the researcher. Interviews were administered to a sample of forty respondents from Nyayo High Rise Kibera.

The data gathered has been analysed, presented and discussed in keeping with the objectives of the study besides testing the hypothesis.

4.1 Background Information of respondents

Out of the forty respondents, 57.5% were male while 40.5% were female. There was a higher percentage of male respondents than female as there are more male house owners than female. The men also felt obliged to be interviewed, as they were the bread winners and therefore result responsible for the provision of to provide shelter for their families. .

This is illustrated in the table below;

Table 1: Gender of respondents

	Frequency	Percentage
Male	21	52.5
Female	19	47.5
Total	40	100.0

Source: Developed for this research by the Author

4.2 Age of the respondents

Out of the forty respondents, the age range was between twenty-one and fifty years. 17.5% of the respondents were aged between 21-25 years. 20% were aged between 31-35 years and 32.5% between 36-40 years and 10% were above 40 years. There was a noticeable frequency of people aged between 36-40 years with 32.5 percent, clearly revealing that this is the age where one is likely to have risen in their career to be able to afford a middle class residence.

The findings are summarised in the following table;

Table 2: Age of respondents

	Frequency	Percentage
21-25 years	7	17.5
26-30 years	8	20.0
31-35	8	20.0
36-40	13	32.5
41 and above	4	10.0
Total	40	100

Source: Developed for this research by the Author

The findings also indicated that there was a high tendency of concervativeness among the older respondents. They mostly preferred white, green and blue as they felt that the other colours were either too bright, dull, associated with deathor blood. The younger respondents on the other hand were appreciative of most of the colours as shown on table 9.
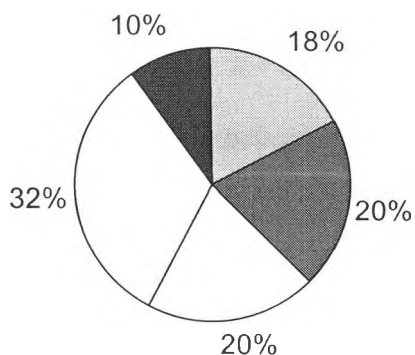
Source: Developed for this research by the Author

4.3 Level of education of the respondents

Table 3: Level of education

	Frequency	Percentage
Primary education	2	5.0
Secondary education	14	35.0
College education	9	22.5
University education	15	37.5
Total	40	100

Source: Developed for this research by the Author

The findings show that very few people living in the estate have attained only primary level education. The percentage of people that have primary education is 5, while that with secondary level were 35%. Respondents with college level of education were 22.5% while those with university education were 37.5%. Most of the respondents had gone through education up to university level whereas the lowest percentage had only a primary level of education. The pie

chart below indicates the frequency and percentages of level of education that the respondents possess.

From the findings, one can easily say that the middle class is made up of people with an education. With this, the reseacher felt that these people could posess the ability to make comfortable colour choices if only they had a chance.

Plate 18: Respondents' level of education
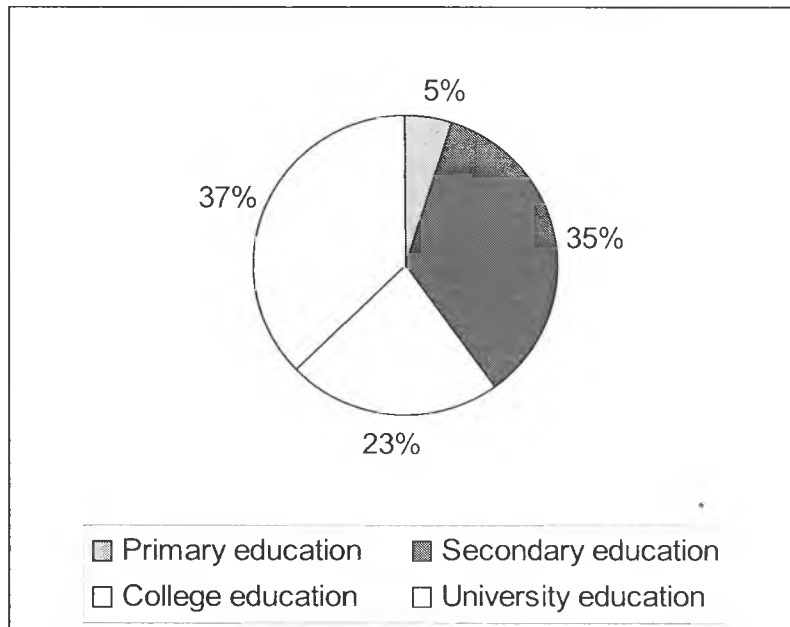
Source: Developed for this research by the Author

4.4 Respondents' occupation

Respondents were taken from all walks of life. There was a very wide range of occupations represented by the respondents as the sample was randomly selected. Below is a table showing the percentage and frequency of occupations as indicated by the respondents.

Table 4: Respondents' occupation

	Frequency	Percentage
Accounts clerk	3	7.5
Administrator	3	7.5
Banker	2	5.0
Business person	2	5.0
Counselor	2	5.0
Designer	3	7.5
Driver	2	5.0
Lab technologist	1	2.5
Architect	2	5.0
Mason	1	2.5
Nurse	2	5.0
Policeman	1	2.5
Printer	2	2.5
Real estate agent	2	5.0
Secretary	4	10.0
Shopkeeper	2	5.0
Social worker	2	5.0
Structural engineer	2	5.0
Student	1	2.5

Source: Developed for this research by the Author

There was a noticeable difference in response to colour by respondents of different occupations. For example, the architects, structural engineers, designers and real estate agents were positive with all colours. They even went further explain that where one colour could be suitabe, anothermay not. Other respondents like the policeman, drivers and business people did not see the difference and indicated that it did not matter, as a colour was a colour.

4.5 Religious inclination

To detect whether religion affects perception of colour, the religious inclinations of the respondents were put in four clusters: Roman Catholic, protestant, Muslim, and traditionalist. 20% of the respondents were Roman Catholics, 57.7% were Protestants, 17.5% were Muslims and 5% did not fall in any of the given religious inclinations. The results are tabulated in the table below.

Table 5: Respondents religious inclination

	Frequency	Percentage
Roman catholic	8	20.0
Protestant	23	57.7
Muslim	7	17.5
Total	38	95.0
Missing system	2	5.0
Total	40	100

Source: Developed for this research by the Author

Plate 19: Respondents' religious inclination

Source: Developed for this research by the Author

Whereas Christians seemed to embrace all the colours enthusiastically, Muslim respondents seemed to have a biass towards green, white and black (though it was not included in the room samples).

4.6 Travel and exposure

The respondents were asked to indicate where they had travelled. The researcher wanted to note whether there was any significant difference between those who are widely travelled and those who are not. The researcher had postulated that wide travel would affect the perception or appreciation of colour. The following table is a representation of the responses to the question.

