DETERMINANTS OF OCCUPATIONAL STRESS AFFECTING EMPLOYEESPERFORMANCE IN PUBLIC UNIVERSITIES IN KENYA

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Determinants of occupational stress affecting employees performance in public universities in Kenya

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DECLARATION

This thesis is my original work and has not been submitted for examination for a degree in any other university.

Sign…………………………………..Date…………………………………...

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

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ACRONYMS AND ABBREVIATIONS

APA	American Psychological Association
CPST	Centre Patronal de Santé et Sécurité du travail du Québec
CSST	Commission de la Santé et de la Sécurité du Travail du Québec
JKUAT	Jomo Kenyatta University of Agriculture and Technology
KUDHEIHA	Kenya Union of Domestic, Hotel, Educational Institutions, Hospital and Allied Workers
KUSU	Kenya University Staff Union
NIHM	National Institute of Mental Health
NIOSH	National Institution for Occupational Safety and Health
UASU	University Academic Staff Union
UTENSU	University Non – Teaching Staff Union
WHO	World Health Organization

DEFINATION OF TERMS

Stress : It is regarded as a force that pushes a physical or psychological factor beyond its range of stability, producing a strain within the individual. Stress is the process by which environmental events (stressors or challenges) threaten us, how these threats are interpreted, and how they make us feel (Rosania, Low, McCormick & Rosania, 2009).

Employee Performance: The output that the employees have in delivering services at the institutions. This is measured based on each job outputs. Could be the number of students served, the number of courses delivered effectively among others.

Motivation stress: Stress arising from the ability of the employees to be willing to do more especially on roles that demands hard work, and generate ownership of their duties (Noblet, 2003).

Movement stress: Stress arising from the act of moving from one place to another or moving from one role or duty to another (Noblet, 2003)

Workplace relationships stress: Stress out of the way in which two people, groups, organizations or departments behave towards each other or deal with each other

Management stress: stress arising from the controlling, planning and coordination of roles and activities within the organisation (Dar, Akmal, Naseem & Khan, 2011).

Burnout :   The state of being extremely tired or ill, either physically or mentally because you have worked too hard (Cherry, Chen & McDonald, 2006).

Coping :   To deal with/ manage successfully something difficult. Coping strategies therefore include the methods or measures put in place to manage stress (Akbar, 2011).

Determinants :   A thing(s) that decides whether or how something happens (Akbar, 2011).

Endogenous: Endogenous means internal (endo means inter; genous means origin or genesis) or origination from within (Manjula, 2012)

Exogenous :   exogenous means external (exo means outside) or originating from outside (Manjula, 2012)

Management stress: Chang and Lu (2007) identified management as stress arising from the management of organization and an increasingly important concern in both organizational research and practice.

ABSTRACT

The aim of this study was to assess the effects of occupational stress and how it affects employees' performance in the public universities in Kenya. Specifically the study seeks to: determine the effect of working facilities stress factors on the performance of employees in public universities in Kenya; identify the influence of workplace relationship stress factors on the performance of employees in public universities in Kenya; establish the impact of management stress factors on the performance of employees in public universities in Kenya; find out the effect of motivation stress factors on the performance of employees in public universities in Kenya; and to assess the influence of movement stress factors on the performance of employees in public universities in Kenya. The study employed a cross-sectional evaluation survey approach. This study used both qualitative and quantitative methods in the selection of the participants and collection of data. Cluster sampling was employed to select 384 respondents. Data collection instruments included interviews, questionnaires and document reviews. The collected data was captured in MS Excel and analyzed using SPSS version 24 (Statistical Package for Social Scientists). Linear regression analysis and Pearson's correlation coefficient were run to determine relationship between stress factors and workers performance. The analyzed data was presented in suitable graphs, charts and tables. By correlating the determinants of stress with performance, the study found out that the determinants of stress include movement, motivation, workers relationships, management and working facilities. The study found a significant relationship between Worker's relationship, Worker's movement, Workplace facilities, Motivation and Management and employee performance. Conditions of the workplace have been shown to lead to negative emotional reactions, physical health both short-term and long term, and counterproductive behaviours at workplace for example absenteeism, alcohol and drug abuse negatively influencing performance of employees resulting to

poor productivity. The universities should provide seminars offering positive coping strategies as opposed to the said negative coping strategies.

CHAPTER ONE
INTRODUCTION

1.1 Background of the study

Workers stress is defined by Manjula (2010) as the harmful physical and emotional responses that can happen when there is a conflict between job demands on the worker and the amount of control a worker has over meeting these demands. In general, the combination of high demands in a job and a low amount of control over the situation can lead to stress. Rosania *et al.*' (2009) however defined workers' stress as the experience by a worker of unpleasant emotions, such as tension, frustration, anxiety, anger, and depression, resulting from aspects of work. In recent years, steadily increasing costs and consequences of workers stress has received growing concern. To reduce the negative effects stress has on workers, more attention needs to be placed on this growing epidemic (Nilufar, Abdullah, Fie & Alam, 2009).

High level of stress at work is a major threatening factor to both physical and psychological health of individuals (Dar, *et al.*2011) and affects their cognitive processes involving memory, recall of knowledge and attention (Addae, Parbooteah & Velinor, 2008).Stress management therefore, has dominated many forums both locally and internationally. In the public academician congress in the university of Khang Valley (Nilufar *et al.*, 2009), job stress and its effects was discussed. Working staff in the universities worldwide have found themselves in dissatisfactions that have greatly manifested themselves in different ways. Stress at workplace is certainly not a new concept; history indicates that stress was experienced even with our cane-dwelling ancestors. Khanka (2007) postulates that our cave-dwelling ancestors faced stress every time they left their caves and encounter their enemy, the saber toothed tigers. He argues that the tigers of yesterday are gone but they have been replaced by other predators of modern times such as work load, time deadlines, downsizing, mergers, poorly designed jobs, marital disharmony, financial crises and traffic jams. Most employees are reporting

increased levels of stress and the recent working environment is making things worse (Luthans, 2008).

Globalisation has left institutions and organisations facing stiff competition and led to aggressive cost cutting. Information technology has accelerated the speed at which business transactions can be performed and put pressure on the workforce to be even more productive. These pressures on organisations have put workers under a lot of stress (Newstroom, 2007). Due to the competitive nature of the job environment most of the people in the world are spending their time for job related work purposes, ignoring the stressors that are influencing their work and life. Usually people are more worried about the outcome of their work and that can even affect the way they treat other people and how they communicate with their peers and customers. Nilufar *et al*. (2009) posits that people with a higher percentage of occupational stress may not be satisfied with their job and therefore they will not feel happy working in the organizations.

Recent trends have also made it increasingly difficult for employees to adequately balance the responsibility of their families, as employees are working longer hours and bringing more work home at night. This has resulted to more pressure being placed on the work-family relationships such that coordination of work, vocation schedules and child care options have become very unsuccessful (Dar *et al*. 2011). More and more voices warn about the possible risks that could emerge if the human resources management ignores the current signs of increase in levels of stress among employees (Robbins & Judge, 2007). Organisations therefore need to respond to stress experienced by employees in order to enhance their legitimacy and obtain the resources necessary for their survival.

Stress in University workers is an on-going issue of concern for those involved in education. Numerous studies found that job stress influences the employees' job satisfaction and their overall performance in their work, because most of the organizations now are more demanding for the better job outcomes (Nilufar *al*., 2003). Academic staff has a major role to play in achieving the objectives of the institution

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(Kumar, 2013). The performance of the staff; teaching, non-teaching teachers and also as managers, determines to a large extent, the quality of the student experience in the Universities and has a significant impact on student learning and thereby on the contribution that such institutions can make to the society (Kumar, 2013). Stress of University workers therefore needs to be addressed.

Mojoyinola (2008) contend that coping can function to change the situation out of which stressful experiences originate (Problem-focused), change the meaning of such experiences before the emergence of stress (perception-focused), and control the emotional reaction to stress after it has emerged (emotion-focused).If one is suffering from stress, the aspect of life that causes it has to be identified. These aspects will then help in developing strategies to deal with stress. According to Dar, *et al*. (2011) steps such as changes in lifestyle or other small strategies can help to deal with stress. The work can be delegated or shared and avoid confrontation with problematic colleagues. Learning to be assertive, taking regular exercise, avoiding alcohol and drugs can reduce stress. On the other hand, eating a healthy, balanced diet rich in fruits and vegetables, finding humour in stressful situations, time management, talking to friends or family and sharing thoughts and fears can fight stress.

Workers in the Universities have often found themselves in dissatisfactions that have manifested them greatly in the recent past. In November 2011, a major strike was held nationwide in Kenya by all the public universities workers. This led to the closure of several universities. This strike among other things affected learning, examinations and graduation programmes. Concurrently there was a go slow in Brazil in October and November by dissatisfied university lecturers. It is with this background that the researcher seeks to carry out a study in selected universities in Kenya to establish the effects of occupational stress on employees' performance and provide practical coping strategies that can be employed to reduce or completely alleviate stress in public universities.

1.2 Statement of the Problem

In achieving the Universities objectives, the workers play an important role. The performance of the workers determines to a large extent, the quality of the student experience of University education and has a significant impact on student learning and thereby on the contributions that such institutions can make to society (Ramzan, 2012). Report by the National Institute for Occupational safety indicates that stress in organisations caused by poor management, inadequate facilities, lack of motivation, poor relationships and constant movement of workers due to job allocation or shifts, if not addressed leads to poor performance of the employees. When people are under stress, they are often less concerned, less vigilant and less efficient (Dar *et al.*, 2011).

Stress not only leads to poor performance that is detrimental to the economy, but also leads to poor health. The National Institute of Mental Health (NIMH) estimates that depression has resulted in 23 billion dollars loss a year in lost work days and 60 to 90 per cent of doctor visits are attributed to stress-related illness and symptoms (NIMH, 2013). When employees get sick, the sick offs increase. This leaves behind undone jobs or even skipped responsibilities. The sickness also affects the members of the employee's family both financially and emotionally. This cycle continues if no intervention comes forth, leading to even higher stress levels and eventually depression, which may lead to development of chronic and costly diseases such as heart diseases, diabetes and cancer, which can collectively account for a vast amount of all health care costs. Diabetes alone costed businesses 58 billion dollars in 2007 (Barling, Kelloway & Frone, 2004).

If this situation continues, especially among workers in the public universities who are expected to nature future human resources for purposes of developing the economy, universities are bound to be cash trapped with workers medical expenses, students will get poor education and universities will be prone to frequent strikes of dissatisfied and stressed workers (Munali, 2005). According to Waswa and Swaleh (2012) minimal attention has been given towards ensuring workers in public universities have been

provided with the necessary resources, motivation, effective job allocation measures and management to avert continuous strikes that have lowered the standards of education in the country. Additionally Owino, Oanda and Olel (2013) argue that lack of resources, motivation, poor leadership and negative relationships leads to stressed employees and poor performance. Zhimin and Ramani (2012) advices that stress factors should be met to enhance conflict resolution within Kenya's public universities. This study therefore seeks to assess the determinants of occupational stress in public universities and their contribution to the performance of workers.

1.3 Objectives of the Study

1.3.1 General objective

The general objective is to assess the determinants of occupational stress and how it affects employees' performance in the public universities in Kenya.

1.3.2 Specific objectives

1. To determine the effect of working facilities stress on the performance of employees in public universities in Kenya.
2. To identify the influence of workplace relationships stress on the performance of employees in public universities in Kenya.
3. To establish the effect of management stress on the performance of employees in public universities in Kenya.
4. To find out the effect of motivation stress on the performance of employees in public universities in Kenya.
5. To assess the influence of movement stress on the performance of employees in public universities in Kenya.

1.4 Research Questions

1. What is the effect of working facilities stress on the performance of employees in public universities in Kenya?

2. What is the influence of workplace relationships stress on the performance of employees in public universities in Kenya?

3. What is the effect of management stress on the performance of employees in public universities in Kenya?

4. What is the effect of motivation stress on the performance of employees in public universities in Kenya?

5. What is the influence of movement stress on the performance of employees in public universities in Kenya?

Research Hypothesis

1. H_1: Workers facilities stress influence the performance of employees in public universities in Kenya.

2. H_1: Workplace relationships stress influence the performance of employees in public universities in Kenya.

3. H_1: Motivation stress has effect on the performance of employees in public universities in Kenya.

4. H_1: There is relationship between management stress and the performance of employees in public universities in Kenya.

5. H_1: Movement stress has effect on the performance of employees in public universities in Kenya.

1.6 Significance of the Study

This study shall shed light on the causes of increased rate of stress at workplaces in the public universities that has not yet been addressed. The findings of this study would be used by policy makers in the universities, both the management and workers' unions to strengthen stress relieving activities, motivation and create programmes that would be of help in stress management. With the findings of this study and recommendations implemented, the universities would have less absenteeism due to sickness, with the rate of sickness reduced; medical expenses would also be reduced hence economic growth

and a healthier lifestyle. Workers would be present at work and would have high productivity. With other researches done in this field, this study would increase the pool of academic knowledge in the area. Finally, the findings from this study may also generate knowledge that can be useful to other scholars for further research.

The information from this study would form part of policy making for both the government and the management of public universities. The information on the stress factors affecting the performance of workers in public universities would be used by the management of the public universities in developing strategies and providing an environment that would ensure improved productivity of the workers. Through this study on the stress factors affecting the performance of workers in public universities, the general public and the management of the universities as well as the workers themselves would be able to understand and appreciate the performance of workers that are exposed to such stressors. Academicians and researchers who are willing to provide more education and solution to workers stress may use the information from this study to inform their understanding and arguments. Additionally, the information from the study would also form basis for literature for other researchers and academicians who are willing to carry out studies in the same field in sub-Saharan Africa.

1.7 Scope of the Study

The study was carried out within Nairobi County metropolitan. The study focused on public universities that operate within or closer to Nairobi County. Nairobi Metropolitan consists of four regions which cover approximately 32000 square kilometres the four regions are:Core Metro that includes the City of Nairobi; Northern Metro includes the municipal councils of Kiambu, Limuru, Ruiru, Thika, and Karuri, the Town councils of Kikuyu and the County Council of Kiambu; Southern Metro that includes the Town Council of Kajiado and the County Council of Olkejuado; and Eastern Metro that includes the Town Council of Kangundo/ Tala, the Municipal Councils of Machakos and Mavoko and the County of Masaku.

Public universities were selected because their workers have unions or organisations that advocate for a stress free environment for them. The unions (Kenya Universities Staff Union (KUSU) and Universities Academic Staff Union (UASU)) are responsible for ensuring that there are favourable working conditions for all public university workers. Involving the public universities therefore provided in-depth information on workers stress on performance since they are aware of their stressors at work and are taking steps to address them by forming unions to champion for their rights. Nairobi Metropolitan was chosen as the area of study because all the major public universities in Kenya are either based or have campuses within Nairobi Metropolitan.

1.8 Limitations of the study

The study had the following limitations:

Confidentiality

The organizations confidentiality policy restricted most of the respondents from answering some of the questionnaires since it was considered to be against the organization confidentiality policy. The researcher provided documents giving him the authority to carry out the study obtained from the NACOSTI and the University. This made the respondents understand the purpose of the study and encouraged response.

Delay by the respondents

Securing the variable time of employees of the public universities to respond to the questionnaires was a big challenge, therefore the researcher allowed the respondent adequate time to respond to the questionnaires, encouraged the employees on the benefits and significance of the study and ensured that follow ups were made.

Negative Reception

Negative reception of the researcher by some employees due to the subject of the research made it difficult for the researcher from collecting data in some offices. To

address this, the researcher made sure that the management is in support of the outcome of the research to be able to make employees cooperate in giving information for research purposes.

2.1 Introduction

Literature review is a body of text that aims to review the critical points of current knowledge including substantive findings as well as theoretical and methodological concepts to a particular topic. This study investigated the effect of occupational stress on the employees and how it affects performance in public universities in Kenya. In this chapter the researcher discussed various theoretical models on stress, conceptual framework, reviewed independent and dependent variables, empirical studies on existing literature on stress and performance, critique of the existing literature relevant to the study, research gap and the summary.

2.2 Theoretical framework

This section discusses the theories explaining workers stress factors and their effects on workers performance. The theories underpinning this study therefore included the relational theory, homeostasis theory, Welford's performance and demand theory and the Hertzberg's two factor theory.

2.2.1 Relational theory

In this theory, Lazarus regards stress as a relational concept, that is, stress is not defined as a specific kind of external stimulation or a specific pattern of physiological, behavioural, or subjective reactions. Instead, stress is reviewed as a relationship between individuals and their environment. Psychological stress involves relationship with the environment that an individual appraises as significant for his or her well-being and in which the demands tax or exceed available coping resources. These definitions points to two processes as central mediators within the person-environment transaction: cognitive appraisal and coping. This concept is based on the idea that emotional processes

(including stress) are dependent on actual expectancies that persons manifest with regard to the significance and outcome of a specific encounter. This concept is necessary to explain individual differences in quality, intensity, and duration of an elicited emotion in environments that are objectively equal for different individuals. The most important factors on the personal side are motivational dispositions, goals, values and generalized expectancies. Relevant situational parameters are predictability, controllability, and imminence of a potentially stressful event.

2.2.2 Homeostasis theory

According to Mojoyinola (2008), the body possesses internal mechanism to maintain a stable bodily functioning or equilibrium. As the environment presents the organism with various challenges, the body must respond to each new situation and by adjusting various physiological systems to compensate for the resources being taxed. A classic example of this type of compensation involves fluid regulation. When an organism ingests a large amount of water, the kidney releases more waste fluid into the bladder for eventual disposal in an effort to maintain bodily equilibrium. Many of the feedback mechanisms that regulate blood pressure presented in the body share similar characteristics with bodily systems that maintain homeostasis. According to Mojoyinola (2008), failure of the body to respond to environmental challenges by maintaining bodily homeostasis results in damage to target organs and eventually death. The concept of homeostasis introduced therefore proves to be very valuable in explaining how acute physiological stress responses to threats of survival would lead toward chronic stress responses.

2.2.3 Welford's performance and demand theory

Welford's performance and demand theory (1973) shares much in common with the theory proposed by Selye (1956). In this theory, stress arises whenever there is a departure from optimum conditions of demand which the person is unable to correct. Organisms including man appear to have evolved so that they function best under

conditions of moderate demand. An individual's performance is less than maximum efficiency if they experience either too high or too low level of demand. Margetts (1975) offers a similar approach in terms of stimulus input. Living organisms adjust themselves to maintain a reasonable input of stimuli. If the input of stimuli is excessive or insufficient for the individual organism, the excess or insufficiency can be considered stressful. The organism's homeostasis is threatened by stress, and if it cannot manage it, it goes into a state of disequilibrium or breakdown. This may be temporary, pending readjustment, or may proceed to a more profound disorder, leading to functional or structural pathology. This theory is credited for using the inverted U when explaining the relationship between demand and performance, which has some biological validity (Nakata *et al.*, 2008). Bloona (2007) argues that just like the response based theory, the Welford performance and demand theory leaves out individual characteristics which explain why people perform differently under the same stressor.

Cox and Mackay (1976) proposed a more complex theory, which grew out of the need to systematically understand the transaction between the individual and his environment. The primary focus of this theory is on individual perceptual phenomena rooted in psychological process. They explain the role of cognitive appraisal of potentially stressful situation in determining how one will react. If a situation demands too much of a person but he has not realized his limitation, he will work on without being stressed until it becomes obvious to him that he cannot cope, he then experiences stress. Nilufar *al.* (2009) further observes that stress arises when there is an imbalance between perceived demand and the perception of his capability to meet the demand. The presence of this perceptual factor allows for operations of a wide variety of organsmic variables such as personality which contributes to the existence of individual characteristics. This theory is credited for introducing the individual variation aspect. Since it considers the status of the individual in relation to his environment and also brings in the individual characteristics which are often forgotten in laboratory studies. Critics of this theory argue that it does not account for situations that place psychological demands without the immediate involvement of other more physiological processes (Cox, 1980).

2.2.4 Hertzberg's two factor theory

Hertzberg's two factor theory has been used to explain occupational stress. He carried out his now famous survey in 200 accountants and engineers from which he derived his initial framework for his theory (Steers & Porter, 1987). The theory argues that job satisfaction depends on the motivator factors which include variables such as achievement, recognition, the work itself, responsibility advancement and growth. Conversely dissatisfying experiences called hygiene factors resulted largely from extrinsic, no job related factors such as company policies, salary and supervisory style. Cox (1980) in his studies on stress posits that lack of job satisfaction results to stress and improving the hygiene factors by redesigning and enriching jobs will promote satisfaction. This will in return reduce stress and improve performance. Hertzberg's work is credited for its stimulating thought of introducing motivation at the workplace and therefore giving people a better understanding of job related stress. Critics of this theory argue that it does not give sufficient attention to individual characteristics which are very important in understanding human behaviour (Bloona, 2007).

2.2.5 Stress Theory Model

A model is a systematic organization of knowledge on some topic. There are several models developed to provide an insight on stressors and their coping strategies. This study however majored on only two models to explain stressors and one model focusing on stressors and their coping strategies.

a) Demands, Resources, and Individual Effects model

In light with the literature on stress models, Mark and Smith (2008) suggested the DRIVE model that perhaps elucidates stressors effectively. In this model they acknowledge the important role played by psychosocial workplace stressors in the stress process, and tries to account for the role of important individual difference factors in the development of subjective experiences of stress, and in influencing the possible health-

related outcomes that result from subjective stressful perceptions. This framework aims to represent key aspects of the stress process, without getting bogged down in the minutiae of more complex theories and mental processes.

They developed and tested the model shown below which simultaneously compared a number of job characteristics and individual difference variables in the prediction of anxiety, depression, and job satisfaction, in a working population. Independent variables included: job demands, social support, decision authority, and skill discretion; extrinsic effort, intrinsic effort and rewards; 40 coping behaviours which included the categories of problem focused coping, seeking advice, self blame, wishful thinking, and escape/avoidance; attributional/explanatory styles; and age, gender, and demographic variables. This framework was called the Demands, Resources, and Individual Effects model (DRIVE).
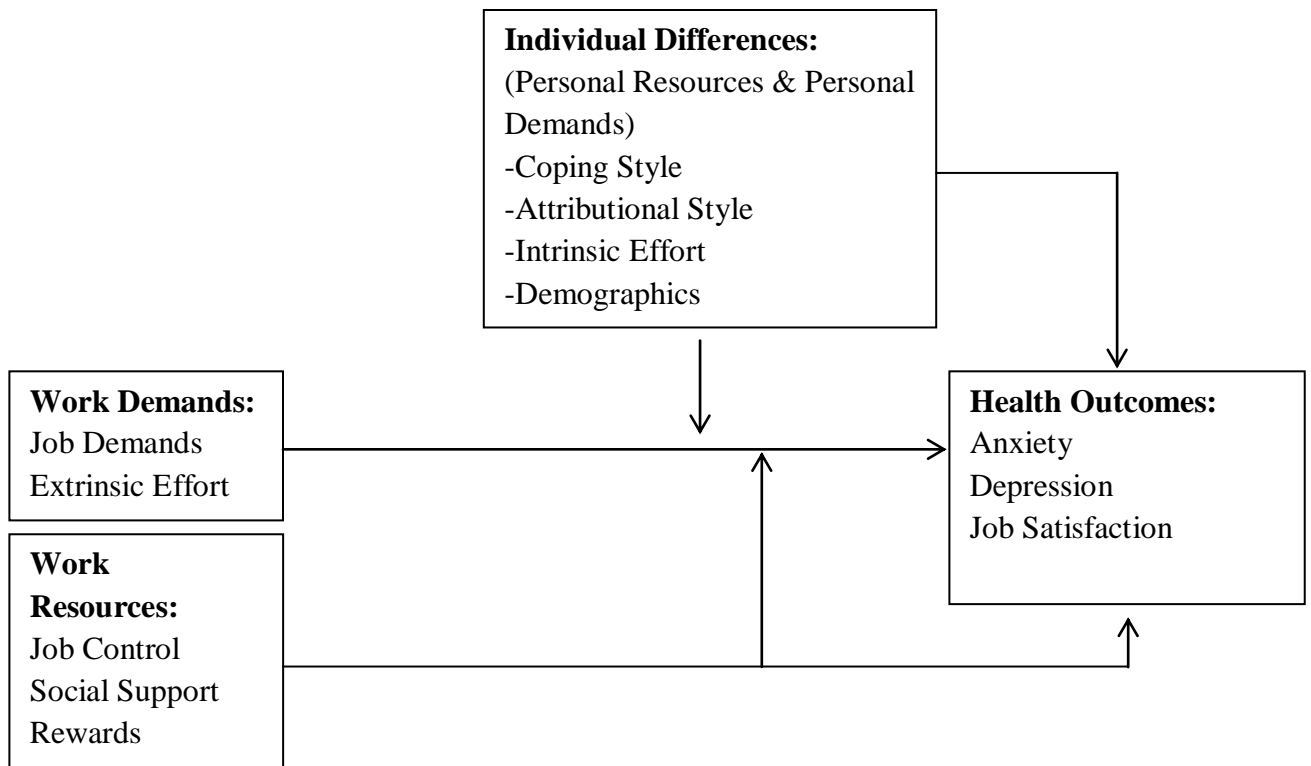
Source: Mark and Smith (2008)

Figure2. 1 The DRIVE model

In the model, workplace and individual characteristics are conceived of in terms of work demands and resources, and individual demands and resources. Other work demands and resources could include workload, bullying, job security, management style, feedback among others, and other personal demands and resources could include self-efficacy, locus of control, personality, home environment, experience, work and life balance, role conflict, among others.