Table 6: Places traveled

	Frequency	Percentage
East Africa	10	25.0
United kingdom	9	20.0
Dubai and Saudi Arabia	4	10.0
India	4	10.0
South Africa	1	2.5
United States of America	4	10.0
Total	40	100

Source: Developed for this research by the Author

The results did not show a significant difference in appreciation and perception of colour between people that were widely travelled and those that were not. The researcher then came to an assumption that travel and exposure does not affect appreciation of colour, as the highest percentage of respondents had not gone beyond East Africa.

Plate 20: Places traveled
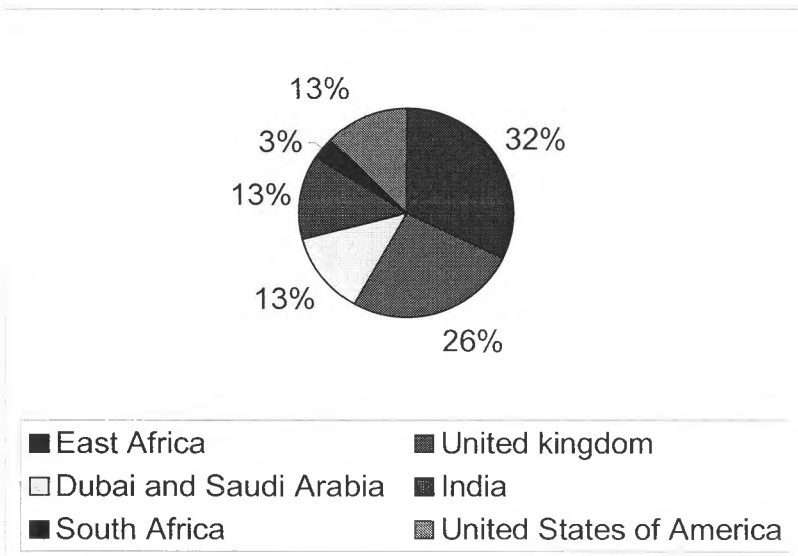
Source: Developed for this research by the Author

4.7 Period of residing in the city

The researcher wanted to test whether there was a significant difference in perception of colour due to the length of time one resided in the city. A lengthy period would result in freely interacting with people of different ethnic backgrounds. The respondents indicated having resided in the city for periods ranging between one year and thirty-one years. This data is presented in the table below.

Table 7: Period of residing in the city

	Frequency	Percentage
1-10 years	11	27.5
11-20 years	17	42.5
21-30 years	3	7.5
31 and above	9	22.5
Total	40	100

Source: Developed for this research by the Author

Plate 21: Period of residing in the city

23%   27%

8%

42%

■ 1-10 years   ■ 11-20 years
□ 21-30 years   ▦ 31 and above
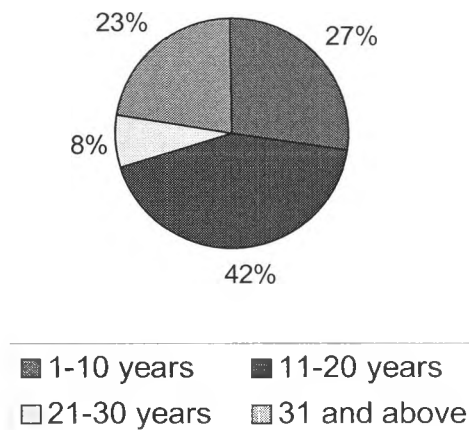
Source: Developed for this research by the Author

The given data shows that most of the respondents have lived in the city for less than twenty years. The researcher noted a slight variation in perception among respondents that had been in the city for less than ten years.

4.8 Period of residing in the house

Most of the people who were interviewed had lived in the same house for five to six years (79.2 %). 20% had lived there for less than a year. 17.5% had lived there for one to two years. 10% had lived there for three to four years and 20% for over seven years. One respondent did not indicate how long they had lived in the house. The table below indicates the duration that the respondents had lived in the present house at the time of this research.

Table 8: Duration of living in this house

	Frequency	Percentage
Less than one year	8	20.0
1-2 years	7	17.5
3-4 years	5	12.5
5-6 years	12	30.0
Over 7 years	8	20.0
Total	40	100

Source: Developed for this research by the Author

The findings indicate that if these houses were comfortable and sustainable in terms of colour, people would be willing to reside for longer periods.

4.9 Hobbies

Hobbies are various activities undertaken during leisure. A hobby may include collecting objects such as stamps or butterflies, or creating objects such as woodcarvings or embroidery. Hobbies were limited to people of wealth and leisurein the past. As modern technology makes more free time available to people, hobbies have become more universal. The choice of a hobby may influence many peoples choice of colour though they may not be conscious about it.

When the respondents were asked to state their hobbies, 47% of them indicated that they liked travelling whenever they were free. 23% indicated that they liked sports, while 30% indicated that they liked reading. Below is a full list of the leisure time activities that the respondents prefered.

1. Watching movies

2. Drama

3. Singing (music)

4. Swimming   11. Surfing

5. Exchanging snaps   12. Dancing

6. Watching TV.   13. Surfing internet

7. House Keeping   14. Socializing.

8. Church activities.

9. Cooking

10. Gardening

The choice of hobby seemed to have been mostly influenced by the degree of exposure of a person, the availability of time, peers, and infrastructures available.

4.10 Feeling about different colours

The respondents were requested to state their feeling toward some sampled colours i.e. Yellow, Violet, Red, Blue, White, Orange, and Green. Their different feelings are represented in the table below. They range from formal, good bad, scary, too bright, hot, quiet, dull, cool, holly, stimulating, warm, joyful, productive, and growth. Some of the feelings registered for example bad are difficult to make anything out of, as they are too general.

Table 9: Feeling about colours.

	Red		Yellow		Blue		Orange		Green		Violet		White	
	Fre	%	Fre	%	Fre	%	Fre	%	Fre	%	Fre	%	Fre	%
Formal	2	5.0												
Good			18	45.0	30	75.0			6	15.0	2	5.0	24	60.0
Bad			15	37.5	8	20.0			14	35.0	13	32.5	7	17.5
Scary	7	17.5									21	55.0		
Too bright	24	60.0	6	15.0			12	37.5					9	22.5
Hot	2	5.0	1	2.5										
Quiet											2	5.0		
Dull											1	2.5		
Cool					2	5.0								
Stimulating							9	22.5						
Warm							13	32.5						
Joyful							6	15.0						
Productive									13	32.5				
Growth									7	17.5		.		

Source: Developed for this research by the Author

Yellow

The feeling about yellow colour was varying with 45% respondents indicating that they feel good about it. 37.5% indicated that they feel bad about it. 15.0% indicated that it's too bright, while 2.5% indicated that it's too hot. These varying feeling may be attributed to the fact that most of the respondents did not choose the paint used in their houses.