The model proposes that work demands, individual differences, and work resources are all proposed to have effects on relationships, anxiety, depression, and job satisfaction (other outcomes could include organizational commitment, musculoskeletal disorders, gastro-intestinal disorders, heart disease and absenteeism). It is also proposed that work resources and individual differences may moderate the relationship between work demands and health outcomes. The individual difference variables of positive coping (problem focused coping) and attributional styles can be seen as personal resources, and intrinsic effort, negative coping (self-blame) and attributions as "personal demands", as maladaptive behaviours are effectively self-induced demands. This model makes no predictions about the "importance" of the different variables in predicting outcomes, and gives each type of variable (work and individual demands and resources) a theoretical equivalency.

b) The cognitive theory of psychological Stress and coping

Lazarus and Folkman's theory of psychological stress and coping (1980) is perhaps the most theoretically influential transactional theory. Sometimes known as the Cognitive-Relational approach, the individual and their environment are seen as coexisting in a dynamic relationship, where stress is the psychological and emotional state that is internally represented as part of a stressful transaction (Folkman, Lazarus, Gruen & DeLongis, 1986). The two key concepts in this process are appraisal and coping (Cox, Griffiths & Rial-Gonzalez, 2000).Folkman *et al*. (1986) describe primary appraisal as the first stage of the appraisal process, where encounters are subjectively evaluated to

see what is at stake in terms of potential risk (Perrewe & Zellars, 1999) and these assessments allow for the influence of individual differences, because the nature of what is considered stressful is individual-specific (Park & Folkman, 1997).

In later work, Park and Folkman (1997) wrote that the attribution of meaning that individuals give to events, can be framed by existing beliefs based on their global meaning. These are enduring beliefs and valued goals, based on fundamental assumptions, theories of reality for example religion, self-worth, and life experience among others. Park and Folkman (1997) propose that the making of situational meaning is what occurs when an individual's global beliefs and goals interact with the specifics of a particular person-environment transaction which are defined by the processes of appraisal and coping. If a situation is evaluated as potentially stressful, then secondary appraisal occurs, which is where the individual evaluates if the potential harm can be altered, avoided or prevented (Park &Folkman, 1997), where to assign blame or credit, and what future expectations are. Potential actions or ways of coping are assessed, informed by past coping experience, personality, personal resources and presumably global meaning. Folkman and Lazarus (1980) described many types of coping behaviours, and suggested that they could be aggregated into two major categories of coping response: problem-focused coping (attempts to cope using more rational problem solving type approaches) or emotion-focused coping (emotional-oriented coping approaches) each of which are suitable in different kinds of situation. While the problem focused and emotion focused distinction has been popular in research, many argue that it is important to split coping into more distinct categories (many based it on Folkman and Lazarus' work) such as problem focused coping, seeking social support, blamed self, wishful thinking, and avoidance (Vitaliano, Russo, Carr, Maiuro & Becker, 1985) and action oriented coping, accommodation, positive thinking, seeking support, self-blame and defence (Falkum, Olff & Olaf, 1997).

Once possible coping methods are assessed and selected, then the final stage of the model occurs, where coping is implemented. Coping has been characterized as (Folkman

et al, 1986) "cognitive and behavioural efforts to manage (reduce, minimise, master, or tolerate) the internal and external demands of the person-environment transaction that is appraised as taxing or exceeding the person's resources". Robbins, Judge and Sanghi (2009), suggest that coping is the main method by which incongruence between global meaning and situational meaning is managed. A failure to cope successfully (from excessive demands or lack of resources) is likely to lead to stress and negative health and organizational outcomes (Chaudhry, 2012).

2.3 The conceptual framework

Independent Variables   **Dependent Variable**
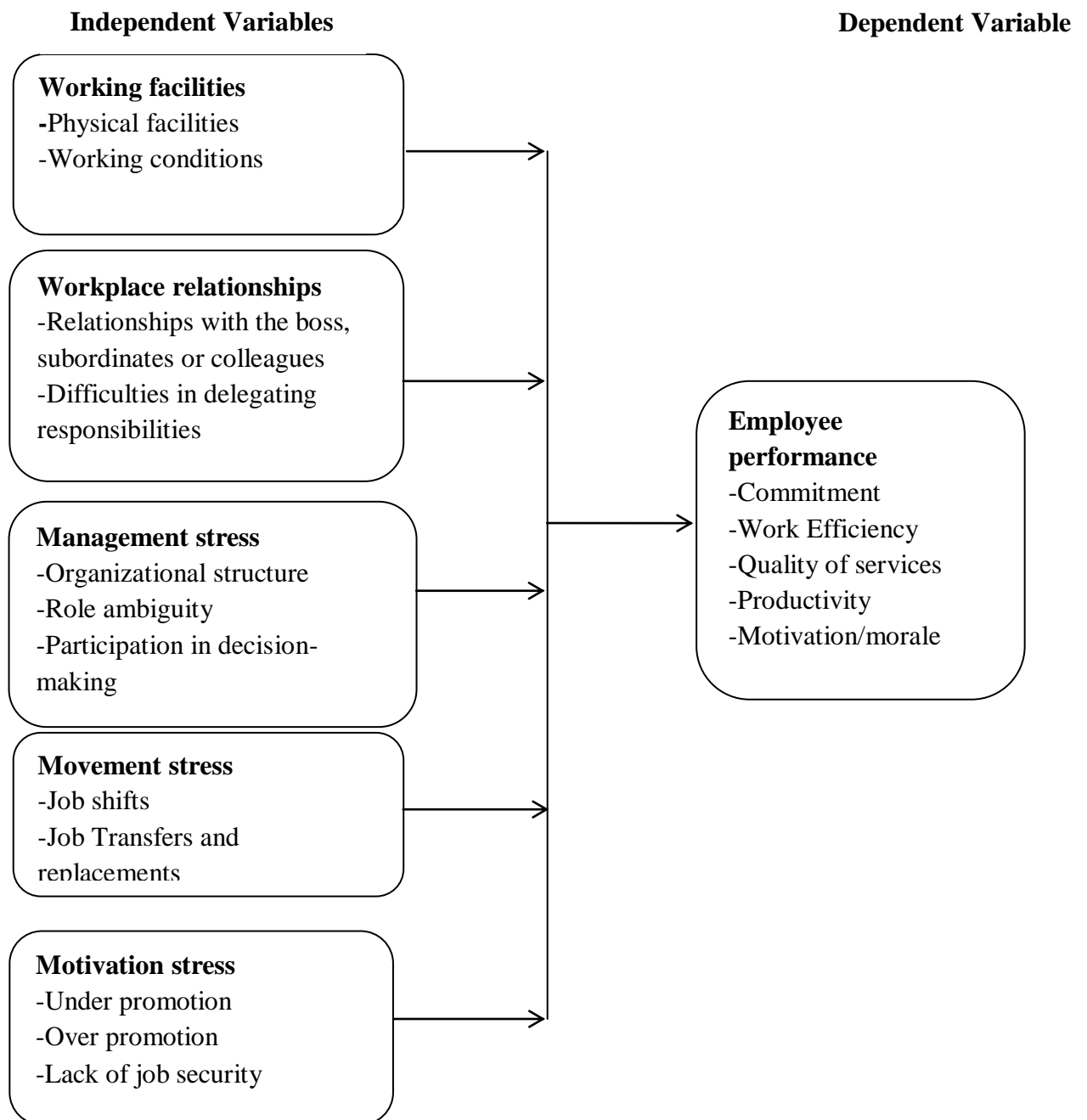
Figure 2.2. Conceptual framework

2.4 Review of the variables

Occupational stress is a product of a combination of interrelated variables that include, working facilities, workplace relationship, management, movement and motivation. The psychological and physiological response to these stressors determines the workers performance. Occupational stress, stressors and the measurement of the workers performance is discussed below.

2.4.1 Occupational Stress

The origin of the concept stress predates antiquity. Derived from the Latin word 'stringere', stress was popularly used in the seventeenth century to mean hardship, strain, adversity or affliction. It was used in the eighteenth century to denote force, pressure, strain or strong efforts with reference to an object or person (Kreitner & Kincki, 2007). The concept of stress is borrowed from natural sciences. Stress means different things to different people. From a lay person's perspective, stress can be described as feeling tensed, anxious or worried. Scientifically, these feelings are all manifestations of the stress experience, a complex programmed response to perceived threat that can have both negative and positive results (Ivancerich, Konapske & Matteson, 2006). Robbins *et al.*(2009) sums up stress as a physiological response of the body to any demand upon it.

Chaudhry (2012) describes stress as a condition arising from the interaction of people and their jobs and characterized by change within people that force them to deviate from their normal functioning. Owino *al*. (2007) defines stress as a dynamic condition in which an individual is confronted with an opportunity or demand related to what he or she desires and for which the outcome is perceived to be both uncertain and important. Nwadiani (2006) offers a compelling definition of stress and relates it to a response, meditated by individual characteristics and/or psychological processes that are a consequence of any external action, situation or event that places special physical and or

psychological demands upon a person. Similarly, Chang and Lu (2007) described stress as an adaptive response to a situation that is perceived as challenging or threatening to a person's wellbeing. Stress is a complex emotion that produces physiological changes to prepare us for 'fight or flight'. It consists of an individual's physical, social, spiritual, intellectual and environmental wellbeing. It takes into account lifestyles and circumstances beyond single events that may trigger a stress response. Stress has been considered as one of the major factors of poor workers performance in organizations (Brown & Uehara, 2008; Reskin, 2008). Sources of stress (stressors) in the employment organizations identified by Owino *al.* (2007) are work, role, personal development, interpersonal relations and organization's climate.

Physiological stress is accompanied by high blood pressure, digestive problems, ulcers, indigestion, palpitation, chest pain, skin disorder, muscle tension, headache, loss of appetite, restlessness, shut down of menstrual cycle, impairment of fertility among male and depletion of vitamin C, B and D in the body (Nwadiani, 2006). Chang and Lu (2007), while researching on stress emphasized on the toll it takes on the human body. The stress response shuts down the immune system which makes us more vulnerable to viral and bacterial infection. Chang and Lu (2007) further observe that cardiovascular disease is one of the most disturbing effects of stress in modern society and it's now among the leading causes of death. It continues to receive a lot of attention in medical sciences and this has led to the innovation of pacesetters that help regularize the functioning of the heart yet the determinants of stress have not been adequately addressed.

Psychological stress is accompanied by anger, anxiety, depression, nervousness, irritability, tension and boredom (Brown & Uehara, 2008). Reskin (2008) lists tension, irritability, boredom, anger, nervousness and procrastination as a manifestation of the psychological consequence of stress. Sultana (2012) also found that repeated release of stress hormones eventually produces hyperactivity in the brain and this can result to depression. A comprehensive survey of American workers concluded that a third of them experience job stress related depression. Depression is the seventh most common

cause of death in adults in America. Reskin (2008) while conducting research on the negative effects of stress found that workplace stress is negatively related to job satisfaction and corporate commitment. Studies conducted by Addae *et al*. (2008), revealed that anger as an outcome of stress led to negative consequences, such as sabotage of organizational activities (strikes) and hostility towards clients. These types of psychological problems as a result of stress consequently lead to poor job performance, lowered self-esteem, resentment of supervision, inability to concentrate and make decisions and low morale. These stress outcomes can have direct cost on the organizations. The national centres for disease control in the USA reported that psychological stress is the source of numerous job related insurance claims (Addae *et al*, 2008). Brown and Uehara (2008); Reskin (2008) have all predicted that if the number of stress related workers compensation claims continue to grow at the current rates, these claims will lead all other claims. This increase will be reflected in organization's increased expenditure on medical cover and may in turn affect the organization's effectiveness.

Behavioural stress may be symptomized in the behaviour such as overeating or under eating, loneliness, sleeplessness, absenteeism, alcohol consumption, increased smoking and drug abuse (Kumar, 2013). Basing his research on executives in India, Robbins *et al*. (2009) gives the following statistics: that 1 in 4 Indian executives suffer from obesity and 44% of the middle level executives report that job stress drives them to high level of alcohol consumption. Aggression towards colleagues, committing more errors than normal and taking longer over tasks are also behavioural consequences of stress. In utterly intolerable conditions, individuals may leave the organization (turnover) and seek work elsewhere or sink to despair at home. Stress is also a major cause of work-family conflicts especially due to recent trends of long working hours (Addae *et al*, 2008). The American institute of stress management estimates that one million people miss work daily as a result of stress (Robbins *et al*. 2009). Nwadiani (2006) reports that it costs $1.2 million a year to employ new personnel to make up for lost productivity as a result of absenteeism, alcoholism, substance abuse and turnover in the USA. Just as angered

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drivers have been known to express their negative reactions to others in dangerous ways, so too have workers been known to behave violently towards others when stressed out by long hours and difficult working conditions.

Further, stress can either have positive or negative effects to employee performance and productivity. Positive qualities are those in which the individual may feel more excited and agitated and perceive the situation positively as a form of challenge (Selye, 1987). Stress is also described as posing threat to the quality of work life as well as physical and psychological well-being (Brown & Uehara, 2008). A high level of occupational stress not only detrimentally influence the quality, productivity and creativity of the employees but also employees' health, well-being and morale (Le Fevre, Matheny & Kolt 2003). Job related stress tends to decrease general job satisfaction leading to physical reactions such as demonstrations and strikes.

Among life situations, the workplace stands out as a potentially important source of stress purely because of the amount of time spent on this setting (Erkutlu & Chafra, 2006). Over the years, a large number of workplace stressors of varying degrees of gravity have been identified. According to Dar *et al*. (2011), common organizational and individual stressors could be classified into five groups: The individual level of anxiety, level of neuroticism and tolerance for ambiguity; Intrinsic for job poor physical facilities, working conditions, work overload, time pressures etc.; Physical danger; Role in the organization, role ambiguity, role conflict, responsibility for people, conflicts over organizational boundaries; Career development: over promotion, under promotion, lack of job security and thwarted ambition; Relationships at workplace with the boss, subordinates or colleagues, difficulties in delegating responsibilities; Organizational structure, climate, little or no participation in decision-making, office politics and lack of effective consultation; and extra-organizational sources of stress, family problems, life crises, financial difficulties, organizational culture/ climate among others. When we add the complexity and turbulence of contemporary business environment and organizational life, altogether; causes of occupational stress can be grouped into two main groups: job

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related stressors; and individual related stress. Some stressors are identified as routine work stress, or those intrinsic to the job, some are related to the employee's role within the organization, some to interpersonal stress, some to career development and still others to work environment stress, or of the climate and organization at work place (Sultana, 2012).For the purpose of this study, the researcher wished to review the causes of stress under the following five areas selected:

2.4.2 Working facilities stress

Working facilities refers to workplace psychological and physical strain that arise due to lack of the basic systems and services that are necessary for your duties or roles in the organisations, for example buildings, transport, water, power supplies and administrative systems (Brown & Uehara, 2008). According to Le Fevre *et al*. (2003) occupational stress has been recognized as a major health issue for modern work organizations. Conditions of the workplace have been shown to lead to negative emotional reactions (e.g. anxiety), physical health problems in both the short term (e.g. headache or stomach distress) and the long term (cardiovascular disease) and counterproductive behaviours at work. Evidence is growing that enhanced control at work can be an important element in employee's health and wellbeing. This study established the state of facilities in the public universities and how the state of facilities contributed to stress in the university working environment. Most stressors can be found in the work environment and include unfavourable working conditions, heavy workloads, organizational problems, paucity of resources, lack of support and or autonomy, and decision making. The work environment can also include physical stressors such as task-related noise, crowding, the size of the work place and or the university, safety or youth violence, as well as administrative pressures such as support from managers and role ambiguity (Brown & Uehara, 2008).

Empirical studies indicated that factors like facilities and organisational resources; personal as well as job facilities and resources buffer the negative effects of stress on the

performance. A review of studies in past proved the relationship between the working facilities and the performance of employees. Bradley (2007) found out that when the employees are in control of the facilities they need for their jobs they will perform better since this control of resources necessary for their jobs buffers the effects of stress on the overall functioning of employees in Australian education institutions. He found that employees, who had more control on their psychological resources, were having better performance as compared to other employees (Bradley, 2007). Work facilities do not only include the physical resources but psychological resources as well. In support of the above findings, Chan (2003) found out that the employee's hardiness also have buffering effects on the stress in such a way that employees who have more psychological hardiness are in more better position to handle stress at work and they can perform well especially their performance is good during tough times, when the job demands are high.

Other employee working facilities and resources such as salaries, empowerment, autonomy, good physical conditions, self-efficacy, recognition, have effects job stress and performance. Betoret (2006) studied Spanish secondary school teachers and found that school physical resources and teachers self-efficacy had effects of stress on teachers, in such a way that the teachers' performance increased with increase in resources (Betoret, 2006). The performance of employees therefore is expected to increase with the presence of working facilities and vice versa. The working facilities act as instrumental and it boosts performance in such way that the employees will have the strength to handle the job demands and thus minimize the negative effects of stress on the performance (Addae, et al. 2008). This study therefore hypothesised that:

H_1: Workers facilities stress factors influence the performance of employees in public universities in Kenya

2.4.3 Management stress

Management stress refers to strain arising from the controlling, planning and coordination of roles and activities within the organisation (Dar, Akmal, Naseem & Khan, 2011). The management role of an organization is one of the aspects that affect work-related stress among workers (Robbins, *et al*., 2009). Workers in an organization can face occupational stress through the role stress that the management gave. Role stress means anything about an organizational role that produces adverse consequences for the individual (Dar *et al*. 2011). Management will give roles that contribute to workers stress. Roles related stress is concerned with how individuals perceive the expectations others have of them and includes role ambiguity and role conflict (Robbins *et al*., 2009).Office politics can be profoundly stressful for professional and white-collar workers (Larson, 2004). Working in a large, hierarchical, bureaucratic organization where employees have little control over their jobs can be very stressful. A supervisor's autocratic management style often results in high turnover, high absenteeism, and low morale among their subordinates (Chang & Lu, 2007). A lack of effective communication within an organization, excessive red tape, and seemingly end-less paperwork was very stressful for internal auditors (Vakola& Nikolaou, 2005; Brown & Uehara, 2008).

Beehr (1976) in his study on the relationship between subjective role ambiguity and role strain, found a relationship between management and stress and eventually the performance of the employees. Based on his findings, Beehr (1976) used a very general definition to role stress that considered it an organizational role that produces adverse consequences for the individual. From this definition, it follows that role stress, which arises from the management of the organisation, will lower the performance of the employees. Beehr (1976) concluded that role overload that leads to low performance among employees was viable and correlated positively with job stress. A study by Brown and Uehara (2008) found out that stress indicators related to role ambiguity in the study indicated low motivation to workers.

Chang and Lu (2007) identified stress arising from the management of the organisation as an increasingly important concern in both organizational research and practice. According to them, in an organisation where management leads to role strain, people with situational characteristics, especially autonomy, did not suffer as greatly from it. This study was based on a sample of 651 persons, including 213 from service departments of a hospital. The primary sources of stress cited by respondents included juggling multiple roles, having young children, time issues (too much work, too little time) and changing practice patterns. Another source of management stress frequently mentioned in the literature is work overload. Workload refers to the concentration of assignments at work: excessive work or work that is outside one's capability. It is one of the main causes of stress in employees. Robbins *et al*. (2009) found out that workload can lead to severe stress which can have insalubrious effect on the lives of employees, which can lead to reduced effectiveness, less inspiration and increase in non-appearance in office. However, Kolt (2003) postulates that the attitude of various employees is different towards workload. Some comfortably manage it at the work place while for some it becomes difficult to manage.

Role ambiguity is also part of the management stressors that can lead to poor performance at the workplace. Role ambiguity has stated the uncertainty that is to be expected when unclear role expectations due to lack of information about the role and the work it involves. Vakola and Nikolaou (2005) said that the employees are unaware about where to direct their struggles, where to add, furthermore, whether the supervisor will consider the performance results as a failure or a success. Role ambiguity can be defined as employees who don't have clear direction to the expectations of their roles in the organizations (Robbins *et al*., 2009). Role ambiguity arises when an employee is not clear about task and also not clear about the expectations related to that task, it is a generally accepted concept. Individuals have to face the problem of incomplete information about their duty. Therefore, it is difficult to provide training about a specific situation. This little information availability causes the uncertainty about expectations related to the particular role. If the role is not clear the situation will become very

stressful. Due to this the worker feels lack of control of that task and this generates greater stress in them. So the role ambiguity has also significant aspect to influence job stress.

Role conflict also arises from management and may lead to stress and lower employees' performance. Role conflict relates with mismatched role potentials. Conflicts are nothing except conceptual differences among the employees and higher authority related to tasks and activities and workplace. According to Vakola& Nikolaou (2005) stress causes conflict, the reporting to a number of supervisors against the individual's necessities. Robbins *et al*. (2009) describe role conflict as unsuitability in interconnected potentials that impose on apparent job performance. A distinctive role conflict situation arises when the requests of a customer and supervisor are mismatched. Bashir (2010) found out that there is positive and direct relation between job stress and role conflict. It arises when employees are challenged with inadequate task. Role conflict makes the employee incompatible to complete well his or her job task and this causes job stress. When a person is exposed to contradictory demands by his supervisor or his subordinate, the person feels stressed (Bashir, 2010). Performance is hindered by job description conflict because with it the individual faces either a lack of knowledge about the most effective behaviours to engage in or an almost impossible situation for doing everything expected (Dar *et al*. 2011). From the preceding discussions management characteristics such as role conflicts, role ambiguity and workload, may lead to stress which promotes low performance in organizations. This study therefore hypothesised that:

H_1: There is relationship between management stress factors and the performance of employees in public universities in Kenya

2.4.4 Workplace relationships stress

Workplace relationships stress arise out of the way in which two people, groups, organizations or departments behave towards each other or deal with each other (Bashir, 2010). Chaudhry (2012) observes that interpersonal relationships at work such as

conflicts with co-workers or abusive behaviour by supervisors cause stress in the work place. Akbar (2011) proposes that workers other than being workers are also parents and they bring with themselves to the workplace parent-related stress. Mothers generally reported more stress than fathers did. This study established types of relationships that existed in the public universities and the contributions they had to work place stress. Married professional women, especially those with children, are delegated a great share of the responsibility for managing the household, thus they experience greater stress and strain than married men (Kumar, 2013).

Kumar (2013) , postulates that poor relationships between the superiors and the workers contribute to the level of stress experienced by the workers. He found that the workers experienced more negative moods on the days when they had distressing interactions with their superiors and co-workers.

Social support is strongly associated with individual and organizational outcomes in the context of occupational stress (Choi *et al.*, 2008). A direct negative association is found between social supports and such threats to valued organizational outcomes as absenteeism, turnover, and job dissatisfaction (Bashir, 2010). Support from the work environment has been found to be an important factor that might reduce stress (Probst, 2010). Social support has been found to be both directly and indirectly related to increased well-being (Choi *et al.*, 2008). Workplace support improves employees wellbeing by reducing work-related adverse outcomes such as job dissatisfaction and worsened mental health (Probst, 2010).

Leadership in policing is considered an important success factor, since effective policing leaders give employees the sense that they can help them manage unpredictable events (Engel & Worden, 2003). In professions where employees must deal with other peoples' problems under time constraints, successful leaders mitigate the effects of work stress (Wicks, 2005), but ineffective leadership style can be an additional source of stress by failing to support employees (Engel & Worden, 2003). Characteristics of supervisors support are showing tolerance for employees who have difficulties with tasks, giving

credit for jobs well done, and providing incentives for employees to perform better. Even listening to employees complaints about workplace stress is an important step for supervisors to mitigate employees stress, since even though that does not change anything; it makes them feel better (Wicks, 2005).

The quality of workplace social support as perceived by employees is strongly related to burnout, (Brown & Uehara, 2008) and to job satisfaction (Vakola& Nikolaou, 2005). In police work, high levels of peer support and trust are a strong mediator buffering stress and burnout because officers feel that the only people who can understand the stresses of police work may be their co-workers. As shown in many studies, officers who perceive strong levels of peer support report low levels of stress (Morash *et al.*, 2006).Office politics can be profoundly stressful for professional and white-collar workers (Larson, 2004; Chang & Lu, 2007). Working in a large, hierarchical, bureaucratic organization where employees have little control over their jobs can be very stressful. A supervisor's autocratic management style often results in high turnover, high absenteeism, and low morale among their subordinates. A lack of effective communication within an organization, excessive red tape, and seemingly end-less paperwork was very stressful for internal auditors (Larson, 2004; Vakola& Nikolaou, 2005; Chang & Lu, 2007; Brown &Uehara, 2008). These findings postulate that work relationships stress factors such as office politics; support from both peers and supervisors and the management styles have effect on organisational performance as they lead to workplace stress. This study therefore hypothesised that:

H$_1$: Workplace relationships stress factors influence the performance of employees in public universities in Kenya

2.4.5 Movement stress

Movement is an act of moving from one place to another or moving something from one place to another. Noblet (2003) discusses chronic occupational stress and says that it is both a serious public health concern and a major impediment to organizational success.

In human terms, chronic job stress is associated with a range of physical responses for example sleep deprivation (insomnia), psychological for example depression, social for example interpersonal conflict , behavioural for example alcohol and drug abuse and health problems (Sultana, 2012). For organizations, occupational stress can contribute to a number of outcomes which are critical to organizational success, including absenteeism, labour turnover and job performance (Yagil, 1998). This study focused on the public universities mode of promotions, transfers and all the other factors related to workers movement. The human and economic costs of job stress strongly suggest that it is in everybody's interest, employees, employers and the community at large that steps be taken to build healthier and less stressful working environments (Noblet, 2003). Reskin (2008) found that shift works can lead to a variety of physical complaints; including sleep and gastro-intestinal problems and can also interfere with the family life.