Red

As indicated by the respondents, 5.0% of them felt that red was formal. 17.5 % felt that it was scary. 60.0% indicated that it is too bright, while 5.0%felt it is hot.

Blue

The Feelings about blue colour varied widely. Although 75.0% of the respondents indicated that it was good, 20.0% felt it was bad, while 5.0% felt that it was cool.

Orange

37.5% of the respondents registered their feelings about colour orange as too bright. 22.5% felt it was stimulating. 32.5% indicated that it was a joyful colour.

Green

When the respondents were asked how they felt about green, 15.0%said it was good. 35.0%felt it was bad. 32.5% indicated that it was productive while 17.5% indicated growth as the feeling that green colour elicits in them.

Violet

Violet colour seemed to elicit in the respondents the most varied reactions. 5.0% of the respondents felt that it is good, 32.5% felt it is bad, 55.0% responded that it is scary, 5.0% found it quiet while 2.5% felt that it is a dull colour.

White

60.0% of the respondents indicated that white was good, 17.5% felt that it was bad, while only 22.5% found it too bright and easily soiled.

These given responses indicate that colour has an impact on the residents of nyayo highrise. The residents responded positively to most of the colours that they were shown.

	Red		Yellow		Blue		Orange		Green		Violet		White	
	Fre	%	Fre	%	Fre	%	Fre	%	Fre	%	Fre	%	Fre	%
Not indicated	15	37.5	14	35.0	5	12.5	38	95.0	5	12.5	22	55.0		
Indifferent			2	5.0					16	40.0				
Exciting					2	5.0	2	5.0					1	2.5
Its cool			1	2.5	3	7.5							5	12.5
Its dull			8	20.0							7	17.5		
Its bright			4	10.0							2	5.0	21	52.5
Associated with Kambas			11	27.5							2	5.0		
Its beautiful					19	47.5					3	7.5		
Calming					6	15.0					2	5.0		
Reminds of jail											2	5.0		
Blood	11	27.5												
Superiority/Royalty	5	10.0												
Energetic	2	5.0												
Fire/passion	2	5.0												
Death	3	7.5												
Too hot	1	2.5												
Associated with danger	1	2.5					.							
Homely					1	2.5								
Peaceful					5	12.5							3	7.5
Restful													5	12.5
Radiant													2	5.0
Associated with churches													3	7.5
Productivity/plentiful									19	47.5				

Source: Developed for this research by the Author

4.11 Reasons for feelings about colours

Red

When the respondents were asked why they felt the way they did about red, 37.5% percent of

them did not give any particular reason why they felt so. 27.5% percent of the respondents felt

that it was closely associated with and reminded them of blood. 10% felt it was a royal colour

especially in Kenya as it is used by the president and high authorities a lot of times. 5% of the

respondents indicated that red was energetic and passionate. While 7.5% respondents associated it with death, 2.5% said it was too hot especially for an interior. 2.5% of the respondents indicated that it was associated with danger and for that reason, they would not prefer it in their houses in its pure form.

Yellow

35.0% of the respondents did not indicate their feelings towards yellow., 5% were indifferent about it, 2.5% found it being cool while 20% indicated that it was dull to them. 27.5% of the respondents associated colour yellow with the Akamba ethnic group that is found in Eastern Kenya, and commented that only people from this group would comfortably use the colour in both their interiors and clothes. This though was assumed to be a stereotype as the same people did not mind yellow on their clothes but only in their houses.

Blue

While 47.5% respondents felt it was just beautiful, 15% of them indicated that it was a very calming colour. 12.5% indicated that it was a peaceful colour.

Orange

 Various reactions were indicated for the colour orange but when the respondents were asked the reason why they felt the way they did about it, 95% did not indicate their reasons. Only 5% said it was exciting.

Green

12.5% respondents did not indicate the reason for their response. 40% were indifferent.47.5% of the respondents said that their feelings about green were due to associating it with productivity or plentiful.

Violet

Out of the 55% respondents that had indicated that violet was bad, 17.5% of them felt so because it was dull as a colour while 55% of them did not give their reason for their feeling.

4.12 Liking of a given colour

The table below tabulates the likes and dislikes of the given colours.

Table 11: Liking of a given colour

	Yes		No	
	Fre	%	Fre	%
Red	8	20.0	32	80.0
Yellow	15	37.5	25	62.5
Blue	29	72.5	11	27.5
Orange	29	72.5	11	27.5
Green	9	22.5	31	77.5
Violet	19	47.5	21	52.5
White	29	72.5	11	27.5

Source: Developed for this research by the Author

When the respondents were asked whether they liked the colours, red, yellow, blue, orange, green, violet, and white, they had the following to say:

- 20.0% of the respondents liked red while 80.0% did not like it.

- Yellow colour was liked by 37.5% of the respondents while 62.5% of them indicated that they did not like it.

- Blue colour was a favourite to 72.5%, 27.5% of the respondents indicated that they did not like blue.

- About colour orange, 27.5% of the respondents liked it while 72.5% did not.

- 22.7% of the respondents liked green though 77.5% of them did not like it.

- Violet was a favourite to 47.5% of the respondents yet 52.5% indicated dislike for it.

- 72.5% respondents liked white whereas 27.5% did not like it.

Plate 22 shows graphically the percentages of how the colours were liked.

Plate 22: liking of colours
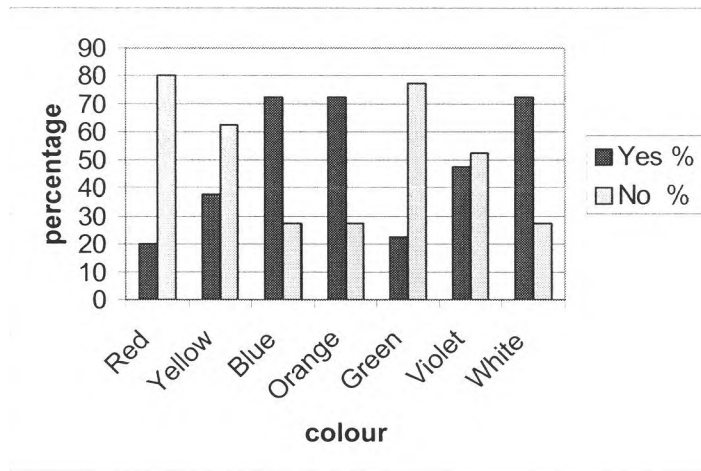
Source: Developed for this research by the Author

Table 12 summarises the reasons that were given by the respondents for not liking a given colour. Though as it can be seen, they did not indicate their reasons for not liking the colours. The other reasons represented apart from showing dirt were;

- Too bright
- It is inferior
- Too hot
- Religious associations
- Inappropriateness for men
- Incompatibility with other colours
- Symbolising blood
- Being dull and royal.