Researchers also reported a significant association between work shift and stress in a study of nurses and occupational stress; nurses who worked rotating shifts were more stressed than nurses who worked fixed shifts. For example, in a study by Hamaideh *et al*. (2008) in Jordan found out that work shift was the best predictor of nurses' stress. Working evenings and nights leads to poor quality of sleep, resulting in drowsiness, fatigue, limited concentration, and errors resulting in stress. However, working on weekends and holidays creates stress for nurses because they often miss social or family activities. A study by Mohammadi, Halvani, Khalighi, Mehrparvar and Soltani (2013) on occupational stress with shift work in the agency drivers was based on the premise that, the role of occupational stressors in the creation of problems, diseases, physical and mental disabilities, and its costs especially in high standard and safety- sensitive jobs is obvious. The study found out that shift work is a factor which may increase job stress. Mohammadi *et al*.'s (2013) study was based on a historical cohort study of 267 urban taxi drivers who were selected by cluster sampling. It was found that in 76.8% of non-shift workers and 90.1% of shift workers, stress score was more than 140. Mean stress score was significantly higher among shift workers, and there was a significant relationship between mean stress score and shift work (P=0.021). Results showed that

shift work significantly affects job stress of drivers which may result to such outcomes as accidents and occupational diseases. So stress management may reduce these adverse effects.

Mohanraj and Manivannan (2013) carried out a study on the occupational stress among migrated workers in unorganised sectors. The study found out that migrated workers under large amounts of stress can become tired, sick and unable to concentrate or think clearly sometimes they even suffer mental break downs. In the present complex and competitive environment, stress level is increased both in the migrant workers and local workers. The stress reduces efficiency, productivity and profitability. Their study concluded that movement is a major cause of stress among employees and reduces their abilities to perform. Based on the preceding literature, this study therefore hypothesized that:

H_1: Movement stress factors have effect on the performance of employees in public universities in Kenya:

2.4.6 Motivation stress

Motivation involves the ability to make somebody want to do something especially something that involves hard work. Research has shown that having a say in what happens in the workplace helps employees to generate greater ownership over their work, to address or avoid stressful situations, and over all, to achieve higher levels of well-being (Noblet, 2003). Excessive time pressures and rigid working arrangements compound the difficulty associated with meeting family and educational commitments (Ramzan, 2012) and can place enormous strain on employees' relationships with their partners and children (Pabla, 2012). The stress 'salary not as good as other people doing similar work' is connected to two key expectations that employees have when they begin employment with an organization; that they will be treated fairly and that they will be recognized for the work they do (Giga, 2011). Policies and procedures that appear to discriminate unfairly between employees, or are perceived to value some employees

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more than others, breach these expectations and are a common source of dissatisfaction and resentment.

To get the best performance from employees, there needs to be some sort of motivation beyond the weekly pay cheque. Motivation can come in the form of financial incentives, the opportunity to get involved in company projects, a career path that leads to management and direct involvement from management into the daily tasks (Giga, 2011). Effective motivation can create a productive work force, but a lack of motivating factors can leave employees searching for reasons to give their maximum effort. Motivation of the workers at their jobs therefore demands that effective remuneration programmes are put in place to minimise stress. In light with this discussion, a research in 2006 explored that 45% organizations loose talented human resource because of unjustified remuneration. According to White 71% employees switch jobs because of inadequate pay (White, 2006). When employees think that they are not rewarded according to the efforts they are putting in; it creates stress among them and therefore their work performance decreases. Paying more can give a corporation talented and motivated employees but then it becomes one of the highest operating costs to the firm (Certo, 2003).

This study sought to address the perception of salary inequity in universities and ensure that employees feel they are fairly recognized and rewarded for their work. This research adequately addressed the question of motivation to clearly establish whether workers in the selected universities are properly motivated and whether lack of motivation could have been the cause of demonstrations and strikes in public universities in the recent past. This study therefore hypothesised that:

H_1: Motivation stress factors have effect on the performance of employees in public universities in Kenya.

2.4.7 Measurement of Employee Performance

According to a survey conducted by statistics Canada (Nnais, 2011), stress weakens the body's immune system. In fact, health care expenditures' are nearly 50% greater for workers who report high levels of stress. The American heart association also acknowledges a strong relationship between stress and heart disease; it shows how the body reacts to lifestyle of stress through an interview with the New York Times. The results of a Watson Wyatt survey conducted in 2002-2003, show how widespread this phenomenon is among Canadian organizations (Davey, *et al*. 2003). According to this survey entitled staying at work, psychological disorders are the main causes of short-term and long-term disability claims. Moreover, the average length of stress-related absences in the United States is four times higher than for absences resulting from workplace accidents and occupational diseases (Webster & Bergman, 2009). As a result, we can assume that the cost of absenteeism due to stress is correspondingly higher.

For Netherlands, Koningsreld *et al* (2004) calculated the costs of absenteeism and disability, which amounted to 12 billion Euros (NLo412 NU01). The largest costs related to work-related sick leave and disability, mainly caused by psychological and musculoskeletal disorders, each accounting for about 22% (3 billion Euros) of the total costs. Evidently, absenteeism and disability, due to psychological and musculoskeletal disorders, are a major problem in the Dutch society. In Germany, a considerable increase in absenteeism due to psychological disorders has been observed. Since 1994, absenteeism in this regard increased by 74.4%, while the number of days lost rose by 36.7%. Depression was one of the major causes accounting for 37% of all psychological disorders which were estimated to be 3 billion euros in 2001 (Fehlzeiten- Report 2003-in German).

Although absences related on mental health problems are, for the most part addressed in group wage-loss indemnity plans, the financial and human impacts of this type of problem can also be reflected in the number of claims that workers submit to the workers' compensation commission. Between 1990 and 1997, the number of claims accepted by the commission de la santé' et de la sécurité' du travail du Québec (CSST)

as work place injuries related to stress, burnout or other psychological factors almost doubled, jumping from 530 to 994 cases. The amount of payouts also increased from $ 1.5 million to $5.1 million annually (centre patronal de santé' et sécurité' du travail du Québec, 1999). This data clearly demonstrates the impact of stress on organizations. According to research by institute of Heart Math, "solution for stress 2009," employees who suffer from stress are more likely to be injured on the job or to cause others to be injured. Stress affects how people think and react making them more vulnerable to accidents and injuries.

Memic, a workplace safety consultancy in 2006 outlined 10 ways in which stress contributes to workplace accidents including increased tendency to rush, stiff muscle, poor concentration and decreased physical coordination. The company points out how stress triggers anti-social behaviours such as defensiveness and irritability. In managing employee stress and safety brochure, June 2009 Lee David emphasizes that "stress can also lead to a rebellious, defiant attitude of 'I'm going to do it my way', regardless of what you say!', because stress often makes people regress psychologically. In this regressed state, a normally responsible, reasonable adult can start responding like a rebellious teenager," says company literature. These kinds of attitudes lead people to ignore safety advice or warnings.

Other literature supports this claim. According to a literature review conducted by Dr. Lyle Miller, stress causes rigidity, loss of team perspective and decreased likelihood to help others (the business case for corporate stress assessment and intervention 2009). Thus, one employee's stress is not just a risk to his or her own health, but it is also a risk to the organization and the environment. Addae *et al.* (2008) found out that extreme or prolonged stress stifles creativity, limiting the ability to think flexibly and solve complex problems. During times of stress the body secrets cortisol which has a positive effect on memory and can lower our sensitivity to pain. It is a part of the body's protective flight-or-fight response. But too much cortisol can 'wreak havoc'. The authors argue that the hippo campus is the part of the brain associated with human memory, and it is studded

with cortisol receptors 'like cloves in a ham'. When stress is too severe or too prolonged, it 'disconnects neural works, stops the hippocampus from creating new neurons and even destroys brain cells'. Creative thought requires peace and clarity and therefore one literally can't think clearly when bombarded with/ by too much stress.

Bloona (2007) found out that 52% of employees considered looking for a new job, quit their job, declined a promotion or didn't seek advancement because of stress. Additionally, a study on workforce management surveying 13,000 employees at 946 midsize to large companies found out that almost 40% of employees cited stress as the primary reason for resigning from a job (Bruce, 2009). The employers in that study, rating the impact of stress on turnover, found it fifth behind issues of pay and career advancement, among other perceived causes. Studies that have investigated stress and job satisfaction have found inverse relationships between different work stressors and job satisfaction (Dua, 1994). A study by Larson (2004) revealed that four work stressors (i.e. demands of the job, patients' expectations, interruptions at home and work, administration practice and interference with family life) were predictive of job dissatisfaction and lack of mental wellbeing. Research among the doctors yielded the same four job stressors as significant predictors of high level of job dissatisfaction for both male and female. Other stressors included: time pressure, working unsocial hours, keeping up with changes, interruptions and demands from patients, working environment, lack of communication with colleagues, staff problems, lack of support at work, no appreciation at work, career development, failure to achieve the goals to mention but a few. All these stressors contributed to 46% male and 47% female job dissatisfaction.

Stress if not managed can lead to serious change in life style. Stress paradigm suggests that employee's alcohol abuse may be a response to the physical and psychological qualities of the work environment (Ramzan, 2012). Once a worker has been psychologically disturbed, they tend to lose their self-worth. In a bid to compensate the void within them, workers' behaviour changes causing an involvement in substance

abuse and bad spending habit (Trice & Sonnenstuli, 2010).Family and work are interrelated and interdependent to the extent that experiences in one area affect the quality of life in the other (Sultana, 2012). Homework interface can be known as the overlap between work and home; the two way relationship involves the source of stress at work affecting home and vice versa effects at work affecting home life; demands from work at home, no support from home, absence of stability in home life, Sultana (2012), therefore found that home problems brought to work and work problems taken home affects negatively the productivity/ performance of the employee both at home and at the workplace (Alexandros –Stamatios, Davidson & Cooper, 2003).According to Landa, López-Zafra, Martos, Aguilar-Luzón,(2008) demands associated with family and finances can be a major source of "extra-organizational" stress that can complicate, or even precipitate, work-place stress. Vitaliano*et al*. (1985) argued that the occurrence of stressors in the workplace either immediately following a period of chronic stress at home, or in conjunction with other major life stressors, is likely to have a marked impact on the organizations or company's productivity/ performance.

2.5 Empirical Studies carried on the causes and effects of Stress

The literature indicates that there is a relationship between age, gender, marital status, educational level, position, length of service and working experience with occupational stress(Landa *et al*. 2008; Lu, Siu & Cooper, 2005) but the results of a study that was conducted on urban police officers in the USA, showed that dynamic factors such as work environment and coping mechanisms, contributed more to explain variance of police stress than static factors such as race and gender (He, Zhao & Ren, 2005).In several studies income, heavy workload, lack of workspace, lack of resources (including equipment and material to do tasks), absence of proper company procedures, insufficient time to perform duties, meeting deadlines imposed by others, have been introduced as stressors related to work environment (Botha & Pienaar, 2006). In other studies external accountability, responsibility, work relationships, insufficient consultation, communication, inadequate feedback on performance and organizational changes have

been introduced as sources of occupational stress (Sveinsdottir, Biering & Alfons, 2006).

According to Beehr, (2005) work overloads and time constraints were significant contributors to work stress among community nurses. Workload stress can be defined as reluctance to come to work and a feeling of constant pressure(i.e. no effort is enough) accompanied by the general physiological, psychological, and behavioural stress symptoms(Larson, 2004).Al-Aameri (2003) has mentioned in his studies that one of the six causes of occupational stress is pressure originating from workload. Alexandros-Stamatios, *et al*. (2003) also argued that "factors intrinsic to the job" means workload, variety of tasks and rates of pay. Grwywacz (2004) conducted a research on stress and education level among 1031 workers. He found out that less educated people suffer few stressful days but when they suffer stress it's more severe and had a large impact on their health. Combs (2004) on the other hand, conducted a research on marital status and stress among 300 workers and found that married couples reported more stress than their single counter parts.

Karatepe, Babakus and Yavas (2012) conducted a research on role stress, emotional exhaustion and turnover on frontline hotel employees in Cyprus. The results showed that the positive effect of role conflict and emotional exhaustion on turnover intentions was weaker among the frontline employees with longer tenure. Cavanaugh *et al* (2010) also conducted a research on role conflict and personality among managers .They found that individuals with type B personality managed conflict better and were better off at managing large organizations. Philips Campbell and Morrison (2010) conducted a research on satisfaction, stress and spousal support among 242 married veterans. Both genders reported that income and time required for work was the greatest dissatisfaction .Males reported more spousal support on their careers. They proposed a study on the interactive effect among combination of stressors that are commonly found in the world of work. No differences were found between the genders on the effect of work related stress.

Sultana (2012) carried out a study on the nature and impact of teacher stress in the private schools of Gilgit-Baltistan in Pakistan. Analysis of the findings of the study resulted in categorizing them into three groups: personal stress, professional stress and financial stress. However, the impact of each one of the three groups of teacher stress (i.e. personal, professional and financial) was different for different teachers. It looked like some teachers felt more stressed because of a variety of personal and domestic factors, whereas other teachers felt more constrained because of financial issues. Furthermore, the data analysis also highlighted the sources of teacher stress, which could be easily identified as the "inside-school" and the "outside-school" sources of stress. The various findings related to each one of the two categories are revealing as they show the significance and degree of enormity of stress factors related to these groups.

Blomme, Rheede and Tromp (2010) conducted a research on work life programmes and firm productivity among 658 US organizations. It was fully established that organizations that had extensive work life programmes enjoyed productivity benefits .They suggested further research that takes into accounts other organizational variables such as job satisfaction and organizational commitment. Deaconu (2011) conducted a research on stress management and performance among 180 sales people. He established that Bio feedback and counselling enhanced performance of sales personnel. Barnett (2004) conducted a research on work hours and stress outcomes among 211 dual income earner couples with children. He found that long hours of work had an effect on marital quality, psychological distress and work- family conflict. He proposed further research on the linkages both individually and within couples between long working hours and health behaviours such as regular exercises, routine medical checkups and healthy eating.

In Kenya a lot of research on causes of workers stress in educational institutions had focused on teachers. Gathungu and Wachira (2013) carried out a study on the job satisfaction factors that influence the performance of secondary school principals in their administrative functions in Mombasa district, Kenya. They found out that the

determinants of stress include job satisfaction, job enhancement, team work, promotion, cooperation, mentoring and training needs, the development, management and recognition of success. Yambo, Kindiki and Tuitoek (2012) focused on investigating high school principals' stress in relation to their job experience in schools in Southern Nyanza Region of Kenya. They found out that the sources of stress: Role Based, Task Based, Conflict Mediating and Boundary Spanning had a correlation and dependable relationship with High School Principals' job Experience in schools.

Mairura (2009) conducted a research on counselling, self-esteem and stress among 130 teenagers in Nairobi day schools .He found that counselling was effective in managing stress experienced by teenagers and raised their self-esteem. He suggested further research on the same area, expanding the approach to include a larger or more representative sample. Obwogi (2011) conducted a research on the factors that affect quality of teaching staff in universities in Kenya supplementing Ngoma's research in 2010 on the massive growth of university education in East Africa and the challenges facing the sector from 2000 to 2011. From both studies it's clear that something is not right among the university workers and something needs to be urgently done even as the work load increases in the public universities.

In response to the issue of universities workers problems, Muceke (2012) observed that most of the studies on academic staff retention were based on the corporate sector. There was only one from the public universities done by Tettey in 2009. Muceke (2012) noted the problem of academic staff retention in Kenyan public universities is a pertinent issue and it is expected to be worse with the double intake in 2011/2012 academic year. Musyoka, Ogutu and Awino (2013) in their research on the role of stress management in reducing stress and enhancing corporate performance concluded that the Government of Kenya is responsible for all workers through the ministry of labour. It has the duty to set regulations on minimum pay, health and safety of workers among others. They suggest that FKE and COTU should come-up with regulations that will prevent or manage stress. They further suggest that Human Resources Manager who works in these

corporations must be able to handle traumatic incidents, mediate conflict situations at work and organize for drug-alcohol abuse programmes for the staff. Getting in touch with employees brings the important aspect of social support which helps employees improve their perception and realize that they are valued, and in turn enhances their self-esteem and confidence at the work place. This translates to higher job performance among employees and is reflected by improvement of the measures of corporate performance such as customer satisfaction, employee creativity, productivity, higher market share and profitability. Critical to organizations supportive culture is sensitizing supervisors to be sympathetic to employees desire to seek balance between work and family needs. Finally managers should organize seminars for employees to educate them on time management, financial management, team work enhancing programmes and healthy living seminars in order to manage their own stress.

2.6 Critique of the existing literature

In the literature review, a lot has been done in the west to address stress. Indeed, stress management is identified as a key factor in productivity and performance of organizations. But in Africa and particularly in Kenya, very little is done in this area and the workers' reaction of strikes and demonstrations don't seem to be related to stress. The literatures on factors that cause stress among workers in higher education institutions majorly focus on the factors that affect the teaching staff. The other staff members in higher education institutions such as managers, administrators, counsellors and support staff have been neglected. The success of any educational institutions depends heavily on the success of the support staff. The factors affecting their working conditions and behaviour such as stress should therefore be addressed effectively and conclusively.

2.7 Research Gaps

In most of the public universities in Kenya, students' counsellors are employed to mitigate the counselling needs of students. As found by Mairura (2009), counselling was

effective in managing stress experienced by teenagers and raised their self-esteem, thus improving their performance. Whereas this is a positive step forward, this research wished to find out how the other stakeholders' stressors are addressed in the public universities in Kenya. As established by many researchers for example Sayeed (2001), Deaconu (2011), Barnett (2004) etc, stress management positively contribute to the performance of organizations. In this research, the researcher wished to establish the determinants of stress in public Universities in Kenya, how stress affects performance and what the Universities have been doing to mitigate the stressors in the public Universities. Studies on the determinants of stress have focused on one particular determinant at a time this therefore has left a gap of knowledge on the relationship between the specific determinants of stress. Since there are such gaps, dealing with workers stress completely has not been easy because the factors causing such stress is not addressed completely by the studies (Yambo, *et al*., 2012). This study therefore aimed at identifying all the determinants of stress, showing the relationship between such stressors and identifying coping strategies to manage such stressors.

2.8 Summary

There are many theoretical frameworks used in the emerging field of occupational stress determinants and its effects on employee performance with no single one agreed upon so far. Stress is a multifaceted concept and therefore is explained by several theories. This study therefore, combined several theories including the relational theory, homeostasis theory, Welford's performance and demand theory and the Hertzberg's two-factor theory. Further the drive model was employed to anchor the study since it explains the variables to be assessed in this study. The theories were combined to eliminate the limitations in scope of employing one theory and also to triangulate the theories.

Review of the literature on the determinants of stress and their relationship with stress identified the following factors: Working facilities (Physical facilities and working conditions); Workplace relationships (such as, relationships with the boss, subordinates or colleagues and difficulties in delegating responsibilities); Management (involving,

organizational structure, role ambiguity and participation in decision-making); Movement (such as, job shifts and job transfers and replacements); and, Motivation (such as, under promotion, over promotion and lack of job security).While the literature review has enabled the researcher hypothesise of the stress determinants and their contribution to employee performance, the results from these literatures are insufficient to draw any conclusion in the context of public universities in Kenya. This is because the literature involves studies that were not carried in the context of public universities in Kenya. Additionally, the studies focussed on one variable at a time. There are very few studies that combined the determinants of stress while none comprehensively addressed all the determinants of stress and their effects on performance. This study therefore aims to fill this gap of information by holistically assessing the determinants of stress in public universities and their effects on the performance of employees.

In summary, the literature review has addressed the specific factors that are related with workers stress, and the relationship between the individual factors and the workers stress. This culminated in the development of a conceptual framework that shows the relationship between the stressors in form of a diagram. The study also identified the short comings inherent in the literature review and the research gaps that this study seeks to address. The next chapter discussed the methodology that was employed in the study.

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

This Chapter comprises of the research design, the target population, the sampling techniques and sample size, the data collection methods; as well as the data processing and data analysis techniques.

3.2 Research design

The purpose of this study was both exploratory and descriptive. Creswell (2014) argues that a flexible research design which provides opportunity for considering many different aspects of a problem is considered if the purpose of the research study is that of exploration. When the purpose happens to be an accurate description of a situation or of an association between variables, the suitable design will be one that minimizes bias and maximizes the reliability of the data collected and analyzed (Kothari, 2004). Given this advice and the nature of this study, a non-experimental hypothesis testing design was adopted as most appropriate for this study. The study sought personal views, opinions, attitudes, and perceptions about causes of workers stress and their effect on the performance of the public universities which could be subjected to experimental design (Silverman, 2013).

The research design used for the study was a cross-sectional evaluation survey. This study collected information from workers in selected universities in Kenya thus making a survey effective in executing the research. An evaluation on the other hand involves the study of an organizational change, curriculum or innovation (Robert, 2002), which involved the evaluation of workers stress causative factors in public universities. However, the survey was cross-sectional survey since the data was collected at one particular time across the selected universities (Schurink, 2009). This research design was applied by the use of both suitable qualitative and quantitative research methods.

Quantitative research makes use of questionnaires, surveys and experiments to gather data that is revised and tabulated in numbers, which allows the data to be characterized by the use of statistical analysis (Denzin & Lincoln, 2005). Quantitative researches measure variables on a sample of subjects and express the relationship between variables using effect statistics such as correlations, relative frequencies, or differences between means; their focus is to a large extent on the testing of theory. The study intended to establish the causes of workers stress and coping strategies which was collected using questionnaires. The factors were tabulated in the questionnaires and expressed using relative frequencies. On the other hand, Creswell (2014) points out that there are several common characteristics of qualitative research, which includes: the data is collected in the field at the natural setting; researcher is a key instrument and they also use multiple forms of data collection such as interviews, observations, and documents rather rely on a single data source. This study employed qualitative research while generating data from specific participants on determinants and effects of stress on performance and their coping strategies using interviews.

3.3 Target population

The target population refers to the subjects who posses attributes which the researcher wishes to study and a universe of units from which the sample is to be drawn Devos (2000). Bless and Higson-Smith (1995), define a target population as a set of elements on which the researcher focuses and from which the results obtained by testing the sample can be generalized.

The target population for this study was the staff of three selected public universities in Kenya. This included Jomo Kenyatta University of Agriculture and Technology, University of Nairobi, and Kenyatta University. The three universities were selected because they are among the top performing universities that have been characterised by fluctuating employee performance and low levels of employee retention. This refers to the individual workers; in all levels of employment, at the selected higher institutions as well as representatives from the staff welfare department and the institutions'

administration in charge of human resources. Various departmental heads are also targeted as their responsibilities from time to time involve human resources management. This gave a total target population of 12,805 workers from the three selected public universities as shown on table3.1 below.

3.4 Sampling Frame

A Sampling frame is a list, directory or index of cases from which a sample can be selected (Mugenda & Mugenda, 2003). The sampling frame of the study was the list of all the academic staff; the administrative staff; and the operative staff in the selected public universities (KU, UoN and JKUAT) obtained from Human Resource Data.

Table 3.1: Population of Workers in the Selected Public Universities

Selected public universities	University workers population
Jomo Kenyatta University of Agriculture and Technology	**2,131**
University of Nairobi	**4,874**
Kenyatta University	**5,800**
TOTAL	**12,805**

Source :(KUSU, 2014)

3.4 Sampling technique and sample size

Cluster sampling technique was employed for the survey. The cluster sampling design involves the dividing of the population into mutually exclusive groups and then drawing random samples from each group to interview (Kumar, 2005). This was necessary so as to ensure that the samples selected from each group are represented in the entire sample, which was selected for the study, in proportion to their numbers in the entire targeted population. The Fishers formula was used to determine the appropriate sample size of this study. This was because the target population consists of a large number of units (public university workers) (Yates, 2004). The researcher assumed 95% desired level of

confidence, which is equivalent to standardized normal deviate value of 1.96, and an acceptable margin of error of 5% (standard value of 0.05).

$$n = Z^2pq/d^2$$

Where:

        n = the desired sample size (if target population is large)

        z = the standard normal deviate at the required confidence level.

        P = the proportion in the target population estimated to have characteristic being measured.

        q = 1-p

        d = the level of statistical significance set.

Assuming 50% of the population have the characteristics being measured, q=1-0.3

Assuming we desire accuracy at 0.05 level. The Z-statistic is 1.96 at this level

Therefore n= $(1.96)^2(.5)$ $(.5)/(.05)^2$ =384

The administration of universities is guided by the following categories: The academic staff; the administrative staff; and the operative staff, with heterogeneous characteristics in terms of employee work related stress across the categories. The targeted respondents from the selected public universities were therefore categorized into these three groups. The cluster samples from the three selected universities were composed of respondent workers as shown on table 3.2.

Table 3.2: Composition of the Cluster Samples

Selected Public Universities	Academic staff		Administrative staff		Operative staff		Total Respondents	
	Actual	Cluster	Actual	Cluster	Actual	Cluster	Actual	Cluster
JKUAT	702	**21**	923	**28**	506	**15**	2,131	**64**
University of Nairobi	1,411	**42**	1,647	**49**	1,816	**55**	4,874	**146**
Kenyatta University	900	**27**	1,700	**51**	3,200	**96**	5,800	**174**
GRAND TOTAL	3,013	**90**	4270	**128**	5,522	**166**	12,805	**384**

3.6 Data collection methods

The data collection tools used for the study were a questionnaire and interview guides to obtain data from primary sources and a document review and analysis for secondary sources. These tools were selected after carefully considering the nature of the data to be collected, the target population, the time frame and the objectives/ research questions of the study.

a)   **Interviews**

Interviews were important in situations where we cannot observe behaviour or when we do not know how participants experience their world (Cohen *et al.*, 2007). Face-to-face interviews allowed the researcher an opportunity to explore the meaning participants attach to their experiences (Richards, 2003) in causes of their stress and how they are coping with such stress situations. Face-to-face interview as well allowed the researcher to observe non-verbal cues and appropriately react or modify his inquiry in response to non-verbal cues (Yin, 2003) of participants particularly when they elicit confusion, uncertainty, or waning motivation. The interviews were based on a prepared set of questions but these were only used as a guide. The research took the same position as Silverman (2013), that in qualitative study, questions are only used as a guide and departures from the guidelines are not seen as a problem but are often encouraged. The interview guide involved the interviews of some key informants from the selected institutions of higher learning who are in one way or another involved in the welfare of the workers.

b)   **Questionnaires**

Questionnaire has the advantage of being taken to a wider audience compared to interviews, but has a disadvantage of not being possible to customize it to individuals as it is possible with other methods of data collection. The questionnaire was the main data collection tool and it contained both open ended and closed ended questions. This study used two questionnaires that included: Self-evaluation of the determinants of workers' stress (Appendix 1) which was taken by participants in the pilot as well as the actual

study to investigate the causes and effects of occupational stress among university workers; this questionnaire also attempted to determine their attitude towards such factors; and Self-evaluation of the effects of the stress factors on their performance and coping strategies employed by the workers in dealing with their stress and stressful situation, was taken by the participants during the actual study.

3.7 Data collection procedures

Primary data was gathered using interview guides and questionnaires which were self-administered. Cooper and Schindler (2004) state that self-administered interviews help to reach a large number of potential respondents in different locations. The questionnaires also helped to collect data from a large population of respondents at a short period of time. The questionnaire and interview schedule were used to obtain both qualitative and quantitative data from the targeted respondents. Primary data collection was conducted by research assistants and the researcher because of the different locations of institutions of higher learning. The data was collected over a period of one month to be able to meet the requirements of a cross-sectional survey. Secondary data was obtained from literature review and documents about workers stress in institutions of higher learning.

The questionnaires with open ended questions on workers stress in public universities in Kenya were administered to selected workers representatives within the selected public universities in Kenya. This informed the second phase of data generation. The second phase involved: a) administering questionnaires to the respondents who included university workers in the selected public universities; and b) conducting interviews with some key informants from the selected institutions of higher learning who are in one way or another involved in the welfare of the workers by use of interview guides. The questionnaires and the interview guides contained questions on the major issues raised in first phase.

3.8 Pilot test

Kombo and Tromp (2006) posit that after constructing a research instrument or questionnaire the researcher should try it out on a small sample of the population. This way of pre-testing or piloting of the instrument enables the researcher to ensure that the questions measure what they are supposed to; that the wording is very clear and unambiguous; that the questions provoke the intended responses and the researcher was able to analyze and know whether the questions posed are skewed towards certain issues more than others. The questionnaire was pretested before its administration to ensure validity and reliability of the data to be collected.

3.8.1 Validity

Validity indicates the degree to which an instrument measures what it is supposed to measure; the accuracy, soundness and effectiveness with which an instrument measures what it is intended to measure (Orodho, 2005) or the degree to which results obtained from the analysis of the data actually represent the phenomena under study (Mugenda & Mugenda, 2007). Validity was determined by the use of face validity and content validity. Face validity tests if the questions appear to be measuring the intended sections. On the other hand, content validity tests whether all the important aspects of the sections are measured. This was done by first testing the instruments on 10% of the target population (approximately 38 respondents) and reviewing the findings.

3.8.2 Reliability

Reliability is a measure of the degree to which a research instrument yields consistent results after repeated trials (Mugenda & Mugenda, 2007). Reliability of the responses was tested using the Cronbach alpha. Normally, α should be between $0.7 - 0.9$ (Santos, 1999).

3.9 Data processing and analysis

3.9.1 Data Analysis

Data processing operations carried out included data editing/ cleaning and classification. Data editing/ cleaning is the examination of the collected data so as to detect omissions and errors and to correct them whenever possible. Data classification is the arranging of the collected data in classes or groups with common characteristics. The similar data was then tabulated before further analysis is conducted. The tabulated data was then analyzed using both qualitative and quantitative techniques. Descriptive statistics was used for the analysis of the collected data, and this included parameters such as measures of central tendencies and the measure of dispersion. Inferential data analysis techniques such as regression and correlation analysis were also used to analyze the collected data. These parameters were used to determine and evaluate the relationships of the variables being measured. Data analysis and presentation of findings was carried out using statistical software which includes SPSS version 24 and Microsoft Excel. These software aided in the generation of suitable graphs, charts and tables which were used in drawing conclusions as well as presenting the research findings.

Regression is an important approach to modelling the relationship between the dependent variable (y) and one or more independent variable (x). A regression equation describes how the mean value of a response variable relates to specific values of the predictor variables (Bhattacharyya, 2011). The study used logistic regression analysis to test the statistical significance of the independent variables on the dependent variables. Logistic regression is used to refer specifically to the problem in which the dependent variable is binary, that is, the number of available categories is two (Hosmer and Stanley, 2000). The probabilities describing the possible outcomes of a single trial were modelled, as a function of the explanatory variables, using a logistic function (Hosmer & Stanley, 2000). Logistic regression was therefore used to measure the relationship between the categorical dependent variable and the independent variables by using probability scores as the predicted values of the dependent variable (Agresti, 2002).

The study used Binomial logistic regression. Binomial logistic regression refers to the instance in which the observed outcome can have only two possible types (Greene, 2003). The outcomes were coded as "0" and "1", as this lead to the most straightforward interpretation. The target group, the workers whose performance is affected (referred to as a "case") were coded as "1" and the reference group, workers whose performance is not affected (referred to as a "non-case") was coded as "0". Logistic regression was used for predicting binary outcomes rather than continuous outcomes. It takes natural logarithm off the odds (logit or log-odds) to create a continuous criterion. The logit of success was then fitted to the predictors using regression analysis (Howell, 2010). The results of the logit were converted back to the odds via the inverse of the natural logarithm. Although the observed variables in logistic regression are categorical, the predicted scores were modelled as a continuous variable (the logit). The logit is referred to as the *link function* in logistic regression – although the output in logistic regression is binomial and displayed in contingency table, the logit is an underlying continuous criterion upon which linear regression was conducted (Howell, 2010).

Faraway (2002), states that regression analysis is a statistical tool for the investigation of relationships between variables. Regression methods have become an integral component of any data analysis concerned with describing the relationship between a response variable and explanatory variables (Hosmer & Stanley, 2000).The logistic regression equations for performance of workers being affected was expressed as follows:

$$Y= β0+β1X1+β2X2+β3X3+β4X4+β5X5+e \quad\quad\quad (3.1)$$

Where; Y   =   Performance of workers being affected.

       $β_0$ =   Is the constant or coefficient of intercept.

       X_1 =   Working facilities stress.

       X_2 =   Workplace relationships stress.

       X_3 =   Management stress.

       X_4 =   Movement stress.

       X_5 =   Motivation stress.

   $β_1...β_4$ =   The corresponding coefficients for the respective independent variables.

       $β_5$ =   Corresponding coefficients for the moderating variable.

Regression analysis was used by Gathungu and Wachira (2013) who studied the job satisfaction factors that influence the performance of secondary school principals in their administrative functions in Mombasa district, and Obwogi (2011) who studied the factors that affect quality of teaching staff in universities in Kenya.

3.9.2 Measurement of Variables

3.9.2.1 Measurement of Independent Variables

The study was guided by five independent variables; Working facilities stress, Workplace relationships, Management stress, Movement stress and Motivation stress. Working facilities stress was measured by evaluating respondent's opinions on the contribution of the physical facilities available on their environment and the working conditions on their workplace stress. Workplace relationships stress was measured by assessing the contribution of the relationships with the boss, subordinates or colleagues and difficulties in delegating responsibilities among the workers. Their opinions were measured in a likert scale containing statements that indicate the contribution of relationships to workers' stress. Management stress was measured based on the

respondents' opinion on the contribution of organizational structure, ambiguity of roles, and participation in decision-making on workers' stress.

Movement stress was measured by determining the respondents' opinion on the contribution of job shifts, job transfers and replacements on workers stress while motivation stress was measured by assessing the contribution of under promotion, over promotion and Lack of job security on the stress of the workers.

3.9.2.1Measurement of Dependent Variable

The dependent variable for the study was the performance of the selected public university workers. The workers performance was measured by assessing the physiological and psychological responses that are attributed to exposure to a stress factor.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents the raw data of the research findings and discusses the findings. Univariate and multivariate statistical measures were both employed in analysis of the data. The study was guided by five objectives including; To determine the effect of working facilities stress factors on the performance of employees in public universities in Kenya; To identify the influence of workplace relationship stress factors on the performance of employees in public universities in Kenya; To establish the effects of management stress factors on the performance of employees in public universities in Kenya; To find out the effect of motivation stress factors on the performance of employees in public universities in Kenya and To assess the influence of movement stress factors on the performance of employees in public universities in Kenya. The first part of this chapter deal with demographic characteristics of the sampled respondents while the second part presents the results for each objective.

4.2 Demographic characteristics of the respondents

The figure 4.1 shows the gender per university. In total there are more female respondents with a prevalence of 56% than male respondents who formed 44% of the sample. JKUAT had 47 % male respondents and 53% female. This indicates that generally there were more female respondents in JKUAT for the study. University of Nairobi had 44% male respondents and 56% female respondents while Kenyatta University had 44% male respondents and 56% female. The results of the findings show that generally universities were gender sensitive in employment since the disparity was not very wide between the male and the female. The proportion of women employment in the public universities has met the threshold stipulated by the Kenya constitution 2010 that advocates in chapter 7 section 81 (b) " not more than two-thirds of members of

elective public bodies shall be of the same gender."
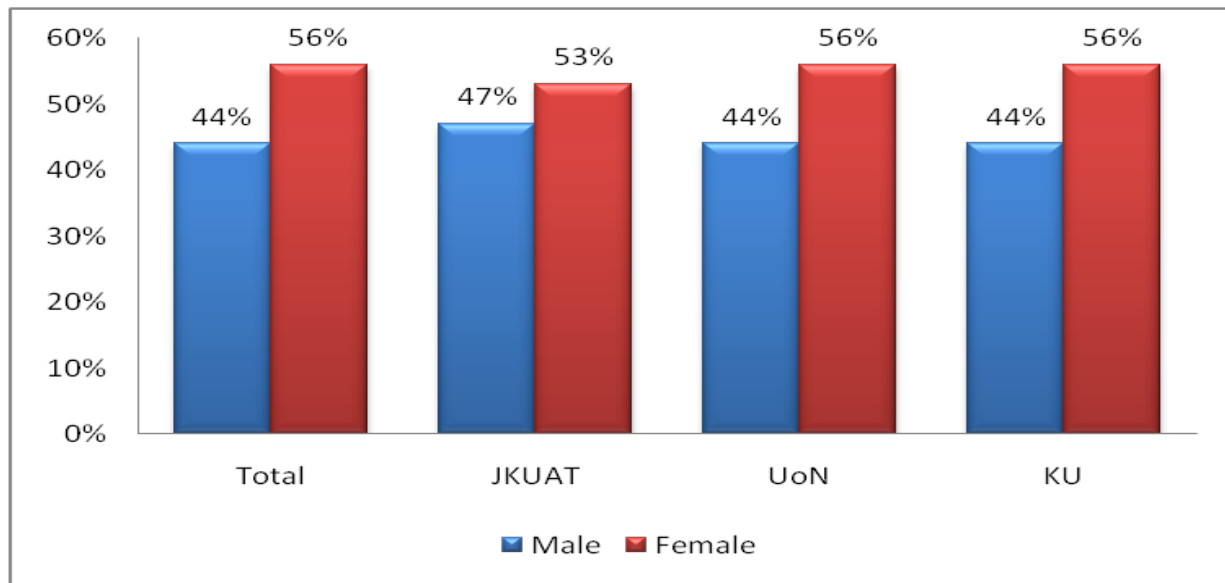
Figure 4.1: Respondents Gender

The ages of the respondents per university show that in general most of the respondents were above 45 years of age with minority (4%) being below 25 years. JKUAT had about a third of the employees less than 30 years, with about a quarter (26%) above 45 years. University of Nairobi had employees less than 30 years being about 24%, and above 45 years being 34%. KU had employees less than 30 years about 29%, 30-34 years 13%, 35-39 years about 21%, 40-44 years 6% and over 45 years about 30%. Therefore the highest number of employees in all the universities sampled fall under 45 years. The study findings show that the public universities have all age groups represented among its employees.
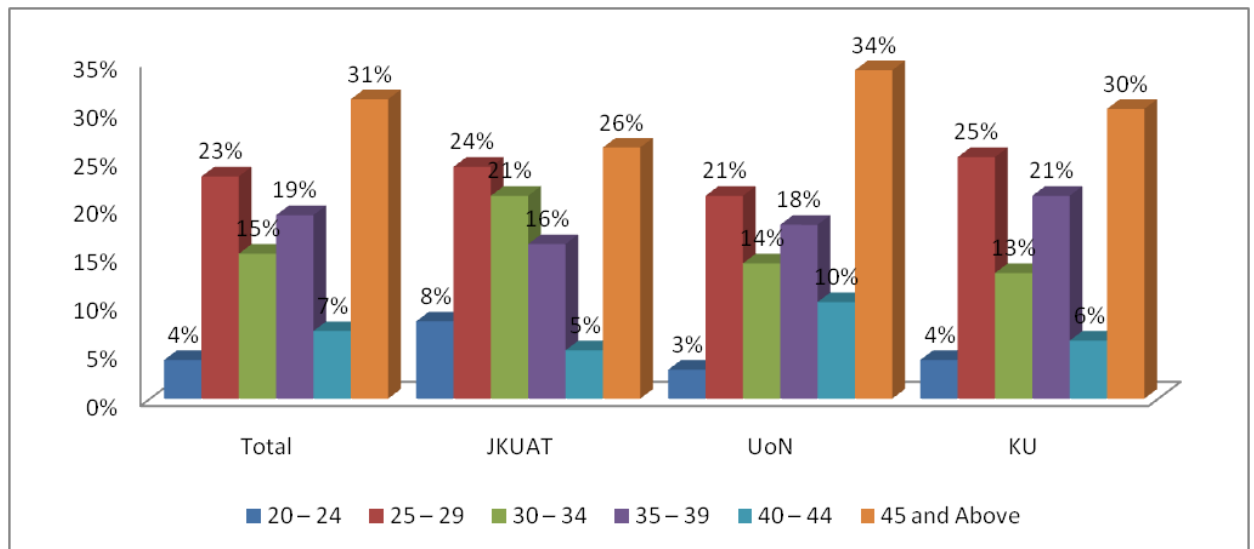
Figure 4.2: Respondents Age

The level of education for the employees in the university was also sought in the questionnaires. Overall results showed that almost a third (30%) of the study participants had masters' degree. JKUAT findings indicated that primary certificate holders were about 5%, secondary level certificate holders were about 6%, middle level college certificate holders were about 31%, university first degree holders were about 32% and 24% had masters degree. Therefore the highest numbers of employees in JKUAT were university graduates. University of Nairobi had 8% primary certificate holders, 13% secondary certificate holders, 28% middle college certificate holders, university first degree holders were about 18% and 32% had masters degree. Therefore the highest numbers of staff were university post graduates at Nairobi University. KU had 8% primary certificate holders, 12% secondary certificate holders, 34% middle level college certificate holders, university first degree holders were about 17% and 30% had masters degree. This also showed that the highest number of employees in KU were university post graduates.

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	Total	JKUAT	UoN	KU
■ Primary	7%	5%	8%	8%
■ Secondary	11%	6%	13%	12%
■ Certificate	12%	8%	13%	13%
■ Diploma	19%	23%	15%	21%
■ Undergraduate	20%	32%	18%	17%
■ Masters	30%	24%	32%	30%
■ None	1%	2%	1%	0%
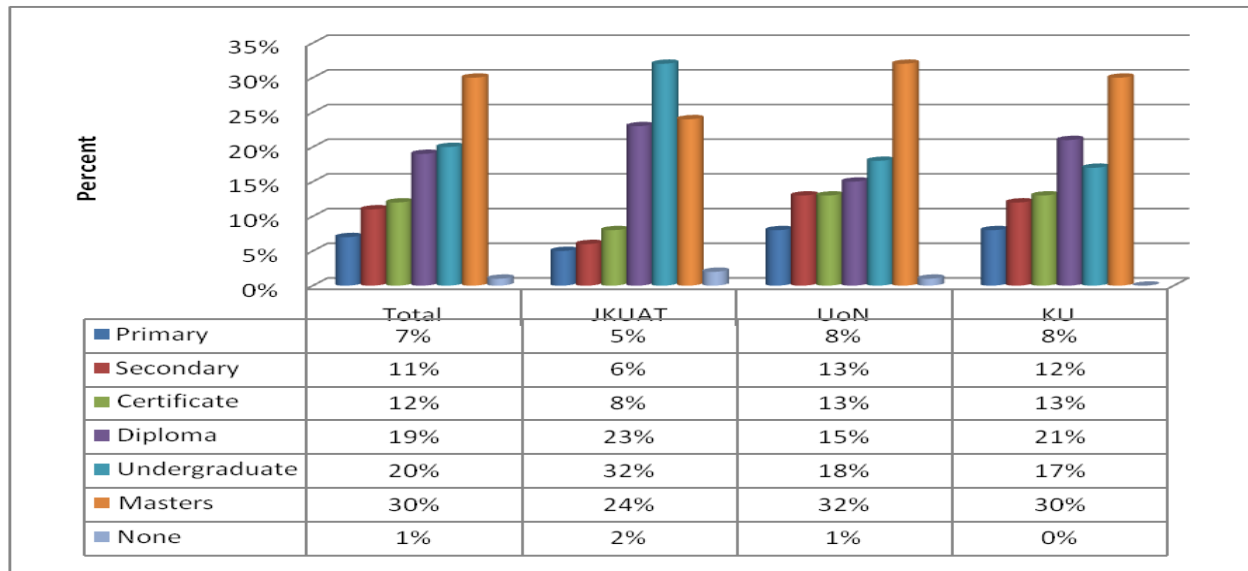
Figure 4.3: Highest level of Education

The research also sought to establish duration of service of the respondents. Findings indicated that employees on average had 9.6 years of service in their respective universities. Respondents from JKUAT had an average of 8.8 years of service with those from UoN at 10.6 years while those from KU had 8.6 years. Respondents were also asked to state the number of years they had served in their current position or station of work. Findings indicated that employees on average had 5.9 years of service in their respective position or station of work. Respondents from JKUAT had an average of 5.2 years of service in their respective position or station of work with those from UoN at 6.7 years while those from KU had 5.3 years.

Table 4.1: Duration of service

		Respondent's University		
	Total	JKUAT	UoN	KU
How long have you worked in the university?	9.6	8.8	10.6	8.6
How long have you worked under your current position or station of work?	5.9	5.2	6.7	5.3

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4.3 Reliability test Results

A pilot test was done before embarking on actual data collection activity. Kombo and Tromp (2009) describe a pilot test as a replica and rehearsal of the main survey. Dawson (2002) states that pilot testing assists researchers to see if the questionnaire will obtain the required results. Polit and Beck (2003) describes a pilot study as a small scale version, or trial run, done in preparation for a major study. The purpose of a pilot test is to enable validity and reliability of research instruments to be determined (Cooper & Schilder, 2011).

Validity is the degree at which data collecting instrument measures what it was supposed to measure (Cooper & Schilder, 2011). Zikmund *et al.,* (2010) describes validity as the accuracy of data collecting instruments. It helps in determining whether the respondents understand the direction and instruction on questionnaires. The study used content validity as a validity test. It is concerned with how a measuring instrument measures what it was designed to measure. Content validity was established using content experts to make judgments on the process followed (Mertens, 2010). A judgment procedure of assessing whether a tool is likely to provide contents valid data is to request opinion of expert or professional in a particular field to review it and give suggestions on content improvement within the tool (Mugenda, 2008). The opinion of experts was therefore sought to determine the validity of the instrument (Mugenda, 2011). This helped to approve the questionnaires before proceeding to the field for final data collection.

Reliability is the extent to which a measure, procedure or instrument yield the same result on repeated trials (Zikmund, 2003). In order to test for reliability, split-half technique was used (Collis & Hussey, 2003). This method divides the gathered interviews and questionnaires into two halves and then correlates them (Collis & Hussey, 2003). Responses of the two halves were compared with each other and similarities identified. The more the similarity between the two halves in each question, the greater the reliability, (Zikmund, 2003).

The most common internal consistency measure known as Cronbach's alpha (α) was used. It indicates the extent to which a set of test item can be treated as measuring a single latent variable (Cronbach, 1971); Cronbach's alpha reliability coefficient that ranges between 0 and 1. 0 implies that there is no internal reliability while 1 indicated perfect internal reliability. Cronbach's alpha reliability coefficient value of 0.7 or higher is considered sufficient (Sekaran, 2009). The recommended value of 0.7 was therefore used as a cut-off of reliability (Sekaran, 2009). Reliability results for all the set of variables in the questionnaires gave a cronbach alpha statistics of more than 0.7, thus the threshold value of 0.7 were met.

Table 4.2: Summary of Reliability Test

Variable	Cronbach's Alpha	N of Items
Worker's Relationship	.871	8- questions
Worker's Movement	.836	6- questions
Workplace facilities	.838	6- questions
Motivation	.812	10-questions
Management	.884	11-questions
Employee performance	.832	13-questions

4.4 Descriptive statistics

4.4.1 Worker's Relationship Related Stress

Respondents were asked to rate their worker's relationship in the organization based on various attributes on a five point likert scale. There exists a good relationship between the workers/colleagues at place of work/office as supported by 78% of the respondents. Another 78% of the respondents supported the assertion that their colleagues are supportive in case of a problem at place of work. Two thirds of the respondents felt that staff welfare committee is supportive and follows up on the concerns of the employees. On the other hand 63% of the respondents agreed that when issues are forwarded to the

welfare section/committee, they are acted upon promptly. Slightly over half of the respondents (57%) supported the statement that members of the welfare section/committee are supportive in case of a problem. The organization staff welfare committee is effective in matters relating to employees welfare was supported most (78%) of the respondents. Respondents were observed to disagree with the statements on "The disciplinary actions in my institutions are relevant and reasonable to their respective punishable actions" and "The current disciplinary procedure is relatively fair as it is" with 61% and 72% either neutral or disagreeing with the statements respectively.

To provide a comparative description for the responses across the three universities, the average for each statement were obtained as shown below. Great discrepancies among the respondents from the three universities were not observed. However, Staff welfare committee support was of concern to UoN respondents as shown by low score.

Table 4.3: Worker's Relationship

Variable	Strongly Disagree	Disagree	Neither agree nor Disagree	Agree	Strongly Agree
There exists a good relationship between the workers or colleagues at my place of work or office	1%	0%	22%	61%	17%
My colleagues are supportive in case of a problem at my place of work	3%	3%	15%	40%	38%
Staff welfare committee is supportive and follows up on the concerns of the employees	20%	4%	9%	17%	50%
When issues are forwarded to the welfare section or committee, they are acted upon promptly	1%	1%	34%	55%	8%
Members of the welfare section or committee are supportive in case of a problem	4%	13%	26%	24%	33%
The organization staff welfare committee is effective in matters relating to employees welfare	1%	11%	10%	25%	53%
The disciplinary actions in my institutions are relevant and reasonable to their respective punishable actions	2%	25%	35%	32%	7%
The current disciplinary procedure is relatively fair as it is	17%	33%	22%	25%	3%

Table 4.4: Worker's Relationship by University

Variable	Total	JKUAT	UoN	KU
b1 There exists a good relationship between the workers or colleagues at my place of work or office	3.9	3.9	3.9	3.9
b2 My colleagues are supportive in case of a problem at my place of work	4.1	4.2	4.1	4.0
b3 Staff welfare committee is supportive and follows up on the concerns of the employees	3.7	4.0	3.4	4.0
b4 When issues are forwarded to the welfare section or committee, they are acted upon promptly	3.7	3.7	3.7	3.7
b5 Members of the welfare section or committee are supportive in case of a problem	3.7	3.8	3.7	3.7
b6 The organization staff welfare committee is effective in matters relating to employees welfare	4.2	4.0	4.2	4.2
b7 The disciplinary actions in my institutions are relevant and reasonable to their respective punishable actions	3.2	3.1	3.2	3.2
b8 The current disciplinary procedure is relatively fair as it is	3.5	4.4	3.2	3.5
Average	**3.8**	**3.9**	**3.7**	**3.8**

4.4.1.1 Factor analysis for Worker's Relationship

Factor analysis was best suited for this research to enable reduction of the data items into few significant composite variables affecting performance of employees in public universities in Kenya. The composite variables were used in presenting, analysis, interpretation and discussions.

Worker's Relationship in this study was evaluated using 8 items. The five point likert scale of (8) data items, was used to measure and determine the extent to which Worker's Relationship comprised of the desired outcomes. A correlation was first done on all the data items under Worker's Relationship and only those that significantly correlated to each other were further reduced into few principal components. Results from correlations showed that "Staff welfare committee is supportive and follows up on the

concerns of the employees-b3" and "The current disciplinary procedure is relatively fair as it is-b8" did not correlate with most of other items and were therefore eliminated before running factor analysis.