Table 12: why would you not like the colour

	Red		Yellow		Blue		Orange		Green		Violet		White	
	Fre	%	Fre	%	Fre	%	Fre	%	Fre	%	Fre	%	Fre	%
Not indicated	23	57.5	27	67.5	40	100	40	100	40	100	34	85.0	40	100
Shows dirt			2	5.0										
Brightness disturbs			4	10.0							2	5.0		
Associated with Kambas			3	7.5										
Its inferior			1	2.5										
Looks like primary school uniforms			2	5.0										
Too hot			1	2.5										
Associated with religion											3	7.5		
Not appropriate for men											1	2.5		
Incompatibility with other colours	1	2.5												
Symbolises blood	10	25.0												
Its dull	4	10.0												
Its royal	2	5.0												

Source: Developed for this research by the Author

Table 13: why would you like this colour

	Red		Yellow		Blue		Orange		Green		Violet		White	
	Fre	%	Fre	%	Fre	%	Fre	%	Fre	%	Fre	%	Fre	%
Not indicated	40	100	31	77.5	40	100	40	100	40	100	30	75.0	40	100
For bathroom			1	2.5										
Common and lovely			2	5.0										
Charming			1	2.5							5	12.5		
Airy and spacious			2	5.0										
Bright and sanitary			1	2.5										
Welcoming			2	5.0							2	5.0		
Calming											3	7.5		

Source: Developed for this research by the Author

When the respondents were asked why they would like given colours, apart from

not indicating their reasons ranged from:

- Being common and lovely

- Charming

- Airy and spacious

- Bright and sanitary

- Welcoming and calming when used in an interior.

Table 14: Ever come across such a colour

	Not indicated		Yes		No	
	Fre	%	Fre	%	Fre	%
Red			11	27.5	29	72.5
Yellow			13	32.5	27	67.5
Blue	1	2.5	29	72.5	10	25.0
Orange	2	5.0	5	12.5	33	82.5
Green			4	10.0	36	90.0
Violet	2	5.0	15	37.5	23	57.5
White	6	15.0	32	80.0	2	5.0

Source: Developed for this research by the Author

When the respondents were asked whether they had come across the colours shown in any dwelling in Kenya. They indicated that blue and white are the colours that had been most frequently seen.

Green, red, and orange are the colours most respondents indicated that they had not come across in homes and houses and if at all they had seen them, it was in commercial properties and not at all in residential. The graph below indicates the rate at which the colours had been come across, whereas some are not indicated.

Plate 23: Ever seen such a colour
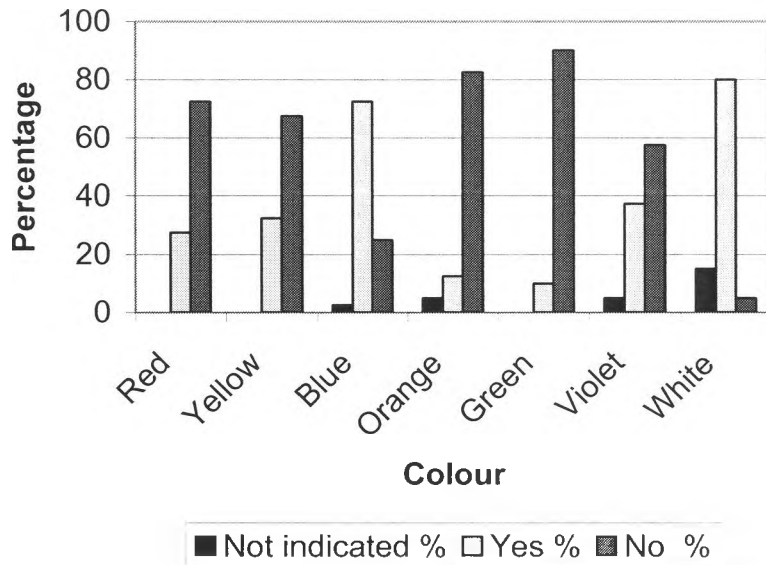
Source: Developed for this research by the Author

From table 15, People's reactions seemed to vary when they saw the colours used in other people's houses. They made comments such as;

- Inferior

- Common and lovely

- Giving a cheerful mood

- Being airy and spacious

- Right and sanitary

- Giving a welcoming feeling

- Calming

- Depicting an expensive atmosphere

- Giving a scary and bloody reaction as though it were a butchery.

Table 15: Reaction

	Red		Yellow		Blue		Orange		Green		Violet		White	
	Fre	%	Fre	%	Fre	%	Fre	%	Fre	%	Fre	%	Fre	%
Not indicated	31	77.5	31	77.5	38	95.0	40	100.0	31	77.5	30	75.0		
Inferior feeling			1	2.5									1	2.5
Common and lovely					1	2.5			3	7.5			1	2.5
Cheerful mood	3	7.5	3	7.5					3	7.5	4	10.0	1	2.5
Airy and spacious			2	5.0									3	7.5
Bright and sanitary			3	7.5									30	75.0
Welcoming									2	5.0	2	5.0	2	5.0
Calming					1	2.5			1	2.5	4	10.0	2	5.0
Expensive	2	5.0												
Scary/bloody	4	10.0												

Source: Developed for this research by the Author

Table 16: Would you recommend the colour

	Not indicated		Yes		No	
	Fre	%	Fre	%	Fre	%
Red			11	27.5	29	72.5
Yellow			18	45.0	22	55.0
Blue	4	10.0	25	62.5	11	27.5
Orange	10	25.0	18	45.0	12	30
Green	4	10.0	28	70.0	8	20.0
Violet			16	40.0	24	60.0
White	2	5.0	9	22.5	29	72.5

From the above data, it appears that white is the colour that is least recommended. This is ironical because is a common colour in almost all Kenyan dwellings. The housing agents should then clearly note that people are living with this colour because of lack of an alternative.
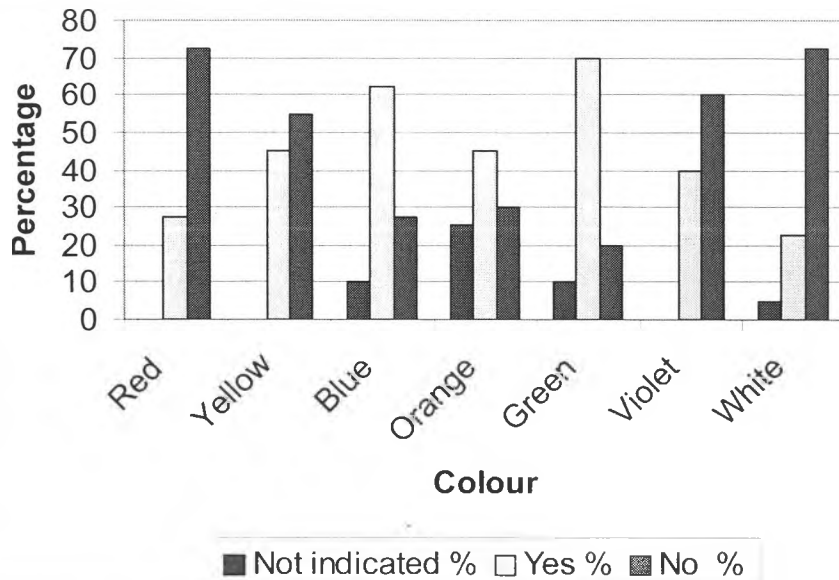
Source: Developed for this research by the Author

On reccomendation of colour, white was the least followed by red. Green was the most reccomendable. Green would also be reccomended followed by blue.