Table 4.5: Correlations for Worker's Relationship

	Statistic	b1	b2	b3	b4	b5	b6	b7	b8
b1	Pearson Correlation	1	.486**	-.023	.208**	.298**	.229**	.262**	-.049
	Sig. (2-tailed)		.000	.661	.001	.000	.000	.000	.355
	N	354	354	350	274	285	285	285	354
b2	Pearson Correlation	.486**	1	-.025	-.073	.515**	.414**	.280**	-.019
	Sig. (2-tailed)	.000		.644	.226	.000	.000	.000	.718
	N	354	354	350	274	285	285	285	354
b3	Pearson Correlation	-.023	-.025	1	.035	.084	.127*	-.015	.060
	Sig. (2-tailed)	.661	.644		.571	.158	.033	.808	.265
	N	350	350	350	272	283	283	283	350
b4	Pearson Correlation	.208**	-.073	.035	1	.376**	.444**	.482**	-.023
	Sig. (2-tailed)	.001	.226	.571		.000	.000	.000	.702
	N	274	274	272	274	274	274	274	274
b5	Pearson Correlation	.298**	.515**	.084	.376**	1	.636**	.296**	.112
	Sig. (2-tailed)	.000	.000	.158	.000		.000	.000	.059
	N	285	285	283	274	285	285	285	285
b6	Pearson Correlation	.229**	.414**	.127*	.444**	.636**	1	.489**	-.054
	Sig. (2-tailed)	.000	.000	.033	.000	.000		.000	.365
	N	285	285	283	274	285	285	285	285
b7	Pearson Correlation	.262**	.280**	-.015	.482**	.296**	.489**	1	-.113
	Sig. (2-tailed)	.000	.000	.808	.000	.000	.000		.057
	N	285	285	283	274	285	285	285	285
b8	Pearson Correlation	-.049	-.019	.060	-.023	.112	-.054	-.113	1
	Sig. (2-tailed)	.355	.718	.265	.702	.059	.365	.057	
	N	354	354	350	274	285	285	285	354

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

The next table is used as to test assumptions; essentially, the Kaiser-Meyer-Olking (KMO) statistic should be greater than 0.500 and the Bartlett's test should be significant (e.g. $p < .05$). KMO is used for assessing sampling adequacy and evaluates the correlations and partial correlations to determine if the data are likely to coalesce on factors (i.e. some items highly correlated, some not). The Bartlett's test evaluates whether or not our correlation matrix is an identity matrix (1 on the diagonal & 0 on the off-diagonal). The Kaiser-Meyer-Olkin of sampling adequacy was above the threshold of 0.5 (KMO=0.612) indicating that the sample size was adequate for the variables entered into analysis. The Bartlett's Test of Sphericity was significant ($\chi2=609.876$, df=15, P<0.001) showing that factor analysis using principal component was relevant for the data set and there were some relationships between the variables.

Table 4. 6: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.612
Bartlett's Test of Sphericity	Approx. Chi-Square	609.876
	Df	15
	Sig.	.000

Table 4. 7: Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.865	47.743	47.743	2.865	47.743	47.743	2.150	35.832	35.832
2	1.239	20.654	68.397	1.239	20.654	68.397	1.954	32.565	68.397
3	.798	13.297	81.694						
4	.589	9.811	91.506						
5	.302	5.026	96.532						
6	.208	3.468	100.000						

Extraction Method: Principal Component Analysis.

The table 4.7 shows the eigenvalues (variances of the principal components) associated with each linear component (factor) before extraction, after extraction and after rotation. The rotations converged in two iterations with two significant components with Eigenvalues accounting for 68.397% of the variance explained. Being above the threshold of 50% it indicated that the two-component factor model derived fitted the data appropriately. Items loading greater than 0.5 for each component combined to form the two principal components and the variables that clustered into each are shown in table 4.8.

Table 4. 8: Rotated Component Matrix

Variable	Component	
	1	2
b1 There exists a good relationship between the workers or colleagues at my place of work or office	.133	.725
b2 My colleagues are supportive in case of a problem at my place of work	.053	.932

b4 When issues are forwarded to the welfare section or committee, they are acted upon promptly	.878	-.131
b5 Members of the welfare section or committee are supportive in case of a problem	.568	.567
b6 The organization staff welfare committee is effective in matters relating to employees welfare	.717	.421
b7 The disciplinary actions in my institutions are relevant and reasonable to their respective punishable actions	.722	.209

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 3 iterations.

Correlation between worker's relationship and performance was done and results displayed in the table 4.9.

Table 4. 9: Correlation between Worker's Relationship and performance

	Not Depressed	Don't feel lazy and boredom	Does the best possible job	Enjoy work	Job Commitment	Responsible for actions at work	Motivated, productive and creative	Stress produce poor work	Stress reduces productivity	Employees have high morale	Serves the customers efficiently	Produce accurate work	Efficient service delivery
b1	-.015	.102	-.043	.151**	.011	-.038	.426**	.198**	.078	.161**	-.201**	-.120*	-.053
b2	-.010	-.021	-.019	-.016	.128*	-.146**	.058	.015	-.157**	.108*	.088	.095	-.018
b3	-.017	.083	-.020	-.005	.079	.035	-.087	-.050	-.020	-.036	.085	.056	-.003
b4	-.044	.122*	.028	.035	-.195**	-.012	.445**	.202**	.305**	.105	-.101	-.140*	.259**
b5	.138*	.156*	.021	.162**	-.016	.017	.254**	.089	.024	.141*	-.032	.051	.172**
b6	-.045	.325**	-.031	.133*	-.130*	-.010	.268**	.165**	.071	.217**	-.035	-.004	.359**
b7	.086	.099	.075	.128*	-.130*	.194**	.353**	.106	.362**	.332**	-.257**	-.267**	.162**
b8	.038	.112*	-.091	.173**	.075	-.148**	.077	-.107*	-.156**	.074	-.017	.042	.109*

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Respondents were not depressed and could perform effectively with significance at 0.05 levels for supportive members of the welfare section/committee (.138). This shows that lack of members of the welfare section/committee support is perceived to cause depression and inability to perform effectively among university employees. However, it was not significant for good relationship between the workers/ colleagues at my place of work/ office (-.015). My colleagues are supportive in case of a problem at my place of work (-.010). Staff welfare committee is supportive and follows up on the concerns of the employees (-.017).   When issues are forwarded to the welfare section /committee, they are acted upon promptly (-.044).

I do not always feel lazy, boredom and headache lowering output was significant for the statements that "When issues are forwarded to the welfare section or committee, they are acted upon promptly (.122)". "Members of the welfare section or committee are supportive in case of a problem (.156)". "The organization staff welfare committee is effective in matters relating to employees welfare and can perform effectively (.325)". "The current disciplinary procedure is relatively fair as it is (.112)". This shows that an effective staff welfare committee and fair disciplinary procedures can reduce stress from laziness, boredom and headache which lower output.

I do the best possible job was not significant for any of the statements. I enjoy my work was significant for the statements that "There exists a good relationship between the workers or colleagues at my place of work or office (.151)", " Members of the welfare section or committee are supportive in case of a problem (.162)", "The organization staff welfare committee is effective in matters relating to employees welfare (.133)", "The disciplinary actions in my institutions are relevant and reasonable to their respective punishable actions (.128)" and "The current disciplinary procedure is relatively fair as it is (.173)". These correlations show that employees enjoy their work most when there are healthy relationships among them.

4.4.2 Worker's Movement Related Stress

Respondents were presented with 6 statements on worker's movement on a five point likert scale and asked to rate their agreement with each. More than half (55%) of the respondents agreed that they are very comfortable in their current status/place of work/position. On the other hand more than half of the respondents (54%) disagreed that interviews are conducted regularly at their current place of work. The working condition/environment at current place of work being conducive was supported by most of the respondents (65%). Most of the respondents (59%) either disagreed or were neutral on the statement that job transfers in their organization rarely take place. Majority of the respondents (63%) disagreed with the statement that upon exit of an employee the organization does replacement promptly. Working shifts are well designed and coordinated was disagreed upon by more than half of the respondents (53%).

Table 4. 10: Worker's Movement

Variable	Strongly Disagree	Disagree	Neither agree nor Disagree	Agree	Strongly Agree
I'm very comfortable in my current status or place of work or position	16%	13%	16%	22%	33%
Interviews are conducted regularly at my current place of work	34%	20%	15%	12%	19%
The working condition or environment at my current place of work is conducive	9%	4%	22%	27%	38%
Job transfers in my organization rarely takes place	7%	16%	36%	37%	4%
Upon exit of an employee the organization does replacement promptly	47%	16%	13%	15%	9%
Working shifts are well designed and coordinated	32%	21%	19%	12%	15%

To provide a comparative description for the responses across the three universities, the average for each statement were obtained as shown below. Respondents from JKUAT rated statements on Worker's Movement slightly higher than their counterparts from KU and UoN with a mean of 3.0.

Table 4. 11: Worker's Movement

Variable		University		
	Total	JKUAT	UoN	KU
c1 I'm very comfortable in my current status or place of work or position	3.4	3.3	3.4	3.5
c2 Interviews are conducted regularly at my current place of work	2.6	2.7	2.7	2.5
c3 The working condition or environment at my current place of work is conducive	3.8	3.9	4.1	3.5

c4 Job transfers in my organization rarely takes place	3.2	3.3	3.1	3.2
c5 Upon exit of an employee the organization does replacement promptly	2.2	2.1	2.1	2.4
c6 Working shifts are well designed and coordinated	2.6	2.7	2.5	2.6
Average	**2.9**	**3.0**	**2.8**	**2.9**

4.4.2.1 Factor analysis for Worker's movement

Worker's Movement in this study was evaluated using 6 items. The five point likert scale of (6) data items, was used to measure and determine the extent to which Worker's movement comprised of the desired outcomes. A correlation was first done on all the data items under Worker's Movement and only those that significantly correlated to each other were further reduced into few principal components. Results from correlations showed that all items correlated with most of other items except for "the working condition or environment at my current place of work is conducive-c3" and thus all were used in running factor analysis.

Table 4. 12: Correlations

		c1	c2	c3	c4	c5	c6
c1	Pearson Correlation	1	-.638**	-.129*	-.540**	-.133*	-.146**
	Sig. (2-tailed)		.000	.015	.000	.014	.006
	N	352	342	351	352	341	352
c2	Pearson Correlation	-.638**	1	.047	.462**	.156**	.192**
	Sig. (2-tailed)	.000		.382	.000	.004	.000
	N	342	344	343	344	332	344
c3	Pearson Correlation	-.129*	.047	1	.044	-.158**	-.017
	Sig. (2-tailed)	.015	.382		.405	.004	.755
	N	351	343	353	353	341	353
c4	Pearson Correlation	-.540**	.462**	.044	1	.082	.211**
	Sig. (2-tailed)	.000	.000	.405		.129	.000

	N	352	344	353	354	342	354
c5	Pearson Correlation	-.133*	.156**	-.158**	.082	1	.459**
	Sig. (2-tailed)	.014	.004	.004	.129		.000
	N	341	332	341	342	342	342
c6	Pearson Correlation	-.146**	.192**	-.017	.211**	.459**	1
	Sig. (2-tailed)	.006	.000	.755	.000	.000	
	N	352	344	353	354	342	354

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

The next table is used as to test assumptions; essentially, the Kaiser-Meyer-Olking (KMO) statistic should be greater than 0.500 and the Bartlett's test should be significant (e.g. $p < .05$). The Kaiser-Meyer-Olkin of sampling adequacy was above the threshold of 0.5 (KMO=0.633) indicating that the sample size was adequate for the variables entered into analysis. The Bartlett's Test of Sphericity was significant ($\chi2=349.126$, df=10, P<0.001) showing that factor analysis using principal component was relevant for the data set and there were some relationships between the variables.

Table 4. 13: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.633
Bartlett's Test of Sphericity	Approx. Chi-Square	349.126
	Df	10
	Sig.	.000

Table 4. 14: Total Variance Explained

Component	Initial Eigenvalues	Extraction Sums of Squared Loadings	Rotation Sums of Squared Loadings

	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.155	43.107	43.107	2.155	43.107	43.107	2.018	40.368	40.368
2	1.323	26.458	69.565	1.323	26.458	69.565	1.460	29.197	69.565
3	.636	12.720	82.285						
4	.522	10.437	92.722						
5	.364	7.278	100.000						

Extraction Method: Principal Component Analysis.

The table 4.14 shows the eigenvalues (variances of the principal components) associated with each linear component (factor) before extraction, after extraction and after rotation. The rotations converged in two iterations with two significant components with Eigenvalues accounting for 69.565% of the variance explained. Being above the threshold of 50% it indicated that the two-component factor model derived fitted the data appropriately. Items loading greater than 0.7, for each component combined to form the two principal components and the variables that clustered into each are shown in table 4.15.

Table 4. 15: Rotated Component Matrix

Variable	Component	
	1	2
c1 I'm very comfortable in my current status or place of work or position	-.870	-.067
c2 Interviews are conducted regularly at my current place of work	.818	.105
c4 Job transfers in my organization rarely takes place	.762	.048
c5 Upon exit of an employee the organization does replacement promptly	.099	.845
c6 Working shifts are well designed and coordinated	.052	.853
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.		
a. Rotation converged in 3 iterations.		

The effect of performance and worker's movement was examined by calculating the correlations. Results (table 4.16below) showed that lack of depression and effective performance was positively significant at 0.01 level of significance on prompt replacement of an employee upon exit in the organization (.301) and proper design and coordination of working shifts (.128). The statements that "I do not always feel lazy, boredom and headache lowering my output", "I do the best possible job" and "We are always motivated, productive and creative" were not significantly correlated to worker's movement.

Table 4. 16: Correlation between Worker's Movement and performance

	Not depressed	Don't feel lazy and boredom	Does the best possible job	Enjoy work	Job Commitment	Responsible for actions at work	Motivated, productive and creative	Stress produce poor work	Stress reduces productivity	Employees have high morale	Serves the customers efficiently	Produce accurate work	Efficient service delivery
c1	.011	.060	.077	-.099	.071	.225**	-.086	-.219**	-.278**	-.086	-.295**	-.172**	-.226**
c2	.065	.049	-.048	.060	-.150**	.095	.040	.061	.063	.003	-.154**	-.189**	-.059
c3	.083	.082	.003	.269**	.037	.155**	-.039	-.103	.353**	-.028	-.277**	-.023	-.213**
c4	.069	-.027	.097	-.019	.086	.086	-.005	.000	-.066	-.033	-.012	-.061	-.062
c5	.301**	.044	.094	-.024	.017	.072	-.011	.001	-.007	.002	-.019	-.057	-.089
c6	.128*	.052	-.090	-.101	.053	.090	-.054	-.028	.013	-.112*	-.055	-.039	-.018

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Respondents' enjoying their work was positively and significantly correlated to the working condition or environment at current place of work being conducive (.269). Commitment to jobs was negatively and significantly correlated to interviews being conducted regularly at current place of work (-.150). Taking responsibility for actions within the job environment was positively and significantly correlated to being very comfortable in current status/place of work/position (.225) and interviews being conducted regularly at current place of work (.155).

4.4.3 Workplace Facilities Related Stress

Workplace facilities were evaluated using six survey items on a five point likert scale. Most of the respondents (76%) agreed with the statements that they have all the facilities they require to do their work at place of work or office. Majority of the respondents (88%) supported the statement that "Every worker in my organization is accorded office space where and when needed". More than two thirds of the respondents (69%) agreed that offices at their place of work/section are enough and comfortable. On the other hand 60% of the respondent supported the assertion that the current facilities available to work with are adequate and enough for our needs. Almost all of the respondents agreed with the statements that "The location of my place of work and offices are well planned in line with our requirements and therefore appropriate-91%" and "The physical working conditions e.g., ventilation, space, cleanliness, are very good-86%".

Table 4. 17: Workplace Facilities

Variable	Strongly Disagree	Disagree	Neither agree nor Disagree	Agree	Strongly Agree
I have all the facilities I require to do my work at my place of work or office	1%	3%	20%	15%	61%
Every worker in my organization is accorded office space where and when needed	6%	3%	3%	1%	87%

Offices at my place of work or section are enough and comfortable	6%	2%	22%	12%	57%
The current facilities available for us to work with are adequate and enough for our needs	14%	14%	6%	27%	38%
The location of my place of work and offices are well planned in line with our requirements and therefore appropriate	4%	2%	2%	41%	50%
The physical working conditions e.g., ventilation, space, cleanliness, are very good	2%	8%	4%	43%	43%

To provide a comparative description for the responses across the three universities, the average for each statement were obtained as shown below. Great discrepancies among the respondents from the three universities were not observed.

Table 4. 18: Workplace Facilities across Universities

Variable	University			
	Total	JKUAT	UoN	KU
d1 I have all the facilities I require to do my work at my place of work or office	4.3	4.4	4.2	4.4
d2 Every worker in my organization is accorded office space where and when needed	4.6	4.4	4.6	4.7
d3 Offices at my place of work or section are enough and comfortable	4.1	4.2	4.1	4.2
d4 The current facilities available for us to work with are adequate and enough for our needs	3.6	3.6	3.6	3.6
d5 The location of my place of work and offices are well planned in line with our requirements and therefore appropriate	4.3	4.3	4.3	4.3
d6 The physical working conditions e.g. ventilation, space, cleanliness, are very good	4.2	4.2	4.2	4.2
Average	**4.1**	**4.1**	**4.0**	**4.2**

4.4.3.1 Factor analysis Workplace Facilities

Workplace facilities in this study were evaluated using 6 items. The five point likert scale of (6) data items, was used to measure and determine the extent to which Workplace Facilities comprised of the desired outcomes. A correlation was first done on all the data items under Workplace Facilities and only those that significantly correlated to each other were further reduced into few principal components. Results from correlations showed that "The physical working conditions e.g., ventilation, space, cleanliness, are very good –d6" did not correlate with most of other items and was therefore eliminated before running factor analysis.

Table 4. 19: Correlations

	Statistic	d1	d2	d3	d4	d5	d6
d1	Pearson Correlation	1	.299*	.637**	.571**	.619**	.594**
	Sig. (2-tailed)		.033	.000	.000	.000	.000
	N	342	344	343	344	332	344
d2	Pearson Correlation	.299*	1	.637**	.619**	.594**	.299*
	Sig. (2-tailed)	.033		.000	.000	.000	.033
	N	51	50	50	51	50	51
d3	Pearson Correlation	.637**	.637**	1	.612**	.536**	.525**
	Sig. (2-tailed)	.000	.000		.000	.000	.000
	N	341	332	341	342	342	342
d4	Pearson Correlation	.571**	.619**	.612**	1	.607**	.176
	Sig. (2-tailed)	.000	.000	.000		.000	.217
	N	51	51	50	51	51	51
d5	Pearson Correlation	.619**	.594**	.536**	.607**	1	.101
	Sig. (2-tailed)	.000	.000	.000	.000		.332
	N	352	344	353	354	342	342
d6	Pearson Correlation	.594**	.299*	.525**	.176	.101	1
	Sig. (2-tailed)	.000	.033	.000	.217	.332	
	N	341	332	341	342	342	342

**. Correlation is significant at the 0.01 level (2-tailed).

The next table is used as to test assumptions; essentially, the Kaiser-Meyer-Olking (KMO) statistic should be greater than 0.500 and the Bartlett's test should be significant (e.g. $p < .05$). The Kaiser-Meyer-Olkin of sampling adequacy was above the threshold of 0.5 (KMO=0.483) indicating that the sample size was adequate for the variables entered into analysis. The Bartlett's Test of Sphericity was significant ($\chi 2$=35.219, df=6, P=0.002) showing that factor analysis using principal component was relevant for the data set and there were some relationships between the variables.

Table 4. 20: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling		.483
Bartlett's Test of Sphericity	Approx. Chi-Square	35.219
	Df	15
	Sig.	.002

The table 4.21 shows the eigenvalues (variances of the principal components) associated with each linear component (factor) before extraction, and after extraction. The extraction converged in one iteration with one significant component with Eigenvalues accounting for 57.480% of the variance explained.

Table 4. 21: Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.024	57.480	57.480	4.024	57.480	57.480
2	.997	14.238	71.718			
3	.625	8.928	80.646			
4	.411	5.871	93.138			
5	.219	3.131	100.000			

Being above the threshold of 50% it indicated that the one-component factor model derived fitted the data appropriately. Items loading greater than 0.6 for the component combined to form the one principal component and the variables that clustered into it are shown in table 4.22.

Table 4. 22: Component Matrix

Variable	Component 1
d1 I have all the facilities I require to do my work at my place of work or office	.803
d2 Every worker in my organization is accorded office space where and when needed	.768
d3 Offices at my place of work or section are enough and comfortable	-.765
d4 The current facilities available for us to work with are adequate and enough for our needs	.607
d5 The location of my place of work and offices are well planned in line with our requirements and therefore appropriate	.602

Extraction Method: Principal Component Analysis.
a. 1 components extracted.

The effect of performance and workplace facilities was examined by calculating the correlations.

Table 4. 23: Correlation between Workplace Facilities and performance

	Not depressed	Don't feel lazy and	Does the best possible job	Enjoy work	Job Commitment	Responsible for actions at work	Motivated, productive	Stress produce poor	Stress reduces productivity	Employees have high	Serves the customers efficiently	Produce accurate work	Efficient service
d1	.011	.060	.077	-.099	.071	.225**	-.086	.219**	-.278**	-.086	-.295**	-.172**	-.226**
d2	.065	.049	-.048	.060	-.15	.095	.040	.061	.063	.003	-.154**	-.189**	-.059
d3	.083	.082	.003	.269**	.037	.155**	-.039	-.103	.353**	-.028	-.277**	-.023	-.213**
d4	.069	-.027	.097	-.019	.086	.086	-.005	.000	-.066	-.033	-.012	-.061	-.062
d5	.301**	.044	.094	-.024	.017	.072	-.011	.001	-.007	.002	-.019	-.057	-.089
d6	.128*	.052	-.090	-.101	.053	.090	-.054	-.028	.013	-.112*	-.055	-.039	-.018

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Results showed that lack of depression and effective performance was positively significant at 0.01 level of significance on having all the facilities required to do work at place of work/ office (.301) and significant at 0.05 level of significance on location of place of work and offices well planned in line with our requirements (.128).

Enjoying work was positively and significantly correlated to offices at place of work or section being enough and comfortable (.269). Being committed to jobs was negatively and significantly correlated to every worker in the organization being accorded office space where and when needed (.150). Taking responsibility for actions within the job environment was positively and significantly correlated to having all the facilities required to do work at place of work or office (.255) and offices at place of work or section being enough and comfortable (.155).4.4.4 Motivation. To evaluate motivation 10 survey items on five point likert scale were used. Almost all of the respondents (90%) agreed that they are encouraged to find new and better ways to do their work. More than three quarters (78%) of the respondents agreed that when they put extra effort in their work they can be appreciated. Almost three quarters (73%) of the respondents supported the statement that they are encouraged to take initiative in their work. My organization gives enough recognition and rewards for work well done were supported by 66% of the respondents. More than three quarters of the respondents (79%) agreed that creativity and innovation are valued at their organization. My department often holds social activities for motivation of staff members was agreed upon by 90% of the respondents.

Table 4. 24: Motivation

Variable	Strongly Disagree	Disagree	Neither agree nor Disagree	Agree	Strongly Agree
I am encouraged to find new and better ways to do my work	8%	2%	0%	41%	49%
When I put extra effort in my work I can be appreciated for this	0%	4%	17%	37%	42%
I am encouraged to take initiative in my work	0%	6%	21%	40%	33%
My organization gives enough recognition and rewards for work well done	4%	10%	18%	33%	34%
Creativity and innovation are valued at my organization	0%	2%	20%	39%	40%
My department often holds social activities for motivation of staff members	0%	0%	10%	31%	59%
It is easy to discuss or share personal problems with my boss or members of the department	0%	6%	21%	40%	33%
We are occasionally taken to trips for purposes of team building and reducing monotony at my department or section	4%	10%	18%	33%	34%
Promotion is based on performance	0%	2%	20%	39%	40%
Appraisals are regular and focused on personal development	8%	14%	17%	49%	12%

Segregation by respondent's University, great discrepancies in responses were not observed.

Table 4. 25: Motivation

	Variable	Total	University		
			JKUAT	UoN	KU
e1	I am encouraged to find new and better ways to do my work	4.2	4.2	4.2	4.2
e2	When I put extra effort in my work I can be appreciated for this	4.2	4.1	4.2	4.2
e3	I am encouraged to take initiative in my work	4.0	3.9	4.0	4.0
e4	My organization gives enough recognition and rewards for work well done	3.8	3.9	3.8	3.8
e5	Creativity and innovation are valued at my organization	4.2	4.3	4.2	4.1
e6	My department often holds social activities for motivation of staff members	4.5	4.5	4.5	4.5
e7	It is easy to discuss or share personal problems with my boss or members of the department	4.0	3.9	4.0	4.0
e8	We are occasionally taken to trips for purposes of team building and reducing monotony at my department or section	3.8	3.9	3.8	3.8
e9	Promotion is based on performance	4.2	4.3	4.2	4.1
e10	Appraisals are regular and focused on personal development	3.4	3.5	3.4	3.4
	Average	**4.0**	**4.1**	**4.0**	**4.0**

Motivation in this study was evaluated using 10 items. The five point likert scale of (10) data items, was used to measure and determine the extent to which Motivation comprised of the desired outcomes. A correlation was first done on all the data items under Motivation and only those that significantly correlated to each other were further reduced into few principal components. Results from correlations showed that "I am encouraged to take initiative in my work –e3", "Creativity and innovation are valued at my organization-e5", "My department often holds social activities for motivation of staff members-e6", "It is easy to discuss or share personal problems with my boss or members of the department-e7" and "Promotion is based on performance-e9" did not correlate with most of other items and were therefore eliminated before running factor analysis.

Table 4.26: Correlations of Motivation items

	Statistic	e1	e2	e3	e4	e5	e6	e7	e8	e9	e10
e1	Pearson Correlation	1	-.233**	-.165**	-.243**	-.357**	-.181**	-.165**	-.243**	-.357**	.297**
	Sig. (2-tailed)		.000	.002	.000	.000	.001	.002	.000	.000	.000
	N	354	354	354	354	354	354	354	354	354	354
e2	Pearson Correlation	-.233**	1	.468**	.196**	-.011	.661**	.468**	.196**	-.011	-.178**
	Sig. (2-tailed)	.000		.000	.000	.838	.000	.000	.000	.838	.001
	N	354	354	354	354	354	354	354	354	354	354
e3	Pearson Correlation	-.165**	.468**	1	.079	.005	.296**	1.000**	.079	.005	-.156**
	Sig. (2-tailed)	.002	.000		.139	.922	.000	.000	.139	.922	.003
	N	354	354	354	354	354	354	354	354	354	354
e4	Pearson Correlation	-.243**	.196**	.079	1	.178**	.003	.079	1.000**	.178**	-.260**
	Sig. (2-tailed)	.000	.000	.139		.001	.960	.139	.000	.001	.000
	N	354	354	354	354	354	354	354	354	354	354
e5	Pearson Correlation	-.357**	-.011	.005	.178**	1	.092	.005	.178**	1.000**	-.123*
	Sig. (2-tailed)	.000	.838	.922	.001		.083	.922	.001	.000	.021
	N	354	354	354	354	354	354	354	354	354	354
e6	Pearson Correlation	-.181**	.661**	.296**	.003	.092	1	.296**	.003	.092	-.170**
	Sig. (2-tailed)	.001	.000	.000	.960	.083		.000	.960	.083	.001
	N	354	354	354	354	354	354	354	354	354	354
e7	Pearson Correlation	-.165**	.468**	1.000**	.079	.005	.296**	1	.079	.005	-.156**
	Sig. (2-tailed)	.002	.000	.000	.139	.922	.000		.139	.922	.003
	N	354	354	354	354	354	354	354	354	354	354
e8	Pearson Correlation	-.243**	.196**	.079	1.000**	.178**	.003	.079	1	.178**	-.260**
	Sig. (2-tailed)	.000	.000	.139	.000	.001	.960	.139		.001	.000
	N	354	354	354	354	354	354	354	354	354	354
e9	Pearson Correlation	-.357**	-.011	.005	.178**	1.000**	.092	.005	.178**	1	-.123*
	Sig. (2-tailed)	.000	.838	.922	.001	.000	.083	.922	.001		.021
	N	354	354	354	354	354	354	354	354	354	354
e10	Pearson Correlation	.297**	-.178**	-.156**	-.260**	-.123*	-.170**	-.156**	-.260**	-.123*	1
	Sig. (2-tailed)	.000	.001	.003	.000	.021	.001	.003	.000	.021	
	N	354	354	354	354	354	354	354	354	354	354

	Statistic	e1	e2	e3	e4	e5	e6	e7	e8	e9	e10
e1	Pearson Correlation	1	-.233**	-.165**	-.243**	-.357**	-.181**	-.165**	-.243**	-.357**	.297**
	Sig. (2-tailed)		.000	.002	.000	.000	.001	.002	.000	.000	.000
	N	354	354	354	354	354	354	354	354	354	354
e2	Pearson Correlation	-.233**	1	.468**	.196**	-.011	.661**	.468**	.196**	-.011	-.178**
	Sig. (2-tailed)	.000		.000	.000	.838	.000	.000	.000	.838	.001
	N	354	354	354	354	354	354	354	354	354	354
e3	Pearson Correlation	-.165**	.468**	1	.079	.005	.296**	1.000**	.079	.005	-.156**
	Sig. (2-tailed)	.002	.000		.139	.922	.000	.000	.139	.922	.003
	N	354	354	354	354	354	354	354	354	354	354
e4	Pearson Correlation	-.243**	.196**	.079	1	.178**	.003	.079	1.000**	.178**	-.260**
	Sig. (2-tailed)	.000	.000	.139		.001	.960	.139	.000	.001	.000
	N	354	354	354	354	354	354	354	354	354	354
e5	Pearson Correlation	-.357**	-.011	.005	.178**	1	.092	.005	.178**	1.000**	-.123*
	Sig. (2-tailed)	.000	.838	.922	.001		.083	.922	.001	.000	.021
	N	354	354	354	354	354	354	354	354	354	354
e6	Pearson Correlation	-.181**	.661**	.296**	.003	.092	1	.296**	.003	.092	-.170**
	Sig. (2-tailed)	.001	.000	.000	.960	.083		.000	.960	.083	.001
	N	354	354	354	354	354	354	354	354	354	354
e7	Pearson Correlation	-.165**	.468**	1.000**	.079	.005	.296**	1	.079	.005	-.156**
	Sig. (2-tailed)	.002	.000	.000	.139	.922	.000		.139	.922	.003
	N	354	354	354	354	354	354	354	354	354	354
e8	Pearson Correlation	-.243**	.196**	.079	1.000**	.178**	.003	.079	1	.178**	-.260**
	Sig. (2-tailed)	.000	.000	.139	.000	.001	.960	.139		.001	.000
	N	354	354	354	354	354	354	354	354	354	354
e9	Pearson Correlation	-.357**	-.011	.005	.178**	1.000**	.092	.005	.178**	1	-.123*
	Sig. (2-tailed)	.000	.838	.922	.001	.000	.083	.922	.001		.021
	N	354	354	354	354	354	354	354	354	354	354
e10	Pearson Correlation	.297**	-.178**	-.156**	-.260**	-.123*	-.170**	-.156**	-.260**	-.123*	1
	Sig. (2-tailed)	.000	.001	.003	.000	.021	.001	.003	.000	.021	
	N	354	354	354	354	354	354	354	354	354	354

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

The next table is used as to test assumptions; essentially, the Kaiser-Meyer-Olking (KMO) statistic should be greater than 0.500 and the Bartlett's test should be significant (e.g. p < .05). The Kaiser-Meyer-Olkin of sampling adequacy was above the threshold of 0.5 (KMO=0.666) indicating that the sample size was adequate for the variables entered into analysis. The Bartlett's Test of Sphericity was significant ($\chi2$=699.742, df=18, P<0.001) showing that factor analysis using principal component was relevant for the data set and there were some relationships between the variables.

Table 4. 27: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.666
Bartlett's Test of Sphericity	Approx. Chi-Square	699.742
	Df	18
	Sig.	.000

The table 4.28 shows the eigenvalues (variances of the principal components) associated with each linear component (factor) before extraction, and after extraction. The extraction converged in two iterations with two significant components with Eigenvalues accounting for 69.554% of the variance explained.

Table 4. 28: Total Variance Explained

Compone nt	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Varianc e	Cumulati ve %	Tota l	% of Varianc e	Cumulati ve %	Tota l	% of Varianc e	Cumulati ve %
1	2.369	47.374	47.374	2.36 9	47.374	47.374	1.99 2	39.836	39.836
2	1.109	22.180	69.554	1.10 9	22.180	69.554	1.48 6	29.718	69.554
3	.829	16.581	86.135						
4	.693	13.865	100.000						
5	-9.185E -17	-1.837E- 15	100.000						

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Compone nt	Total	% of Varianc e	Cumulati ve %	Tota l	% of Varianc e	Cumulati ve %	Tota l	% of Varianc e	Cumulati ve %
1	2.369	47.374	47.374	2.369	47.374	47.374	1.992	39.836	39.836
2	1.109	22.180	69.554	1.109	22.180	69.554	1.486	29.718	69.554
3	.829	16.581	86.135						
4	.693	13.865	100.000						

Extraction Method: Principal
Component Analysis.

Being above the threshold of 50% it indicated that the one-component factor model derived fitted the data appropriately. Items loading greater than 0.6 for the component combined to form the two principal components and the variables that clustered into them are shown in table 4.29.

Table 4.29: Rotated Component Matrix

	Component	
Variable	1	2
e1	-.116	.748
e2	.068	-.655
e4	.985	-.166
e8	.985	-.166
e10	-.178	.665

Extraction Method: Principal Component Analysis.
 Rotation Method: Varimax with Kaiser Normalization.

The effect of motivation on performance was examined by calculating the correlations.

Table 4.30: Correlation between Motivation and performance

	Not depressed	Don't feel lazy and boredom	Does the best possible job	Enjoy work	Job Commitment	Responsible for actions at work	Motivated, productive and creative	Stress produce poor work	Stress reduces productivity	Employees have high morale	Serves the customers efficiently	Produce accurate work	Efficient service delivery
e1	.443**	.085	.012	.059	-.054	.071	.006	-.065	-.010	-.053	-.173**	-.118*	-.078
e2	.206**	-.032	-.017	.018	-.013	-.059	-.062	-.028	.044	-.007	.118*	.107*	.035
e3	.181**	-.047	-.102	.038	-.029	.001	-.046	-.020	-.009	.022	.094	.055	.109*
e4	-.097	.041	-.059	-.018	-.024	.014	-.001	.098	.047	.014	.016	.023	.065
e5	.314**	-.036	.018	-.007	-.032	-.047	.033	.043	-.084	.005	.032	.010	.030
e6	.278**	-.080	.016	.005	-.052	-.019	-.010	.058	.030	.031	.153**	.089	.013
e7	.181**	-.047	-.102	.038	-.029	.001	-.046	-.020	-.009	.022	.094	.055	.109*
e8	-.097	.041	-.059	-.018	-.024	.014	-.001	.098	.047	.014	.016	.023	.065
e9	.314**	-.036	.018	-.007	-.032	-.047	.033	.043	-.084	.005	.032	.010	.030
e10	.171**	-.008	-.013	-.078	-.057	.118*	-.110*	-.025	-.042	-.075	-.020	-.032	.022

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Results showed that lack of depression and effective performance was significant at 0.01 level of significance on being encouraged to find new and better ways to do work (.443); being appreciated when one put extra effort at work (.206); being encouraged to take initiative at work (.181) valuing creativity and innovation (.314); department often holding social activities for motivation of staff members (.278); ease of discussing or sharing personal problems with the boss or members of the department (.181); promotion being based on performance (-.314) and appraisals being regular and focused on personal development (.171).

Ability to serve the customers efficiently was significantly correlated to being encouraged to find new and better ways to do work (-.173); being appreciated when one puts extra effort in their work (.118) and department often holding social activities for motivation of staff members (.153). Having efficient service delivery was significantly

correlated to being encouraged to take initiative in work (.109) and ease of discussing or sharing personal problems with the boss or members of the department (.109).

4.4.5 Management Related Stress

To assess management respondents were presented with a list of statements on a five point likert scale and asked to rate their agreement with each. 51% of the respondents, agreed to be aware of their organization structure. More than half of the respondents (54%) were either neutral or disagreed with the statement on their Organization Structure being appropriate. Most of the respondents (79%) agreed that people are held accountable for the quality of work they produce. Two thirds of the respondents agreed that their supervisor asks for their input to help make decisions. More than half of the respondents (59%) supported the statement that their supervisor tells them when they do their work well. However, most of the respondents (55%) disagreed with the statement that their supervisor tells them when their work needs improvement. More than two thirds (69%) of the respondents agreed that their supervisor delegates work effectively. On the other hand slightly more than half of the respondents (53%) felt adequately utilized in their job. Management is sensitive to employee problems was agreed upon by 53% of the respondents while another 57% agreed to being involved in decision making in their organization.

Table 4.31: Management

Variable	Strongly Disagree	Disagree	Neither agree nor Disagree	Agree	Strongly Agree
I am aware of my Organization Structure	6%	20%	23%	39%	12%
The Organization Structure is appropriate	10%	19%	25%	32%	14%
People are held accountable for the quality of work they produce	6%	9%	6%	43%	36%
My supervisor asks for my input to help make decisions	2%	10%	21%	37%	30%
My supervisor tells me when I do my work well	4%	10%	27%	31%	28%
My supervisor tells me when my work needs improvement	12%	20%	23%	33%	12%
My supervisor delegates work effectively	2%	16%	12%	49%	20%
I feel adequately utilized in my job	4%	14%	29%	49%	4%
Management is sensitive to employee problems	8%	10%	28%	39%	14%
I am involved in decision making in my organization	8%	12%	23%	47%	10%

Segregation by respondent's University, great discrepancies in responses were not observed.

Management in this study was evaluated using 10 items. The five point likert scale of (10) data items, was used to measure and determine the extent to which management comprised of the desired outcomes. A correlation was first done on all the data items under management and only those that significantly correlated to each other were further reduced into few principal components. Results from correlations showed that "The Organization Structure is appropriate-f2" and "f3 People are held accountable for the quality of work they produce-f3" did not correlate with most of other items and was therefore eliminated before running factor analysis.

Table 4. 32: Management by University

	Variable	University			
		Total	JKUAT	UoN	KU
f1	I am aware of my Organization Structure	3.3	3.3	3.3	3.3
f2	The Organization Structure is appropriate	3.2	3.1	3.2	3.2
f3	People are held accountable for the quality of work they produce	3.9	3.9	4.0	4.0
f4	My supervisor asks for my input to help make decisions	3.8	3.8	3.8	3.8
f5	My supervisor tells me when I do my work well	3.7	3.8	3.7	3.7
f6	My supervisor tells me when my work needs improvement	3.1	3.2	3.1	3.1
f7	My supervisor delegates work effectively	3.7	3.6	3.7	3.7
f8	I feel adequately utilized in my job	3.4	3.4	3.3	3.3
f9	Management is sensitive to employee problems	3.4	3.5	3.4	3.4
f10	I am involved in decision making in my organization	3.4	3.3	3.4	3.4
	Average	**3.4**	**3.2**	**3.5**	**3.3**

The Kaiser-Meyer-Olkin of sampling adequacy was above the threshold of 0.5 (KMO=0.669) indicating that the sample size was adequate for the variables entered into analysis. The Bartlett's Test of Sphericity was significant ($\chi 2$=699.742, df=28, P<0.001) showing that factor analysis using principal component was relevant for the data set and there were some relationships between the variables.

Table 4. 33: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.669
Bartlett's Test of Sphericity	Approx. Chi-Square	699.742
	Df	28
	Sig.	.000

The table 4.34 shows the eigenvalues (variances of the principal components) associated with each linear component (factor) before extraction, and after extraction. The extraction converged in three iterations with one significant component with Eigenvalues accounting for 64.812% of the variance explained.

Table 4. 34: Total Variance Explained

Compone nt	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Tota l	% of Varianc e	Cumulativ e %	Tota l	% of Varianc e	Cumulativ e %	Tota l	% of Varianc e	Cumulativ e %
1	3.026	37.829	37.829	3.026	37.829	37.829	2.227	27.833	27.833
2	1.127	14.081	51.910	1.127	14.081	51.910	1.838	22.978	50.811
3	1.032	12.901	64.812	1.032	12.901	64.812	1.120	14.001	64.812
4	.847	10.583	75.394						
5	.711	8.889	84.283						
6	.598	7.479	91.762						
7	.375	4.682	96.444						
8	.284	3.556	100.000						

Extraction Method: Principal Component Analysis.

Being above the threshold of 50% it indicated that the one-component factor model derived fitted the data appropriately. Items loading greater than 0.5 for the component combined to form the one principal component and the variables that clustered into it are shown in table 4.35. The third component comprised of one item which was eliminated further analysis.

Table 4.35: Rotated Component Matrix

	Component		
Variable	1	2	3
f1	.775	.103	-.172
f4	.661	.501	-.008
f5	.606	.210	-.162
f6	.024	.795	-.167
f7	-.060	-.011	.923
f8	.790	-.025	.127
f9	.405	.515	-.374
f10	.173	.797	.170

Extraction Method: Principal Component Analysis.
 Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 4 iterations.

The effect of management on performance and was examined by calculating the correlations.

Table 4.36: Correlation between management and performance

	Not depressed	Don't feel lazy and boredom	Does the best possible job	Enjoy work	Job Commitment	Responsible for actions at work	Motivated, productive and creative	Stress produce poor work	Stress reduces productivity	Employees have high morale	Serves the customers efficiently	Produce accurate work	Efficient service delivery
f1	.114*	031	-.068	.008	012	.056	-.027	-.046	.051	-.007	-.015	-.038	-.125*
f2	.152**	-.032	.092	.078	-.097	-.058	.096	-.041	.059	.051	-.091	-.036	-.138*
f3	.132*	-.016	-.008	-.035	-.123*	.008	-.027	-.006	-.024	-.068	.003	.021	-.077
f4	.156**	.037	-.027	-.045	.021	.107*	-.018	-.057	.020	-.030	-.018	-.045	-.059
f5	.207**	.028	.001	-.064	.010	.098	-.068	-.014	-.097	-.095	-.084	-.093	-.110*
f6	.299**	.049	.082	.005	.078	-.008	.069	-.042	-.070	.025	-.087	-.097	-.097
f7	.153**	-.091	.008	.025	-.033	-.003	.014	-.018	.045	.037	.000	.013	.072
f8	.019	-.077	-.036	-.084	-.016	-.006	-.101	-.029	-.073	-.028	.126*	.073	.022
f9	.057	.133*	.011	.054	.045	.074	.123*	-.039	.034	-.047	-.216**	-.150**	-.178**
f1	.088	.060	.113*	-.002	.042	.165**	-.015	-.043	.023	-.030	-.126*	-.170**	-.0810

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Results showed that lack of depression and effective performance was positively and significantly correlated to being aware of Organization Structure (.114); organization Structure being appropriate (.152); People being held accountable for the quality of work they produce (.132); supervisor asking for employees' input to help make decisions (.156); supervisor telling employees when they do my work well(.207); supervisor telling employees when their work needs improvement (.299); and supervisor delegating work effectively (.153).

Being committed to their jobs was positively and significantly correlated to People being held accountable for the quality of work they produce (.123). Taking responsibility for our actions within the job environment was positively and significantly correlated to supervisor asking for employees' input to help make decisions (.107) and being involved in decision making in their organization (165). Having efficient service delivery was significantly correlated to being aware of organization structure (-.125) and organization Structure being appropriate (-.138).

4.4.6 Employee Performance Related Stress

To evaluate employee performance, respondents were presented with 13 statements on five pint likert scale and asked to rate their agreement with each statement. From the results most of the respondents (74%) agreed that they are not aggressive and depressed at work and therefore can perform duties effectively. Slightly over half of the respondents (55%) agreed that they do not always feel lazy, boredom and headache lowering their output. Surprisingly more than two thirds of the respondents (68%) agreed to not doing their best possible job. Over half of the respondents (53%) agreed that they enjoy their work. We are committed to our jobs was supported by 53% of the respondents. Most of the respondents (63%) disagreed that they take responsibility for their actions within the job environment. More than three quarters of the respondents (80%) admitted to being always motivated, productive and creative. Stress makes me produce poor quality work was agreed upon by 85% of the respondents while 81% agreed that stress reduces their productivity at work. On the other hand 60% of the respondents disagreed that employees in their University have high morale or commitment. Most of the respondents (57%) disagreed that they are able to serve the customers efficiently while 53% disagreed to being able to produce accurate work as expected by their organization. We have acquired efficient service delivery and quality of services in this University was disagreed by 60% of the respondents.

To provide a comparative description for the responses across the three universities, the

average for each statement were obtained as shown in table 4.37. Great discrepancies among the respondents from the three universities were not observed.

Table 4.37: Employee Performance

Variable	Strongly Disagree	Disagree	Neither agree nor Disagree	Agree	Strongly Agree
I am not aggressive and depressed at work and therefore can perform my duties effectively	7%	8%	12%	34%	40%
I do not always feel lazy, boredom and headache lowering my output	0%	8%	37%	31%	23%
You do not do the best possible job	5%	11%	16%	40%	28%
I enjoy my work	11%	17%	19%	34%	19%
We are committed to our jobs	12%	15%	21%	43%	10%
We take responsibility for our actions within the job environment	18%	26%	19%	21%	16%
We are always motivated, productive and creative	0%	5%	16%	51%	29%
Stress makes me produce poor quality work	1%	1%	13%	53%	32%
Stress reduces my productivity at work	0%	5%	15%	53%	28%
Employees in this University have high morale or commitment	4%	31%	25%	28%	12%
I am able to serve the customers efficiently	17%	18%	22%	33%	10%
I am able to produce accurate work as expected by my organization	14%	14%	26%	39%	8%
We have acquired efficient service delivery and quality of services in this University	13%	22%	24%	28%	12%

To provide a comparative description for the responses across the three universities, the

average for each statement were obtained as shown in table 4.37. Great discrepancies among the respondents from the three universities were not observed.

Table 4.38: Employee Performance

	Variable	Total	JKUAT	UoN	KU
			University		
g1	I am not aggressive and depressed at work and therefore can perform my duties effectively	3.9	4.0	4.0	3.8
g2	I do not always feel lazy, boredom and headache lowering my output	3.7	3.6	3.7	3.7
g3	You do not do the best possible job	3.8	3.2	3.8	3.9
g4	I enjoy my work	3.3	3.3	3.2	3.5
g5	We are committed to our jobs	3.2	3.2	3.3	3.2
g6	We take responsibility for our actions within the job environment	2.9	2.8	2.8	3.0
g7	We are always motivated, productive and creative	4.0	4.0	4.0	4.1
g8	Stress makes me produce poor quality work	4.1	4.1	4.1	4.2
g9	Stress reduces my productivity at work	4.0	4.0	4.0	4.1
g10	Employees in this University have high morale or commitment	3.1	3.0	3.1	3.2
g11	I am able to serve the customers efficiently	3.0	3.2	3.1	2.9
g12	I am able to produce accurate work as expected by my organization	3.1	3.2	3.2	3.0
g13	We have acquired efficient service delivery and quality of services in this University	3.0	2.9	3.0	3.1
	Average	**3.4**	**3.2**	**3.4**	**3.5**

(a) Factor analysis for Employee Performance

Employee Performance in this study was evaluated using 13 items. The five point likert scale of (13) data items, was used to measure and determine the extent to which Employee Performance comprised of the desired outcomes. A correlation was first done on all the data items under Employee Performance and only those that significantly correlated to each other were further reduced into few principal components. Results from correlations showed that "I am not aggressive and depressed at work and therefore can perform my duties effectively-g1", "You do not do the best possible job-g3", "We

are committed to our jobs-g5"and " Stress reduces my productivity at work-g9" did not correlate with most of other items and was therefore eliminated before running factor analysis, Table 4.67 in the appendix.

The Kaiser-Meyer-Olkin of sampling adequacy was above the threshold of 0.5 (KMO=0.540) indicating that the sample size was adequate for the variables entered into analysis. The Bartlett's Test of Sphericity was significant ($\chi2=646.288$, df=36, P<0.001) showing that factor analysis using principal component was relevant for the data set and there were some relationships between the variables.

Table 4. 39: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.540
Bartlett's Test of Sphericity	Approx. Chi-Square	646.288
	Df	36
	Sig.	.000

The table 4.40 shows the eigen values (variances of the principal components) associated with each linear component (factor) before extraction, after extraction and after rotation. The rotations converged in four iterations with four significant components with Eigen values accounting for 62.319% of the variance explained.

Table 4. 40: Total Variance Explained

Component	Initial Eigen values			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.311	25.673	25.673	2.311	25.673	25.673	2.027	22.521	22.521
2	2.010	22.331	48.004	2.010	22.331	48.004	1.822	20.245	42.766
3	1.288	14.315	62.319	1.288	14.315	62.319	1.760	19.553	62.319
4	.943	10.477	72.796						
5	.755	8.386	81.183						
6	.630	6.995	88.178						
7	.526	5.849	94.027						
8	.310	3.443	97.470						
9	.228	2.530	100.000						

Extraction Method: Principal Component Analysis.

Being above the threshold of 50% it indicated that the two-component factor model derived fitted the data appropriately. Items loading greater than 0.6 for each component, except for e11, combined to form the four principal components and the variables that clustered into each are shown in table 4.41.

Table 4.41: Rotated Component Matrix

Variable	Component		
	1	2	3
g2 I do not always feel lazy, boredom and headache lowering my output	-.225	.731	-.009
g4 I enjoy my work	-.171	-.094	.772
g6 We take responsibility for our actions within the job environment	-.467	.309	-.553
g7 We are always motivated, productive and creative	-.085	.451	.638
g8 Stress makes me produce poor quality work	.079	.684	-.034
g10 Employees in this University have high morale or commitment	.161	.553	.574
g11 I am able to serve the customers efficiently	.886	-.021	-.134
g12 I am able to produce accurate work as expected by my organization	.873	.029	-.002
g13 We have acquired efficient service delivery and quality of services in this University	.376	.452	.320

Extraction Method: Principal Component Analysis.
 Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 6 iterations.

4.5 Variables in the equation

The study used the factor analysis to reduce each variable to fewer items that were then averaged to form six variables needed for regression model. The descriptive statistics for the resultant variable are displayed below. The ranges of twice the standard error (SE) of skewness of the variables were: $X1 = \pm 0.26$; $X2 = \pm 0.26$; $X3 = \pm 0.34$; $X4 = \pm 0.36$; X5 $= \pm 0.26$ and $Y = \pm 0.26$. The computed skewness value for Y was .219. Since this value is within the range of twice the SE of Y, Y values were not skewed hence normally distributed. X1, X2, X3, X4 and X5 values of skewness fell within the ranges of twice their Standard errors, showing that their distributions were roughly normal. The ranges of twice the standard error (SE) of kurtosis of the variables were: $Y = \pm .524$; $X1 = \pm 5.18$; $X2 = \pm .518$ and $X3 = \pm 5.18$. The computed kurtosis value for Y, X1, X2, X3, X4 and X5 were within the range of twice their Standard errors and close to 0(zero). Since the computed values for Y, X1, X2, X3, X4 and X5 were within the range and close to zero, it showed that the distribution of the variables were nearly normal in terms of peakedness.

Table 4. 42: Descriptive Statistics

Variable	X	N Statistic	Minimum Statistic	Maximum Statistic	Mean Statistic	Std. Deviation Statistic	Skewness Statistic	Skewness Std. Error	Kurtosis Statistic	Kurtosis Std. Error
Worker's relationship	X1	354	2.50	5.00	3.8070	.62267	-.228	.130	-.440	.259
Worker's movement	X2	354	1.40	4.25	2.8031	.62804	.123	.130	-.467	.259
Workplace Facilities	X3	354	2.60	5.00	4.1992	.52756	-.335	.170	-.480	.259
Motivation	X4	354	2.80	4.60	3.9028	.50834	-.329	.180	-.454	.259
Management	X5	354	2.25	4.75	3.4763	.60379	-.201	.130	-.322	.259
Employee performance	Y	354	1.78	5.00	3.4131	.51683	.219	.130	.429	.259

4.6 Univariate analysis

4.6.1 Relationship between Worker's relationship (X1) and Employee performance(Y)

Linear Regression analysis was employed to predict Employee performance from Worker's relationship. Model summary shows the coefficient of determination (R^2) which tells us the percentage of the variation in Employee performance explained by the model. From the results of the table 4.43, the regression model containing Worker's relationship as the independent variable explains 22.13% of the variation in Employee performance. The size of Durbin Watson statistic which depends on the number of

predictors and number of observation, as conservative rule of thumb, values less than 1 or greater than 3 are definitely cause for concern. Durbin-Watson value of 2.071 indicates that the model did not suffer significantly from autocorrelation.