Table 17: Why would you /wouldn't you recommend the colour

	Red		Yellow		Blue		Orange		Green		Violet		White	
	Fre	%	Fre	%	Fre	%	Fre	%	Fre	%	Fre	%	Fre	%
Not indicated	5	12.5	18	45.0	4	10.0	5	12.5	10	25.0	10	25.0	5	12.5
Welcoming& bright	12	27.5	7	17.5	4	10.0	14	30.0	4	10.0	3	7.5	12	27.5
Frequent maintenance			5	12.5			5	12.5					10	25.0
Cheerful	10	25.0	10	25.0			10	25.0			1	2.5	2	5.0
Its dull					6	15.0			6	15.0	6	15.0		
Its royal & rich					10	25.0					7	17.5		
Danger & blood	7	17.5												
Peaceful &tranquil	6	15.0			10	25.0	6	15.0	9	22.5	13	32.5	3	7.5
Healing					6	15.0			11	27.5				
Monotonous													8	20.0

Source: Developed for this research by the Author

Table 18: Do colours have any meaning to you

	Not indicated		Yes		No	
	Fre	%	Fre	%	Fre	%
Red			25	62.5	15	37.5
Yellow			16	40.0	24	60.0
Blue	12	30.0	20	50.0	8	20.0
Orange	6	15.0	25	62.5	9	22.5
Green			25	62.5	15	37.5
Violet			23	57.5	17	42.5
White	8	20.0	8	20.0	24	60.0

Source: Developed for this research by the Author

Asked whether various colours had any meaning according to them,

- 62.5% of the respondents said red had meaning.

- It did not mean anything to 37.5% respondents.

- Yellow meant something to 40.0% of the people whereas it did not to 60.0% of them.

- 30.0% of the respondents did not give a reaction towards blue but it had meaning to 50.0% and none to 20.0% of them.

- 22.5% of the respondents did not indicate their meaning for colour orange though it had meaning to 62.5% .

- Green had meaning to 62.5% of the respondents while it did not to 37.5%. violet colour had meaning to 57.5% respondents while it did not to 42.5%.

Plate 25: Meaning of colour
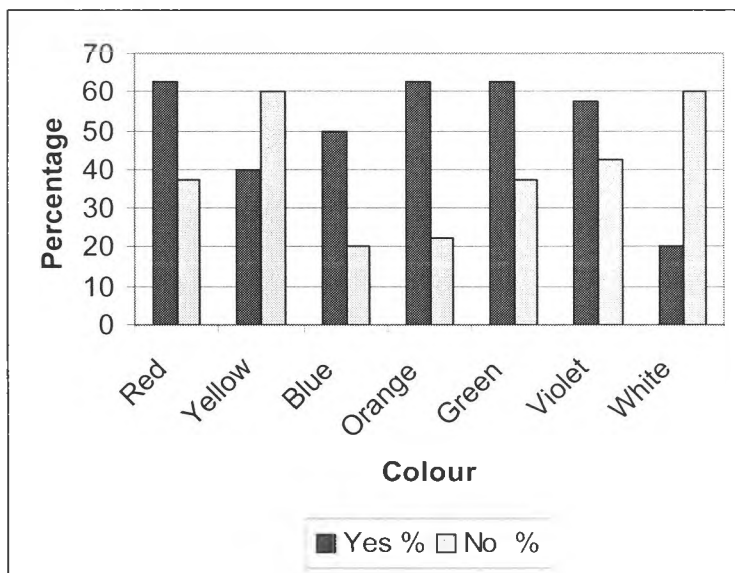
Source: Developed for this research by the Author

Table 19: What meaning does colour have to you

	Red		Yellow		Blue		Orange		Green		Violet		White	
	Fre	%	Fre	%	Fre	%	Fre	%	Fre	%	Fre	%	Fre	%
Not indicated	9	22.5	10	25.0	6	15.0			3	7.5	12	30.0	4	10.0
Cheerful & bright/sunny	8	20.0	14	35.0									2	5.0
Energetic	7	17.5	11	27.5										
For kambas			5	12.5					4	10.0	4	10.0		
Royal					13	32.5					12	30.0		
Mourning											5	12.5		
Peace					6	15.0			7	17.5	4	10.0	14	35.0
Healing					12	30.0			3	7.5	3	7.5	4	10.0
Danger/blood	16	30.0												
Water					3	7.5								
Environment									13	32.5				
Productivity/growth									10	25.0				
Purity													16	30.0

Source: Developed for this research by the Author

The respondents were asked what meaning colour had to them and apart

from failing to indicate their meanings; they gave reasons such as sunny,

energetic, royal, mourning, peaceful, healing, danger, growth and productivity, as well as purity.

4.13 Response to colour

Asked what their response to colour was, 2.5 percent said they had none, 37.5 percent had moderate response and 60.0 percent said their response was very strong.

Table 20: Response to colour

	Fre	%
None	1	2.5
Moderate	15	37.5
Strong	24	60.0

Source: Developed for this research by the Author

A graphical presentation of the above recorded responses and percentages would look as this:

Plate 26: Meaning of colour
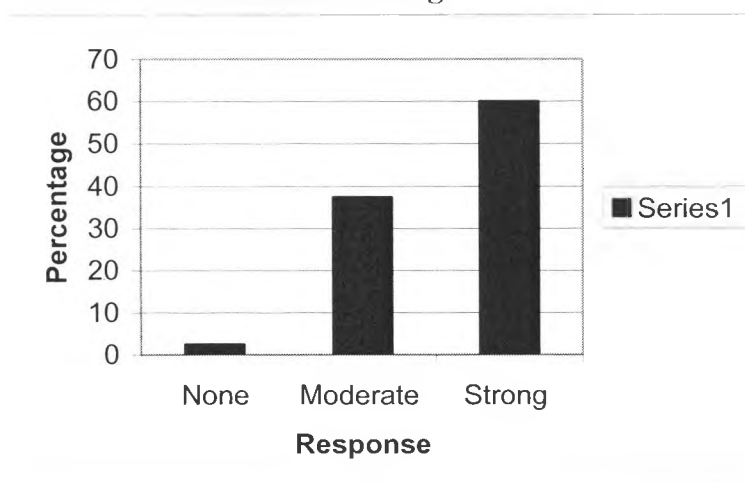
Source: Developed for this research by the Author

Table 21: Do colours affect or express your moods

	Fre	%
Not indicated	2	5.0
Yes	30	75.0
No	8	20.0

Source: Developed for this research by the Author

When the respondents were asked whether colours affected or expressed their moods, 75.0% of them said colours did affect and express their moods. This is clearly indicates why the residents of Nyayo High Rise are unhappy with the present colours of their houses and would like to change them to the colours of their choice as soon as possible. This indicates that colour has an impact on the residents.