Table 4. 43: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
					Change Statistics					
1	.472[a]	.223	.221	.46172	.223	98.398	1	343	.000	2.071

A. Predictors: (constant), Worker's relationship

B. Dependent variable: employee performance

The table 4.44 displays ANOVA results that test the significance of the R^2 for the model. An F statistics of 98.398 with a p-value less than the conventional 5% indicates that the overall model was significant at 95% confidence level.

Table 4. 44: ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	20.977	1	20.977	98.398	.000[a]
Residual	73.123	343	.213		
Total	94.100	344			

A. Predictors: (constant), Worker's relationship

B. Dependent variable: employee performance

In order to detect whether multicollinearity was a problem to the model, condition index; the variance-inflation factor (VIF); and tolerance of each variable was calculated. VIF values are considered a problem when they go beyond 10, and tolerance values below .10 should be a cause for concern. A condition index over 30 suggests serious co linearity problems and an index over 15 indicates possible co linearity problems. The data were duly tested for multicollinearity by using Pearson's correlation and conditional index. The Table below, showed no serious problem of multicollinearity.

Table 4. 45: CollinearityDiagnostics

				Variance Proportions	
Model	Dimension	Eigen value	Condition Index	(Constant)	Worker's relationship
1	1	1.979	1.000	.01	.01
	2	.021	9.650	.99	.99
a. Dependent variable: employee performance					

Table 4.46 of coefficients presents the unstandardized and standardized coefficients of the model, the t statistic for each coefficient and the associated p-values. The predictor variable had significant positive relationship with Employee performance.

The findings confirm that there is a statistically significant influence of Worker's relationship on Employee performance. This implies that an increase in Worker's relationship leads to an increase in Employee performance as demonstrated by the equation below.

Employee performance= **2.375** + **.337** Worker's relationship

Table 4.46: Coefficients

	Unstandardized Coefficients		Standardized Coefficients			Co linearity Statistics	
Model	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1 (Constant)	2.375	.121		19.587	.000		
Worker's relationship	.337	.034	.472	9.920	.000	1.000	1.000
A. Dependent variable: employee performance							

4.6.2. Relationship between Worker's movement (X2) and Employee performance(Y)

Linear Regression analysis was employed to predict Employee performance from Worker's movement. Model summary shows the coefficient of determination (R^2) which

tells us the percentage of the variation in Employee performance explained by the model. From the results of the table 4.47, the regression model containing Worker's movement as the independent variable explains 31.0% of the variation in Employee performance. The size of Durbin Watson statistic which depends on the number of predictors and number of observation, as conservative rule of thumb, values less than 1 or greater than 3 are definitely cause for concern. Durbin-Watson value of 1.836 indicates that the model did not suffer significantly from autocorrelation.

Table 4.47: Model Summary

| | | | | Std. Error | Change Statistics | | | | | |
| | | R | Adjusted | of the | R Square | F | | | Sig. F | Durbin- |
Model	R	Square	R Square	Estimate	Change	Change	df1	df2	Change	Watson
1	.557[a]	.310	.308	.43535	.310	153.508	1	341	.000	1.836

A. Predictors: (constant), Worker's movement

B. Dependent variable: employee performance

The table 4.48 displays ANOVA results that test the significance of the R^2 for the model. An F statistics of 153.508 with a p-value less than the conventional 5% indicates that the overall model was significant at 95% confidence level.

Table 4. 48: ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	29.094	1	29.094	153.508	.000[a]
Residual	64.630	341	.190		
Total	93.724	342			

A. Predictors: (constant), Worker's movement

B. Dependent variable: employee performance

In order to detect whether multicollinearity was a problem to the model, condition index;

the variance-inflation factor (VIF); and tolerance of each variable was calculated. VIF values are considered a problem when they go beyond 10, and tolerance values below .10 should be a cause for concern. A condition index over 30 suggests serious collinearity problems and an index over 15 indicates possible collinearity problems. The data were duly tested for multicollinearity by using Pearson's correlation and conditional index. The Table 4.49, showed no serious problem of multicollinearity.

Table 4. 49: Collinearity Diagnostics

				Variance Proportions	
Model	Dimension	Eigenvalues	Condition Index	(Constant)	Worker's movement
1	1	1.958	1.000	.02	.02
	2	.042	6.809	.98	.98

a. Dependent variable: employee performance

Table 4.50 of coefficients presents the unstandardized and standardized coefficients of the model, the t statistic for each coefficient and the associated p-values. The predictor variable had significant positive relationship with Employee performance.

The findings confirm that there is a statistically significant influence of Worker's movement on Employee performance. This implies that an increase in Worker's movement leads to an increase in Employee performance as demonstrated by the equation below.

Employee performance= **2.579 + .334** Worker's movement

Table 4. 50: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	2.579	.082		31.546	.000		
Worker's movement	.334	.027	.557	12.390	.000	1.000	1.000

a. Dependent Variable: employee performance

4.6.3 Relationship between Workplace facilities(X3) and Employee performance(Y)

Linear Regression analysis was employed to predict Employee performance from Workplace facilities. Model summary shows the coefficient of determination (R^2) which tells us the percentage of the variation in Employee performance explained by the model. From the results of the table 4.51, the regression model containing Workplace facilities as the independent variable explains 21.4% of the variation in Employee performance. The size of Durbin Watson statistic which depends on the number of predictors and number of observation, as conservative rule of thumb, values less than 1 or greater than 3 are definitely cause for concern. Durbin-Watson value of 2.185 indicates that the model did not suffer significantly from autocorrelation.

Table 4. 51: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
					Change Statistics					
1	.463^a	.214	.212	.464	.214	93.597	1	343	.000	2.185

A. Predictors: (constant), workplace facilities

B. Dependent variable: employee performance

The table 4.52 displays ANOVA results that test the significance of the R^2 for the model. An F statistics of 93.597 with a p-value less than the conventional 5% indicates that the overall model was significant at 95% confidence level.

Table 4. 52: ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	20.173	1	20.173	93.597	.000[a]
Residual	73.927	343	.216		
Total	94.100	344			

A. Predictors: (constant), workplace facilities

B. Dependent variable: employee performance

In order to detect whether multicollinearity was a problem to the model, condition index; the variance-inflation factor (VIF); and tolerance of each variable was calculated. VIF values are considered a problem when they go beyond 10, and tolerance values below .10 should be a cause for concern. A condition index over 30 suggests serious collinearity problems and an index over 15 indicates possible collinearity problems. The data were duly tested for multicollinearity by using Pearson's correlation and conditional index. The Table 4.53, showed no serious problem of multicollinearity.

Table 4. 53: Collinearity Diagnostics

Model	Dimension	Eigenvalues	Condition Index	Variance Proportions (Constant)	Workplace Facilities
1	1	1.966	1.000	.02	.02
	2	.034	7.571	.98	.98

a. Dependent Variable: employee performance

Table 4.54 of coefficients presents the unstandardized and standardized coefficients of the model, the t statistic for each coefficient and the associated p-values. The predictor variable had significant positive relationship with Employee performance.

The findings confirm that there is a statistically significant influence of Workplace facilities on Employee performance. This implies that an increase in Workplace facilities leads to an increase in Employee performance as demonstrated by the equation below.

Employee performance= **2.652 + .315 Workplace facilities**

Table 4.54: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	2.652	.096		27.551	.000		
Workplace Facilities	.315	.033	.463	9.675	.000	1.000	1.000
a. Dependent Variable: employee performance							

4.6.4 Relationship between Motivation (X4) and Employee performance(Y)

Linear Regression analysis was employed to predict Employee performance from Worker's motivation. Model summary shows the coefficient of determination (R^2) which tells us the percentage of the variation in Employee performance explained by the model. From the results of the table 4.55, the regression model containing Worker's motivation as the independent variable explains 11.2% of the variation in Employee performance. The size of Durbin Watson statistic which depends on the number of predictors and number of observation, as conservative rule of thumb, values less than 1 or greater than 3 are definitely cause for concern. Durbin-Watson value of 1.694 indicates that the model did not suffer significantly from autocorrelation.

Table 4.55: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.334[a]	.112	.109	.48785	1.694
a. Predictors: (Constant), Worker's motivation					
b. Dependent Variable: Employee performance					

The table 4.56 displays ANOVA results that test the significance of the R^2 for the model. An F statistics of 44.184 with a p-value less than the conventional 5% indicates that the overall model was significant at 95% confidence level.

Table 4. 56: ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	10.516	1	10.516	44.184	.000[a]
Residual	83.777	352	.238		
Total	94.293	353			

a. Predictors: (Constant), Worker's motivation

b. Dependent Variable: Employee performance

In order to detect whether multicollinearity was a problem to the model, condition index; the variance-inflation factor (VIF); and tolerance of each variable was calculated. VIF values are considered a problem when they go beyond 10, and tolerance values below .10 should be a cause for concern. A condition index over 30 suggests serious collinearity problems and an index over 15 indicates possible collinearity problems. The data were duly tested for multicollinearity by using Pearson's correlation and conditional index. The Table 4.57, showed no serious problem of multicollinearity.

Table 4. 57: Collinearity Diagnostics

				Variance Proportions	
Model	Dimension	Eigenvalues	Condition Index	(Constant)	Worker's motivation
1	1	1.987	1.000	.01	.01
	2	.013	12.326	.99	.99

a. Dependent Variable: Employee performance

Table 4.58 of coefficients presents the unstandardized and standardized coefficients of the model, the t statistic for each coefficient and the associated p-values. The predictor variable had significant positive relationship with Employee performance.

The findings confirm that there is a statistically significant influence of Worker's motivation on Employee performance. This implies that an increase in Worker's motivation leads to an increase in Employee performance as demonstrated by the equation.

Employee performance= 2.358 + .277Worker's motivation

Table 4.58: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1 (Constant)	2.358	.161		14.658	.000		
Worker's motivation	.277	.042	.334	6.647	.000	1.000	1.000

a. Dependent Variable: Employee performance

4.6.5 Relationship between Management (X5) and Employee performance(Y)

Linear Regression analysis was employed to predict Employee performance from Management. Model summary shows the coefficient of determination (R^2) which tells us the percentage of the variation in Employee performance explained by the model. From the results of the table 4.59, the regression model containing Management as the independent variable explains 23.9% of the variation in Employee performance. The size of Durbin Watson statistic which depends on the number of predictors and number of observation, as conservative rule of thumb, values less than 1 or greater than 3 are definitely cause for concern. Durbin-Watson value of 2.614 indicates that the model did not suffer significantly from autocorrelation.

Table 4.59: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.489[a]	.239	.237	.45144	2.614

a. Predictors: (Constant), Management
b. Dependent Variable: Employee performance

The table 4.60 displays ANOVA results that test the significance of the R^2 for the model. An F statistics of 110.676 with a p-value less than the conventional 5% indicates that the overall model was significant at 95% confidence level.

Table 4. 60: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	22.556	1	22.556	110.676	.000[a]
	Residual	71.737	352	.204		
	Total	94.293	353			

a. Predictors: (Constant), Management

b. Dependent Variable: Employee performance

In order to detect whether multicollinearity was a problem to the model, condition index; the variance-inflation factor (VIF); and tolerance of each variable was calculated. VIF values are considered a problem when they go beyond 10, and tolerance values below .10 should be a cause for concern. A condition index over 30 suggests serious collinearity problems and an index over 15 indicates possible collinearity problems. The data were duly tested for multicollinearity by using Pearson's correlation and conditional index. The Table 4.61, showed no serious problem of multicollinearity.

Table 4. 61: Collinearity Diagnostics

				Variance Proportions	
Model	Dimension	Eigenvalues	Condition Index	(Constant)	Management
1	1	1.976	1.000	.01	.01
	2	.024	9.050	.99	.99

a. Dependent Variable: Employee performance

Table 4.62 of coefficients presents the unstandardized and standardized coefficients of the model, the t statistic for each coefficient and the associated p-values. The predictor variable had significant positive relationship with Employee performance. The findings confirm that there is a statistically significant influence of Management on Employee performance. This implies that an increase in Management leads to an increase in Employee performance as demonstrated by the equation.

Employee performance= **2.285 + .402Management**

Table 4.62: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
	B	Std. Error	Beta	T	Sig.	Tolerance	VIF
1 (Constant)	2.285	.110		20.792	.000		
Management	.402	.038	.489	10.520	.000	1.000	1.000

a. Dependent Variable: Employee performance

4.7 Multivariate analysis

Multivariate linear Regression analysis was employed to predict Employee performance from the joint contribution of Worker's relationship, Worker's movement, Workplace facilities, Motivation and Management. Model summary shows the coefficient of determination (R^2) which tells us the percentage of the variation in Employee performance explained by the model. From the results of the table 4.63, the regression model containing Worker's relationship, Worker's movement, Workplace facilities, Motivation and Management as the predictor variables explains 61.0% of the variation in Employee performance. The size of Durbin Watson statistic which depends on the number of predictors and number of observation, as conservative rule of thumb, values less than 1 or greater than 3 are definitely cause for concern. Durbin-Watson value of 1.851 indicates that the model did not suffer significantly from autocorrelation.

Table 4.63: Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.781[a]	.610	.582	.02779	1.851

b. Dependent variable: employee performance

The table 4.64 displays ANOVA results that test the significance of the R^2 for the model. An F statistics of 57.717 with a p-value less than the conventional 5% indicates that the overall model was significant at 95% confidence level.

Table 4. 64: ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	31.687	3	10.562	57.717	.000[a]
Residual	62.037	339	.183		
Total	93.724	342			

a. Predictors: (Constant), workplace facilities, Worker's relationship , Worker's movement

b. Dependent Variable: employee performance

Table 4.65 of coefficients presents the unstandardized and standardized coefficients of the model, the t statistic for each coefficient and the associated p-values. The predictor variables had significant positive relationship with Employee performance except motivation. The findings confirm that there is a statistically significant influence of Worker's relationship, Worker's movement, Workplace facilities and Management on Employee performance. This implies that unit increase in Worker's relationship, Worker's movement, Workplace facilities and Management leads to an increase in Employee performance as demonstrated by the equation.

Employee performance= 2.286+.126Worker's relationship +.348Worker's movement +.115Workplace facilities + .096 Management+.277 Motivation

Table 4.65: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1 (Constant)	2.286	.344		6.637	.000		
Worker's relationship	.126	.043	.152	2.957	.003	.805	1.242
Worker's movement	.348	.042	.423	8.263	.000	.806	1.241
Workplace Facilities	.115	.040	.169	2.892	.004	.570	1.756
Motivation	.009	.049	.009	.187	.851	.914	1.094
Management	.096	.045	.135	2.135	.033	.488	2.047
a. Dependent Variable: Employee performance							

4.8 Discussion of the Findings

4.8.1 Influence of Worker's relationship on Employee performance

The findings confirm that there is a statistically significant influence of Worker's relationship on Employee performance. This implies that an increase in Worker's relationship leads to an increase in Employee performance as demonstrated by the equation:

Employee performance= 2.375 + .337**Worker's relationship**

These findings indicate that a positive increase in workers relationship will lead to a positive increase on the performance of the employees. Therefore improving workers relationship is a positive step towards ensuring a performing organisation. Similarly, in previous studies by Kumar (2013), it was found out that poor relationship between the superior and the workers contribute to the level of stress experienced by the workers. Kumar found out that the workers experienced more negative moods on the days when

they had distressing interactions with their superiors and co-workers. Other studies supporting the above finding include Chang and Lu (2007) and Brown and Uehara (2008) who found out that poor relationship of workers with their peers or supervisors often results in high turnover, high absenteeism, and low morale among the employees. The findings also support Vakola and Nikolaou (2005) who found out that lack of effective communication within an organization, excessive red tape, and seemingly endless paperwork was very stressful for internal auditors.

4.8.2 Influence of Worker's movement on Employee performance

The findings confirm that there is a statistically significant influence of Worker's movement on Employee performance. This implies that an increase in Worker's movement leads to an increase in Employee performance as demonstrated by the equation below:

Employee performance= 2.579 + .334**Worker's movement**

The results of the study indicate that that when there is positive work movement or work movement that the employees are comfortable with, their stress levels will reduce and they will perform better. These results are similar to those of Mohanraj and Manivannan (2013) who carried out a study on the occupational stress among migrated workers in unorganised sectors. They found out that migrated workers under large amounts of stress can become tired, sick and unable to concentrate or think clearly sometimes they even suffer mental break downs. In the present complex and competitive environment, stress level is increased both in the migrant workers and local workers. The stress reduces efficiency, productivity and profitability. Their study concluded that movement is a major cause of stress among employees and reduces their abilities to perform.

4.8.3 Influence of Workplace facilities on Employee performance

The findings confirm that there is a statistically significant influence of Workplace facilities on Employee performance. This implies that an increase in Workplace facilities

leads to an increase in Employee performance as demonstrated by the equation below:

Employee performance= 2.652 + .315 **Workplace facilities**

These findings from the study affirm that when the employees are subjected to the work facilities that they need to accomplish their duties, they will perform better. A positive improvement of work facilities will lead to improvement in performance. These findings are similar with those of Bradley (2007) who found out that when the employees are in control of the facilities they need for their jobs they will perform better since this control of resources necessary for their jobs buffers the effects of stress on the overall functioning of employees. Additionally, the results echo Betoret (2006) who studied Spanish secondary school teachers and found that school physical resources and teachers self-efficacy had effects of stress on teachers, in such way that the teachers' performance increased with increase in resources.

4.8.4 Influence of Worker's motivation on Employee performance

The findings confirm that there is a statistically significant influence of Worker's motivation on Employee performance. This implies that an increase in Worker's motivation leads to an increase in Employee performance as demonstrated by the equation below:

Employee performance= 2.358 + .277**Worker's motivation**

The above findings postulate that lack of motivation among employees may lead to stress that is negatively related to performance. However provision of motivation will come a long way in minimising stress and improving performance of the employees. These results are similar to previous studies which indicated that motivation of employees in an organisation which largely emanates from access to financial rewards, good pay and incentives will reduce stress and improve workers performance. White (2006) found out that when employees think that they are not rewarded according to the efforts they are putting in; it creates stress among them and therefore their work performance decreases. Additionally, Giga (2011) also found out that effective

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motivation can create a productive work force, but a lack of motivating factors can leave employees searching for reasons to give their maximum effort.

4.8.5 Influence of Management on Employee performance

The findings confirm that there is a statistically significant influence of Management on Employee performance. This implies that an increase in Management leads to an increase in Employee performance as demonstrated by the equation below:

Employee performance= 2.285 + .402 **Management**

Following from these results, employees will perform better in an environment where they consider the management to be positive either in supporting them or in their management. Efficiency in management leads to positive employee performance. These results echo past studies which indicated that poor management of work leads to workplace stress and reduce the performance of the workers. Bashir (2010) found out that role conflict makes the employee incompatible to complete well his or her job task and this causes job stress. Dar *et al*. (2011) also found out that performance is hindered by job description conflict because with it the individual faces either a lack of knowledge about the most effective behaviours to engage in or an almost impossible situation for doing everything expected. The findings also supports those of Robbins et al. (2009) who found out that workload can lead to severe stress which can have insalubrious effect on the lives of employees, which can lead to reduced effectiveness, less inspiration and increase in non-appearance in office.

4.8.6 Determinants of occupational stress and their effect on employee performance

The findings confirm that there is a statistically significant influence of Worker's relationship, Worker's movement, Workplace facilities and Management on Employee performance. This implies that unit increase in Worker's relationship, Worker's movement, Workplace facilities, motivation and Management leads to an increase in Employee performance as demonstrated by the equation below:

Employee performance= 2.286+.126Worker's relationship +.348Worker's movement +.115Workplace facilities + .096 Management+ .277 motivation

The above findings support findings from previous studies such as Botha and Pienaar (2006) who found out that income, heavy workload, lack of workspace, lack of resources (including equipment and material to do tasks), absence of proper company procedures, insufficient time to perform duties, meeting deadlines imposed by others, have been introduced as stressors related to work environment and which eventually contribute to the performance of employees at the work place. The findings also agree with Sveinsdottir *et al*. (2006) who found out that external accountability, responsibility, work relationships, insufficient consultation, communication, inadequate feedback on performance and organizational changes have been introduced as sources of occupational stress and have significant relationship with the performance of the employees.

CHAPTER FIVE
SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary, conclusions and recommendations of the study on effects of occupational stress on employee performance in the public universities in Kenya. This was arrived at through the scrutiny of the data analysed in chapter four as well as making inferences and deductions from the data. What follows is a summary of the key effects of occupational stress on employee performance in the public universities in Kenya. Also highlighted in this chapter are possible suggestions for further research.

5.2 Summary

Employees in institutions of higher education have a major role to play in achieving the objectives of the institution. The performance of the staff, both as teachers, researchers and managers, determines to a large extent, the quality of the student experience of higher education and has a significant effect on student learning and thereby on the contribution that such institutions can make to society. Responsibility for others is often associated with significant occupational stress. Each of the sources of stress that were assessed in this study was found to be significant and that each is a strong determinant of performance of the employees in the public universities and therefore should be given attention.

5.2.1 Working facilities stress and performance
Working facilities refers to the resources that workers require to accomplish their tasks in the institution. The working facilities include both personal as well as job resources. These facilities buffer the negative effects of stress on the performance. The job facilities/resources mean those physical, psychological, social, or organizational facets of the job which are functional in achieving work related goals, which reduces job demands and the associated costs and which stimulate growth, learning, and

development. On other side the personal resources refer to those resources, which are commonly associated with the people's self-evaluation that enables them to control and influence their environment. Although the respondents in this study indicate working facilities as the major source of stress that determines their performance in their workplaces, they are positive that the current work facilities in the universities do not expose them to stress. They indicated that they have all the facilities they require to do their work at place of work or office (76%); every worker in my organization is accorded office space where and when needed (78%); and that offices at their place of work/section are enough and comfortable (69%). Notably, almost all the respondents indicated that the location of their place of work and offices are well planned in line with their requirements and therefore appropriate (91%).

5.2.2 Working Relationships Stress and Performance

Relationships at the workplace are a major source of stress among workers in the public universities. When the relationship of an employee with their peers as well as their supervisors is not effective, the employees tend to be under stress in delivering of their duties hence performing poorly. However it is not only the relationship among individuals that might lead to stress within the public organisations. Some other sources of stress include relationships between groups, the public universities, departments or campuses. Stress can emanate from these relationships and transfer to the workers. Relationships stress arises from conflicts that exist within relationships. Workers will more likely experience more negative moods on the days when they had distressing interactions with those they relate (superiors and co-workers) impacting negatively on their performance. According to the results of the study, most workers in the public universities rarely experience relationship stress. Based on the results, there exists a good relationship between the workers/colleagues at place of work/office (78%) and there is support within the work place in case of a problem. The concerns of the employees are addressed and acted upon promptly (63%). Additionally, the public university administrations are generally supportive especially on issues relating to the

welfare of their workers (78%).

Conclusively, Most of the study respondents reported existence of a good relationship between the workers/ colleagues at their place of work place. On the other hand respondents agreed that their colleagues are supportive in case of a problem at places of work. These results support those of Spector (2002) who observes that interpersonal relationships at work such as conflicts with co-workers or abusive behaviour by supervisors cause stress in the work place. Respondents were observed to refute staff welfare committee support and follows up on the concerns of the employees. Most of them reported that when issues are forwarded to the welfare section /committee, they are not acted upon promptly. This is could be a source of stress for most of the employees. These findings support those of Repetti (1993) who postulates that poor relationship between the superior and the workers contribute to the level of stress experienced by the workers.

5.2.3 Movement stress and performance

Movement stress within the public universities is caused by transfers that the university workers can get when they are posted in different campuses. Movement from one place to the other might expose the workers to a new environment where they have to take some time to adapt and produce results. The process of adapting coupled with the demand from the job as well as competition that is apparent in the education industry, leads to stress among the workers which eventually undermines their productivity and performance. Another source of stress that is common although not in public universities is shift works. This is a movement that is only exposed to university workers who choose to have shifts. However it is not a common occurrence in public universities although operatives within the public universities are expected to work during the day and the night and might be exposed to shift stress.

According to the results of the study, exposing the workers to movement stress reduces their abilities to perform since it perpetuates absenteeism. Moving from one place to

another also interferes with family life which leads to stress and poor performance. However the study results did not depict high level of movement stress among university workers, in fact the study found out that the workers might not be exposed to movement stress since: they are very comfortable in their current status/place of work/position; a few interviews are conducted regularly at their current place of work; the working condition/environment at current place of work is conducive (65%); and job transfers in the public universities rarely take place (59%). However they seem not to be comfortable with the design and the coordination of the working shifts (53%) which can be a major source of stress and interfere with their performance. On the other hand there are movements that might not lead to stress but lack of such movement are a source of stress and can lead to poor performance among the employees. For example, respondents refuted being occasionally taken to trips for purposes of team building and reducing monotony at my department/section. These results support those of Noblet (2003) who observed that having a say in what happens in the workplace helps employees to generate greater ownership over their work, to address or avoid stressful situations, and over all, to achieve higher levels of well-being.