4.14 Favourite cloth colours

When the respondents were asked if there was any kind of colours they liked, say what their favourite cloth colours were, and if they would have the same favourite cloth colours in their interiors their responses were as follows;

Table 22: What are your favourite cloth colours

	Fre	%
Red	4	10
Yellow	5	12.5
Blue	10	25
Orange	6	15
Green	7	17.5
Violet	5	12.5
White	3	7.5

Source: Developed for this research by the Author

Blue was liked by most respondents, followed by green and white was the least liked. Yellow and violet were liked by the same amount of people, while orange was better liked. White was the least liked colour of all.

Plate 27: Favouritism
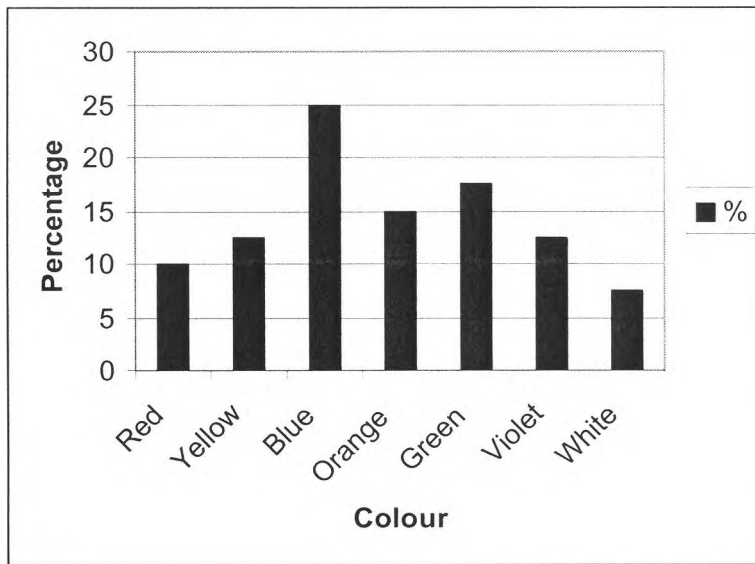
Source: Developed for this research by the Author

Table 23: Are there any colours you don't like

Not indicated		Yes		No	
Fre	%	Fre	%	Fre	%
3	7.5	27	67.5	10	25.0

Source: Developed for this research by the Author

On inquiring whether there were colours that the respondents did not like, 67.5% of them quickly said yes while 25.0% indicated that there were no colours they really did not like.7.5% of the respondents did not indicate whether there were any colours they did not like. This goes to show that the residents are affected byt the existing colours and a change to their favourite would be good for them.

Table 24: Have you chosen the present colours of your house

Yes		No	
Fre	%	Fre	%
10	25.0	30	75.0

Source: Developed for this research by the Author

The residents of Nyayo High Rise are forced to live in houses with interiors reflecting other people's characteristics, personality and preferences.

63

This is so because 75% of the respondents indicated that they did not choose the colours in their house. Only 25% of the respondents had chosen their preferred colours.

This result proves right the problem statement that residents are not consulted on the colour of their interiors but that the building construction professionals and tenants determine the colours applied in residential interiors without considering the culture or opinion of the house occupants.

Asked why they have not chosen the present colours of their houses, 45% said that they found the house already painted in its present colour, 35% indicated that the houses were rental and that they could not change the colour to their liking as they could move out any time.15% of the respondents who had bought their houses painted the houses in colours that they said best expressed their feelings. 5% explained that they had chosen the colour of their houses because it did not show dirt and was easy to maintain.

Table 25: Would you like to change the colour of your house

Not indicated		Yes		No	
Fre	%	Fre	%	Fre	%
1	2.5	30	75.0	10	25.0

Source: Developed for this research by the Author

Asked if they would like to change the colour of their interior, 75% of the respondents would like to change immediately if possible. Only 25% are content with the colour of their interior. This is only so because they own the houses and as a result have selected the colours present in their interiors. When asked what colour they would like to change to, the preferences were varied. This is so because taste differs from individual to individual.

The choices of colour varied from blue, orange, brown, cream, yellow, green, peach and shades of blue and green. The highest percentage of respondents preferred tints and shades of blue, green, red and yellow, which are actually the colours from which every other colour comes from according to the colour wheel.

Table 26: How often do you change the colours in your home

	Fre	%
Every two years	6	15.0
Depends on quality	1	2.5
Never	28	70.0
Rarely	1	2.5
Yearly	4	10.0

Source: Developed for this research by the Author

70% of the respondents indicated that they have never changed the colours of their houses while only 10% and 15% changed yearly and every two years respectively.

**Table 27: How often would you like to change the colours in your home**

	Fre	%
Every two years	5	12.5
Half yearly	12	30.0
Never	1	2.5
Rarely	2	5.0
Yearly	15	37.5
Every three years	6	15.0

Source: Developed for this research by the Author

Upon asking the respondents how often they would like to change the colours in their homes if it were possible, only 5%said that they would rarely change the colours in their home.

The highest percentage (37.5%) indicated that they would like to change yearly. 30%of the respondents indicated that they would like to change their interior colours half yearly. The least number of respondents (2.5%) indicated that they would never change as they would have chosen their best colour. 30% of the respondents indicated that they would like to change the colour in their houses half yearly as is indicated in the following pie chart.

Plate 28: Frequency of colour change
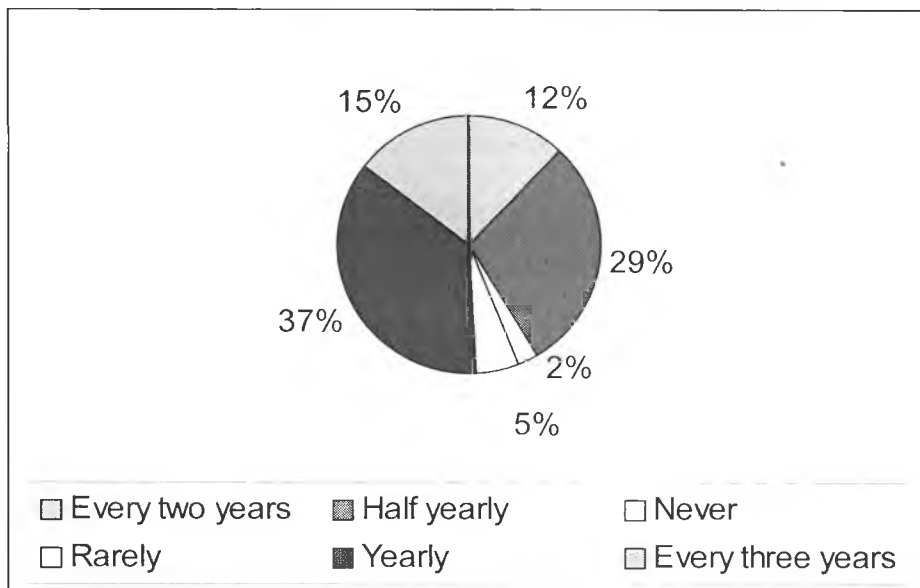
Source: Developed for this research by the Author

CHAPTER FIVE

5.0 Introduction

This chapter highlights the major findings of the research. This is followed by a conclusion and recommendations for colour application in middle class interiors. Finally, areas for further study have been outlined.

5.1 Summary of the Major Findings

In view of the analyses presented in the preceding chapter, the study ultimately concludes that house occupants should be given the opportunity to choose their own interior colours. The findings prove the hypothesis that; use of preferred colour on interior walls could produce more satisfactory environments in middle class housing. The following were some of the major findings from the study: -

i. Age and Gender

It is important to consider the gender as well as age of people that one is designing an interior for. Apart from their preferences being closely similar, there are variations. The men in this study tended to prefer cool colours especially blue. Women and children had a preference for warm colours. This observation is in agreement with Kuller (pg 33) that there is a difference in colour preference between men and women.

The housing agents should consider segregating housing units in terms of household numbers and ages so that they can be able to address their needs and requirements almost satisfactorily. This is so because there would be a difference between catering for the needs of a household with small children and that with adults only.

ii. Level of education

There is significant relationship between level of education and ones appreciation and perception of colour. The highest percentage of the middle class respondents have a university education, and they have a wide and one can say informed perception of colour. When colour scheming for this group of people, care should be taken as they are people who understand, and at the same time appreciate colour.

iii. Likes and dislikes

The study found out that there were colours that people liked and those that they really did not like and they gave their personal reasons for that. The house owners or agents that are responsible for providing housing for tenants that do not own houses should discuss the needs of their tenants and provide for them as this would give a more personal and humane touch to housing.

The objective of providing shelter then becomes not only a four-walled structure but also a personal service. This will give satisfaction to a person's innermost ego, and achieve their needs through choice of expressive colour. If this were implemented in Nyayo High Rise Estate, then the tenants would be more satisfied with their interiors, thus contributing to stimulation of the residents' senses as is noted in the literature review.

iv. Residence period

The period one is likely to stay in the same house would be important to consider. This is so because as was noted in the study sample, some people have resided in the same house for over ten years. This means that if they are not comfortable with the existing colours, they have to live with them. If the housing agents found

out how long one is likely to stay in a given house, they could personalise it for them.

5.2 Recommendation

This section prescribes strategic design recommendations towards planning for residential housing within Nairobi and elsewhere that they can be applicable.

i. Involvement of designers

Interior designers should be involved during the design process of residential buildings as much as the other building construction professionals. This is because design looks beyond function to aesthetics and comfort of the final consumer. National Housing Corporation though doing a good job of helping towards the realization of the goal to house everyone does not have any interior designers sitting on their panels while deciding matters such as spacial allocation and colour use as well as the overall finishing of their houses.

ii. Chance for residents to decide

As residents of Nyayo High Rise have directly suffered the effect of imposed colour, dwellers in both this study area and other residences should be consulted if not for their design preference, at least their preferred colour as they are otherwise forced to put up with a colour they are uncomfortable with. As seen on plate 28, is a typical living room of a one bed roomed flat in Nyayo High Rise. The walls are painted in off white, which does not please

the house occupant at all and for this reason, he explained that he has put in colour through the furniture but still the room looks quite dark. The south-facing window in the flat means little natural light forcing the occupants to have their lights on almost all the time. The wall colour should have been selected to accentuate the light but it does not. The occupant of the house in plate 28 would not have minded the colour used on plate 29 which could have as well enhanced the lighting.

Plate 28: Existing interior

Source: Author

iii. Involvement of paint manufacturers

Paint manufacturers need to be involved in property development and management so as to dispense their worthy knowledge on properties, characteristics and usage of paints for enhancing interiors. Due to lack of knowledge on the part of the clients regarding paint, most paint stockists end

up selling lots of undercoat and never selling final finishing paints. There should be a bylaw requiring houses to be fully finished with all the required coats of paint before occupancy.

iv. Residency period

Housing agents such as National Housing Corporation, and landlords should consider having the incoming tenants sign a contract stating how long they would wish to stay in the house so as to make it easier when considering re-decorating the house for them. This way, a cost benefit analysis can be examined, for if the tenants are going to reside in the house for more than three years, then it would be reasonable to give them a house that would make them feel homely and relaxed in terms of wall colour (paint). Most respondents indicated that they would like to change or refresh the colours of their houses yearly, and yet a high percentage of them have lived in the same houses for over three years without having them either repainted or having a colour of their preference.

Colour contributes to the way of living and affects how people feel as Whitfield had proved. This is so in the case of Nyayo High Rise because the respondents gave differing feelings and views about colour.

The city council of Nairobi has a by-law stating that every building within the central business district be given a facelift every five years. This should actually extend to residential interiors, which should have a more personal touch than the commercial blocks.

v. Colour perception and effect on a space

As colour was noted to have an impact on the selected respondents, it should be taken as a matter of concern because it not only seemed to affect the occupants of an interior emotionally, but even the visitors. The ambience of an interior also was said to derive its character from the colour used in it, for example, where red was associated with heat and blood.

Finally I would wish to recommend that residential houses be repainted with a fresh coat of paint every three years as personalities keep changing. Colour being among the intimate ways of expression both on the cloths people wear and their interiors, it needs to be changed at least if not as often as our moods change, as often as we get exposed and grow older. It is reprehensible to live in an interior of the same colour over the years yet you did not partake in selecting the colour, as this implies that you are demeaning your emotion.

Plate 29: uplifting colours
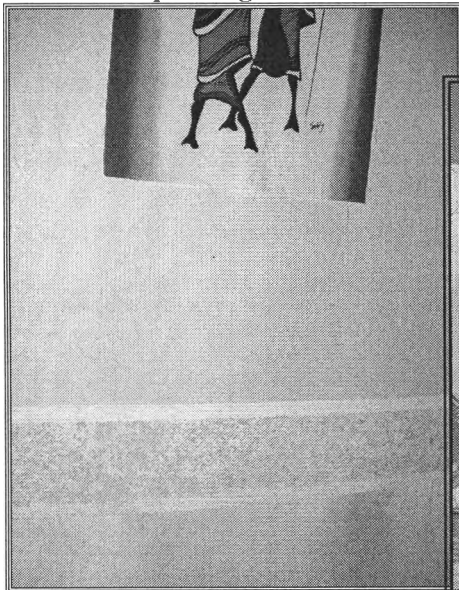
Plate 30: Tranquil colours
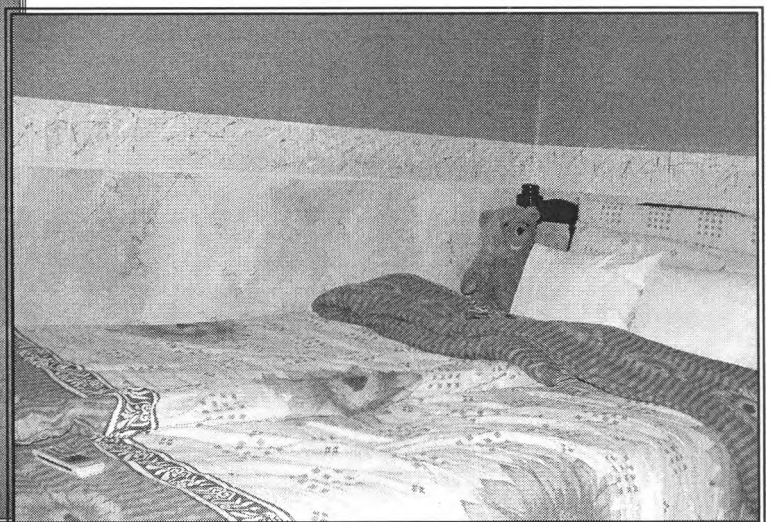
Source: Author   Source: Author

The above are combinations of colours that seem to work though ordinarily people may shy away from.

5.3 Conclusion

In the urban culture today, home is a place where people seem to spend less time, but if the old saying is true, that home is where the heart is it is where residents need to feel most comfortable. This is what the residents of Nyayo High Rise have lived without for over eight years now. There is no doubt that people have strong feelings about their homes. Ideally it should provide a sanctuary to which one can retreat, a place where one can enjoy being themselves and welcome their friends and loved ones - and a solid base from which one can go out into the world and do whatever they need to achieve. It is very important that it reflects and supports the personalities of those living there, which might appear to be a bit of a challenge if it often feels like a war zone. However, although they might be very different people, if they are living together the chances are that they have quite a lot in common and the right colour palette can ease tensions and support harmony.

The choice of colour in a room can give whole new proportions to a space, create an illusion of more spaces, more or less height and can highlight the good features of a room camouflaging defects. The use of colour in a room can totally change its shape, from bright and airy to warm and cosy. A clever use of colours

can create many illusions in the Nyayo High Rise flats, giving them character and personality.

Colour selection and colour scheming has become increasingly important in developing residential and commercial interiors, from office spaces, shopping centres and food service industries. Colours enhance and affect mood, work and play habits and contribute a subliminal role in influencing our desires; like hunger, passion, anger, peace and calm and more.

Residential and commercial spaces alike, including industrial, educational and medical environments should be designed with a colour scheme that is calm, comfortable, and harmonious. They should often be inspired by nature, that is to say, posses a gently harmonious, natural and generally neutral colour palette. Nature is looked to and for prime examples, walking on the beach one can pick up stones randomly and carefully matching these colours to a paint colour chart, one is often left with sand tones, light greys, beige and umbers. Pale greens, reds and blues may be introduced, adding variety, but the overall tone (*chromatic value*) of the colours tend to remain consistent.

Plate 31: Neutral colour scheme

Source: artsparx.com

A calm, neutral colour scheme as shown in plate 31, allows natural elements like wood, stone and fabric to impart richness and contrast into this cosy interior. Neutral colours primarily consist of a selection greys, beiges, tans, creams and taupe. These colours generally work with most other colours making them excellent choices as background colours for walls and ceilings. In this manner, more vibrant colour choices can be executed in the interior in the form of fabrics, draperies and curtains, rugs and carpets, objects, furniture and accessories like throw pillows, lampshades and pictures or paintings just as the nyayo Highrise estate residents have done.

5.4 Recommended area for further study

Although strategic recommendations for colour use in improving middle class interiors in the study area and other middle class residential areas in Kenya have been presented, some aspects were not covered because they were beyond the scope of the study.

There is need to conduct an exhaustive study on Kenyan ethnic groups and their perception of colour. Only the Maasai and the reasons for their colour preferences are clearly recorded. The other groups like the Akamba that kept being mentioned whenever there was yellow, should be properly studied to make an academic documentation about them.

It will also be important to study lighting and special requirements of middle-income dwellers in Nairobi as these affect the applied colour. This was not covered in the study, however lighting method as well as quality and special dimensions are acknowledged as potential factors affecting the appearance and perception of colour within any given interior.

There is also need to study the contribution indoor plants would have on middle class interiors. This is so as the plants will bring the outdoor environment into the interior.

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4.0 Appendix

Appendix 1   Interview Schedule

Appendix 11 pictures used for the interview

Appendix 111 Floor plan

Appendix 1V Site plan

Interview Schedule

Part A   (Background information)

Name _____

Gender _____

Age _____

Level of education_____

Occupation _____

Religious inclination_____

Places travelled _____

Period of residency in the city _____

How long have you lived in the house _____

Hobbies_____

Part B

1. How do you feel about this colour?

_____

Why?

_____

2. Would you like this colour in your home?

_____

Why / why not? _____

3. Have you ever come across any such use of colour in any house in Kenya?

_____

Where and what was your reaction?

_____

_____

4. Would you recommend this colour for a Kenyan home?

_____

Please give reasons why or why

not_____

5. Does this colour have any meaning to you?

_____

Explain. _____

_____

Part C

1. What is your response to colour?

    None _____

    Moderate_____

    Strong_____

2. Do colours affect or express your moods?

_____

3.What kind of colours do you like, for example what are your favourite cloth colours and would you have the same interiors?

_____

_____

Part D

1. What are the ages of the occupants of your house? _____

_____

2. What is your favourite colour? _____

   Are there any colours you really don't like? _____

3. Why have you chosen the present colours for your house? _____

4. Would you like to change it? _____

   How_____

5. What colour would make you more homely? _____

6. How often do you change the colours in your home? _____

7. How often would you wish to change the colours in your home if it were possible?

_____