5.2.4 Motivation Stress and Performance

Motivation involves the ability to make somebody want to do something especially something that involves hard work. In a university work environment, employees will feel motivated to do their work effectively and efficiently if they are rewarded accordingly and are given an opportunity to participate in decision making. Reward does not only involve salaries but other sources of remuneration such as gifts and awards as well as opportunities for promotion. The reward however needs to be fair or at least employees need to perceive the reward to be fair. The stress 'salary not as good as other people doing similar work' is connected to two key expectations that employees have when they begin employment with an organization; that they will be treated fairly and that they will be recognized for the work they do.

Additionally, employees will feel motivated to work within the public universities and hence minimise cases of stress at the workplace, if they are exposed to policies and procedures that appear to not to discriminate unfairly between employees, or tend to value some employees more than others. The results also indicate that when public university workers are able to ascertain that within the organisation there are financial incentives, involvement in decision making, and a career path that leads to management, the cases of stress and subsequently poor performance is minimised. Results of the study indicated that while workers in public universities perceive the organisations as offering them motivation by: being appreciated when they put extra effort at work; department often holding social activities for motivation of staff members; and, promotion being based on performance, motivation among public university workers is still a major source of stress that undermines their performance.

5.2.5 Management stress and performance

Management in this study refers to how the organization supervisors or leaders assign roles to their subordinates and how effectively those roles are assigned to enhance productivity. Working in a large, hierarchical, bureaucratic organization where employees have little control over their jobs can be very stressful. Additionally, when there is a high concentration of assignments at work: excessive work or work that is outside one's capability, employees gets stressed and perform poorly. Since in management supervisors hold each employee accountable to their actions and duties, and for the quality of work they produce, role conflict that relates with mismatched role potentials, and role ambiguity which explains the uncertainty of what is expected, leads to stress and eventually interferes with the performance of the university workers. Respondents were neutral on the statement of whether they were not depressed at work and therefore can perform their duties effectively. Respondents did not also know how to rate whether they felt always lazy, bored and headache lowering their output. Most of the respondents felt that they did not do the best possible job. However, most of the respondents enjoy their work and are committed to it.

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5.3 Conclusions

Keeping in view the important role of university workers in ensuring that the institution achieves its objectives of sustaining economic and social development of the country, the concept of university workers performance has achieved a strategic significance. The performance of university workers is affected by intra as well as extra organizational factors, which act as impediments to normal routine functioning of the workers. Once the routine functioning of the workers is disrupted, then the university workers develop feelings of exhaustion and frustration, and if the disrupted situation persists then negative dysfunctional feelings hit the workers which can be termed as stress, which is a reaction to the unwanted environmental stressors. Workers under stress cannot perform well. Their job satisfaction and motivation levels are decreased and they show unwanted behaviours like absenteeism, mistakes during work, drugs use and abuse and violence at work. Furthermore they have more health related physical and psychological complaints. The university employees' satisfaction level is also decreased in such way that the university cannot offer quality education to the students. The resultant effect include complaints from parents and other stakeholders on the status of service delivery at the institutions, frequent strikes, dissatisfied employees and poor performance of the universities in general, and eventually overall image of the educational institution gets damaged.

5.3.1 Influence of workplace relationship stress factors on the performance of employees in public universities in Kenya

The findings confirm that there is a statistically significant influence of Worker's relationship on Employee performance. A positive increase in Worker's relationship leads to an increase in employee performance. These results are in line with those of Sveinsdottir *et al.*(2006) who concluded that external accountability, responsibility,

work relationships, consultation, communication, feedback on performance and organizational changes have been introduced as sources of occupational stress.

5.3.2 Effect of working facilities stress factors on the performance of employees in public universities in Kenya

The findings confirm that there is a statistically significant influence of workplace facilities on employee performance. This implies that a positive increase in the conditions of workplace facilities leads to an increase in Employee performance. These results supports those of Botha &Pienaar (2006) who reported that income, heavy workload, lack of workspace, lack of resources (including equipment and material to do tasks), absence of proper company procedures, insufficient time to perform duties, meeting deadlines imposed by others, have been introduced as stressors related to work environment.

5.3.3 Effect of workers movement stress factors on the performance of employees in public universities in Kenya

The findings confirm that there is a statistically significant influence of Worker's movement on employee performance. Movement stress within the public universities is caused by transfers that the university workers can get when they are posted in different campuses. Movement from one place to the other might expose the workers to a new environment where they have to take some time to adapt and produce results. Therefore when there is positive work movement or work movement that the employees are comfortable with, their stress levels will reduce and they will perform better. In conclusion, the results of the study imply that a positive increase in Worker's movement leads to an increase in employee performance.

5.3.4 Effect of workers motivation stress factors on the performance of employees in public universities in Kenya

Motivation involves the ability to make somebody want to do something especially something that involves hard work. In public universities, there is a lot of work as depicted by the results of the study and therefore motivating employees will ensure that they are committed to delivering on their duties. When employees feel motivated to work within the public universities there will be minimal cases of stress at the workplace leading to positive performance. Effective motivation creates a productive work force, but a lack of motivating factors can leave employees searching for reasons to give their maximum effort. In conclusion the findings confirm that there is a statistically insignificant influence of Worker's motivation on employee performance.

5.3.5 Effect of management stress factors on the performance of employees in public universities in Kenya

The management of public universities is responsible for ensuring that there are smooth operations within the institution. This calls for ensuring that employees are effectively and efficiently assigned roles that are in line with their abilities to perform. When employees are subjected to a high concentration of assignments at work: excessive work or work that is outside one's capability, employees get stressed and perform poorly. Additionally cases of role ambiguity and role conflict can minimise the ability of the employees to deliver of their roles effectively. As such their performance and productivity will be lowered. It hence follows that poor management exposes the employees to stress, reducing their performance. Conclusively the study confirms that there is a statistically significant influence of management on employee performance. This implies that a positive increase in management score leads to an increase in employee performance.

5.4 Recommendations

The study recommended that Kenya public universities recognize the role that the determinants of stress identified in the study, such as workers relationships, working facilities, motivation, movement and management, plays in ensuring employee engagement and performance in the university. Recognizing these roles will enable the institution develop effective policies to address the factors that might lead to workers stress in the higher learning institutions.

Support from supervisors and colleagues are a major factor in reducing management and work relationships stress. Supervisors need to recognize the good work and outstanding contributions of employees in challenging times to keep them motivated. Promoting a culture of support and team worker will set the example and it will make them realize that co-workers support is very important for the overall performance and productivity of an organization.

Performance is hindered by stress because the individual faces signals of stress which affects their productivity. Therefore, increasing formal organizational communication with employees reduces relationships and management stress by lessening the role ambiguity. Open communication has an advantage of resolving conflicts between supervisors and subordinates. Lack of effective communication could cause unresolved conflicts that increase stress levels. Stress audits need to be conducted frequently to determine whether stress levels are getting out of control and leading to chronic stress, which affects workers performance negatively. Qualitative data on stress related absences, productivity rates, accidents, staff turnover and staff surveys where employee opinions are sought on stress will not only help to identify what is stressing them, but also provide possible solutions such as redesigning jobs, provision of health and fitness facilities, and undertaking training that can increase self-efficacy and lessen stress among workers in public universities.

The management of public universities should create general awareness among the workers regarding the existence of job stress and its related negative consequences. Furthermore, they should provide suitable working facilities to the workers in such a way that it can help in fighting stress and increasing performance. Apart for working facilities, the workers should also try to utilize their personal resources for managing their job related stress and performance. It should be done in such way that there is a balance between the workers' resources utilized and the stress dealt with for maximizing the performance.

No doubt stress is necessary for increasing performance of employees but up to a certain level. In this study the employees do their job regularly but due to workloads and time constraints their performance reduces. Balancing movement stress that is caused by workloads and time constraints due to shifts can ensure that the university workers do not work for longer hours and thus minimise stress and low productivity.

According to Nayak (2008), physiological stress is accompanied by high blood pressure, digestive problems, ulcers, indigestion, palpitation, chest pains, skin disorder, muscle tension, headaches among others. If the causes of stress are addressed the universities would save a lot in medical services and absenteeism's due to sicknesses thus enhancing performance and the overall productivity of the universities.

The universities and learning institutions in general have recognised the importance of counselling services to mitigate the challenges that the students go through in the institutions. Since counselling have positively contributed in reducing stress among students (Mairura, 2009) it is recommended that the services be extended to the employees so as to help them overcome the challenges' at workplaces, at home and the society at large. This would effectively reduce the negative experiences of the workers and positively impact on performance improving the universities productivity.

Recreation facilities have been known to reduce the effects of occupational stress. The universities should improve on recreational facilities and encourage the employees to participate in games, tournaments, tours among others which not only reduce stress but also enhance team worker, improving performance and organizational productivity. According to Spector (2002) occupational stress has been recognised as a major health issue for modern worker organizations. Conditions of the workplace have been shown to lead to negative emotional reactions, physical health both short-term and long term, and counterproductive behaviours at workplace for example absenteeism, alcohol and drug abuse negatively influencing performance of employees resulting to poor productivity. The universities should provide seminars offering positive coping strategies as opposed to the said negative coping strategies.

5.5 Areas for further research

This study has some limitations. It confined its focus to three universities only. Hence, future research should examine the effects of occupational stress affecting the performance of employees incorporating most of the universities in Kenya. This study and its findings should be viewed as a starting point for more extensive research related to determinant and effects of occupational stress. Research on other variables presumed related, either directly or indirectly to employee performance should be researched on. Whereas this research has relied on quantitative approaches to examine the effects of occupational stress affecting the performance of employees, an in-depth analysis of individual responses can generate useful inductive information and provide a richer understanding of the factors important in predicting occupational stress affecting the performance of employees.

REFERENCES

Addae H.M., Parbooteah K.P.& Velinor N. (2008), Role stressors and organizational commitment: Public sector employment in St. Lucia, *International Journal of Manpower*, 26(6), 567-582

Addae H.M., Parbooteah K.P. & Velinor N. (2008), Role stressors and organizational commitment: Public sector employment in St. Lucia, *International Journal of Manpower*, 26(6), 567-582

Akbar, A. (2011). *Faculty Stress at Higher Education: A Study on the Business Schools of Pakistan*: World Academy of Science, Engineering and Technology, 1082.

Al-Aameri S. (2003). Source of job stress for nurses in public hospitals. *Saudi Medical Journal*, 4(11),1183- 1187.

Alexandros-Stamatios G. A., Davidson M. J. & Cooper C. L. (2003). Occupational Stress, Job satisfaction, and health state in male and female junior hospital doctors in Greece. *Journal of Managerial Psychology*, 18(6), 592-621

Allen et al (2000). Consequences Associated with Work Family conflict: a review and Agenda for future Research. *Journal of occupational Health Psychology* 5 278-308.

Arnold B.et al (2007). Job resources boost work engagement, particularly when job demands are high, *Journal of Educational Psychology*, 99(2), 274-284.

Aryee, S. et al (1998). Family Response variables and Retention Relevant outcomes among Employed Parents. *Human Relations* 51 73-87.

Bachkirova, T., (2005). Teacher stress and personal values: An exploratory study. *School Psychology International*, 26(3), 340-352.

Balt, R. & Valcour, M., (2003). Human Resource Practices as predictors of work family outcomes and Employee Turnover. *Industrial Relations.* 42 189-220.

Barling J. Kelloway E. K. & Frone M. R. (2004), Handbook *of work stress*: New York, USA.

Barnet, R.C., (2004). *Work hours as a predictor of stress outcomes.* paper presented at a conference towards a National Research agenda: University of Maryland.

Barsky, A., Thoresen, C.J., Warren, C.R. &Kaplan, S.A. (2004). Modelling Negative
    Affectivity and job stress: A contingency Approach. *Journal of Organizational
    Behaviour*, 36. 915-936.

Bashir, U. (2010), Impact of Stress on Employees Job Performance: A Study on banking
    Sector of Pakistan; *International Journal of marketing Studies*, 2, 122.

Beehr, T. A. (2005), *Psychological Stress in the Workplace*, London and New York.

Betoret T., (2006) Stressors, self-efficacy, coping resources and burnout among
    secondary school teachers in Spain, *Educational Psychology*, 26(4), 519-539.

Blomme, R.J., et al (2010), Work-family conflict as a cause for turnover intentions in the
    hospitality industry: *Tourism and Hospitality Research*, 10(4), 269-285.

Bloona, R., (2007), *Coping with stress in a changing world*: New York McGraw – Hill.

Botha C &Pienaar J., (2006). South African correctional official occupational stress: the
    role of psychological strengths: *Journal of Criminal Justice*. 34(1), 73-84.

Bradley j. (2007) Job tenure as a moderator of stressor–strain relations: A comparison of
    experienced and new-start teachers, *Work and Stress*, 21(1), 48-64.

Brown, Z. A., & Uehara, D. L. (2008).*Coping with teacher stress: A research synthesis
    for Pacific education*.www.prel.org: Accessed on 5th December 2013.

Brown, Z. A., & Uehara, D. L. (2008).*Coping with teacher stress: A research synthesis
    for Pacific education*. http:www.prel.org

Cannon, and Walter, B., (1929) *War conflict: Double Rainbow*. Inc Data Render time:
    623.

Caulfield, N., et al (2004). A review of occupational stress interventions in Australia:
    International Journal of stress management vol. 11 149-166.

Certo S.C. (2003), *Supervision: Concepts and skill building*, New York, NY: McGraw
    Hill

Chan H (2003). Hardiness and its role in the stress-burnout relationship among
    prospective Chinese teachers in Hong Kong, *Teaching and Teacher Education*,
    19(4) , 381-395.

Chang, K., & Lu, L., (2007), Characteristics of organizational culture, stressors and wellbeing: The case of Taiwanese organizations: *Journal of Managerial Psychology*, 22, 549-568.

Chang, K., & Lu, L., (2007), Characteristics of organizational culture, stressors and wellbeing: The case of Taiwanese organizations: *Journal of Managerial Psychology*, 22, 549-568.

Chaudhry, A. Q. (2012). An Analysis of Relationship between Occupational Stress and performance .*Bulletin of Education and Research*, 13.

Cherry, N. M., Chen Y., McDonald J. C. (2006), "Reported incidence and precipitating factors of work-related stress and mental ill-health in the United Kingdom (1996-2001)": *Occup Med (Lond)* 56(6), 414-421.

Cohen, S. and Williamson, G.M., (1991), Stress and infectious diseases in humans*: Psychology Bull* vol. 109 5-24.

Coleman, V., (1998) *Stress management Techniques managing for Healthy profits*. London: Cox T. 1980 stress, Maryland University park press.

Cox, T., Griffiths, A. &Rial-Gonzalez, E. (2000), *Research on Work-Related Stress*, Office for Official Publications of the European Communities: Luxembourg.

Dar L., Akmal A., Naseem A.M. and Khan K.U. (2011), Impact of stress on employee job performance in business sector of Pakistan, *Global Journal of Management and Business Research*, 11(6), 1-4

Deaconu, G., (2011), "Stress management strategies for organizations." Psychology Review, July.

Dua, J., (1994), "Job stress and their effects on physical Health, Emotional Health and Job Satisfaction*": Journal of Education and Administration*. 32, 59-78.

Falkum, E., Olff, M., A. & Olaf G. (1997), Revisiting the factor structure of the ways of coping checklist: a three-dimensional view of the problem-focused coping scale: A study among Norwegian physicians*; Personality and Individual Differences*, 22, 257-267.

Folkman S., Lazarus R. S., Gruen R. J. &DeLongis A. (1986), Appraisal, Coping, Health Status, & Psychological Symptoms, *Journal of Personality and Social Psychology*, 50, 571-579.

Friedman, M., & Roseman, R., (1974), "*Type A Behaviour and Your Heart.*"Greenwich: Fawcett publications.

Giga, S., (2011), *The Implied Employment Relationship: Investigating the effects of psychological contract violations on Employee Wellbeing*: Doctoral Thesis University of Manchester Institute of science and Technology, Manchester.

Glenn, D. I., (2012), "*Determining Sample Size, PEOD6.*"University of Florida; IFAS Extension: Obtained from http://edis.ifas.ufl.edu.

Greenberg, J., & Baron, R., (2007) "*Behaviour in organizations.*" New York: Prentice Hall.

Guglielmi, R., & Tatrow, K. (1998), Occupational stress, burnout, and health in teachers: A methodological and theoretical analysis. *Review of Educational Research*, 68(1), 61-99.

Hackman, J. R., & Oldham, G. R. (1980).*Work Redesign, Reading*, MA: Addison-Wesley.

HavLovic, J. & Keenan, P., (1991), *"*Coping with stress: The influence of Individual Characteristics*"; Journal of Social Behaviour*. Vol. 6, pg. 25-51.

He, N.et al   (2005), Do race and gender matter in police stress: A preliminary assessment of the interactive effects: *Journal of Criminal Justice*. 33(6): 533-47.

IvaneRich, J.et al (2006). *Organization Behaviour and Management"*: New York; Mc. Graw Hill.

Jayashree, N., (2008),"*Factors influencing stress and coping strategies among the Degree College Teachers of Dharwad City, Karnataka":* Unpublished Msc thesis, University of Agricultural Sciences, Dharwad.

John, J., (2009). Hedrich Centre for workforce Development, "Work and Family Pressures Undercutting. *Journal of Technology and Education in Nigeria.*12(2), 9-18.

Judge Sharon, (2003), *"*Determinants of parental stress in Families Adopting Children from Eastern Europe*": National council on Family Relations*.52 (3), 241-248.

Kaplan, H.G., et al (2004), "Efficacy and Safety of different doses*": Journal of Cannabis Therapeutics (2001-2004).*

Karatepe, O.M. Babakus E. & Yavas U. (2012), Affectivity and organizational politics as antecedents of burnout among frontline hotel employees: *International Journal of Hospitality Management*, 31(1), 66-75.

Khanka, S.S., (2007) "*Corporate Behaviour."* New Delhi, Chand and company Limited.

Kolt G. (2003), Eustress, distress, and interpretation in occupational stress, *Journal of Managerial Psychology*, 18(7), 726-744

Kompier, M., (2003), Job Design and Well-being: In M. Schabracq, J. Winnubst& C.L. Cooper, (Eds.), *Handbook of Work and Health Psychology*, 429-454.

Kreitner, R., Kinicki, A., (2007), "*Organizational Behaviour*:*"* Mc. Graw Hill.

Kumar, I. A. (2013), Occupational Stress among Male and Female Elementary School Teachers of District Pulwama: *International Journal of Scientific & Engineering Research*, 940.

Kumar, R., (2005) *Research Methodology-A Step-by-Step Guide for Beginners,* Pearson Education.2nd.ed, Singapore.

Landa J. M., López-Zafra E., Martos M. P., Aguilar-Luzón M. C. (2008), The relationship between emotional intelligence, occupational stress and health nurses: a questionnaire survey; *International Journal of Nursing Studies*. 45(6): 888-901.

Larson, L. L. (2004). Internal auditors and job stress. *Managerial Auditing Journal*, 19, 1119-1130.

Larson, L. L. (2004). Internal auditors and job stress. *Managerial Auditing Journal*, 19, 1119-1130.

Larson, L. L. (2004). Internal auditors and job stress. *Managerial Auditing Journal, 19,* 1119-1130.

Le Fevre M., Matheny J. & Kolt G. (2003), Eustress, distress, and interpretation in occupational stress, *Journal of Managerial Psychology*, 18(7), 726-744

Le Fevre M., Matheny J. & Kolt G. (2003), Eustress, distress, and interpretation in occupational stress, *Journal of Managerial Psychology*, 18(7), 726-744

Lee, David, (2009) *Managing Employee Stress and Safety*, Brochure: Author Memic.

Lind, S.L., & Otte, F.L., (1994) *Management styles mediating variables and stress among HRD professionals, Human Resource Development.* Winter: pg. 301.

Lu C.Q., Siu, O. & Cooper, C. L. (2005), Managers' occupational stress in China: the role of self-efficacy: *Personality and Individual Differences*. 38(3):569-78.

Luthan, F., (2008), *Organizational Behaviour*: New York: Mc. Graw Hill.

Mairura, L., (2009). *Counselling for Teenagers with chronic stress: A case of students in Nairobi Day Schools."* Nairobi, Kenya

Margets, E.L., (1975). Stress, Homeostasis and the Human Ecological continuum*": Journal of Society, Stress and Distress*.2, 22-36.

Mark, G.M. & Smith, A. P. (2008), The relationship between workplace stress and job characteristics, individual differences, and mental health.

Mc. Gart, J., (1976), *Social and Psychological Factors in Stress.* New York: Holt and Rinchart.

Mc. Hugh, M., (1997*).* The stress factor: another Item for change management Agenda. *Journal of Organizational change*10, 345-362.

Mc. Shane, S., Von. Glinow, & Sharma, R., (2008) Organizational behaviour. New Delhi: Mc. Graw.

Miller, L., (2009) *Stress Causes Rigidity (PhD). The Business case for stress management – 4 imprint.*Info.4imprint.com/…t/uploads/M0709-02 blue-papers.

Mohammadi Z., Halvani G. H., Khalighi S., Mehrparvar A. H. & Soltani G. R. (2013), Evaluation of relationship occupational stress with shift work in the agency drivers in Yazd: *Occupational Medicine*, 6, 3

Mohanraj, P.& Manivannan, L., (2013), Occupational stress among migrated workers in unorganised sectors: *IRACST- International Journal of Research in Management & Technology (IJRMT.* Vol. 3, No.1.

Mojoyinola, J. K. (2008), Effects of Job Stress on Health, Personal and Work Behaviour of Nurses in Public Hospitals in Ibadan Metropolis, Nigeria: *Journal of Social Work* , 143-148.

Munali, J., (2005), *"Stress and Individual Performance of workers in Hotels at the Kenyan coast":* Unpublished M.A. thesis, Cornel University USA.

Musyoka, M., Ogutu M. & Awino B. Z. (2013), Employee stress and performance of companies listed in the Nairobi securities exchange*: DBA Africa Management Review* .3(1), 115-129.

Naituli, B.K., (2008), *"Leadership practices and the influence of stress: A study of Kenyan managers":* Unpublished thesis, Egerton University.

Nakata, A., M. Takahashi, et al. (2008). "Perceived psychosocial job stress and sleep bruxism among male and female workers." *Community Dent Oral Epidemiol*36(3), 201-209

National Occupational Health and Safety Commission (2003*), 'Compendium of workers' compensation statistics*, Australia, 2000-2001: Canberra, Australia.NEL MH, (2004)

New Stroom, J., (2007*) organization behaviour: human behaviour at work*. New Delhi: Mc. Graw Hill.

Ng'ethe, J.M. (2012), Determinants of Academic Staff Retention in Public Universities in Kenya: Empirical Review. *International Journal of Humanities and Social Science* Vol. 2 No. 13

Ngeno, G., (2007) *"Causes of Burnout among primary school Teachers within Kericho municipality,* Kenya."

Ngome, C.K. (2010) *Massive Growth of University Education in East Africa and the Challenges facing the Sector from 2000to 2011: The case of Kenya, IUCEA* conference, 19th-21st October, 2010, Kampala, Uganda.

Nilufar, A., Abdullah, Z., Fie, D.Y.G. & Alam, S.S. (2009). A study of job stress on job satisfaction among university staff in Malaysia: Empirical study. *European Journal of Social Sciences*.8 (1), 121-131.

NIMH (2013), Stress for Adults: How it affects your health and what you can do about it. Available at:http://www.nimh.nih.gov/health/publications/stress/Stress_Factsheet_LN_142 898.pdf

Noblet, A., (2003). *Building Health promoting* work settings: Identifying the relationship between work characteristics and occupational stress in Australia *"Health Promotion International.*18 (4), 351-359.

Obwogi, J. (2011), Factors *that affect Quality of Teaching Staff in Universities in Kenya.* PhD Thesis, Jomo Kenyatta University of Agriculture and Technology

Olali, B., (2005), *Stress and Individual Performance: A case of Kaimosi Teachers College* Unpublished M.A.; Thesis Moi University, Kenya.

Owino, G., Oanda I. O & Olel, M. (2013), Role of institutional managers in quality assurance: reflections on Kenya's University education: *Australian Journal of Business and Management Research.* 1, 2

Pabla, D. M. (2012), Occupational Stress Amongst Teachers of Professional Colleges in Punjab: *Indian Journal of Research*, 112.

Park, C.L. & Folkman, S. (1997), Meaning in the context of stress and coping, *Review of General Psychology*, 2, 115-144.

Park, C.L. &Folkman, S. (1997), Meaning in the context of stress and coping, *Review of General Psychology*, 2, 115-144.

Perrewe, P.L., & Zellars, K.L. (1999), An examination of attributions and emotions in the transactional approach to the organizational stress process: *Journal of Organizational Behaviour*, 20, 739-752.

Pestonjee, D.M., (1992), Stress *and Coping.* Sage publications, New Delhi.

Pierce J., & Delahaye, B., (1996*), Human* Resource management implications of dual-career couples. *International Journal of Human Resource management* (v7) pg. 905-923.

Porter, and Steers, (1987), Effects on role loss on work-related attitudes. *Journal of Applied Psychology* 72(2), 287-293.

Ramzan, M., (2012), A Study on Understanding the Factors Contributing To Teachers' Professional Stress in the Private Schools of Gilgit-Baltistan. Strength for Today and Bright Hope for Tomorrow, 349

Repeth, R.L (1993). The effect of workload and Sonal Environment on Healthin L. Goldberger & S. Breznitz (Ed).*Handbook of stress: Theoretical and Clinical Aspects*. 120-130

Robbins S., Judge T. & Sanghi S. (2009), *Organization and stress management*: New Delhi, India; Dorling Kindersley

Robbins, & Judge, (2007*), Organizational behaviour:* New Jersey; Pearson Education.

Robbins, S., (2003), *Organizational behaviour*: New Jersey; Pearson Education.Rutger University.

Robert, J. C., (2002) *Types of Research Design: Analyzing, Interpreting & Using Educational Research.* Resources for the Ed. D. unit, Research Methods, 2002 found at www.dur.ac.uk/r.j.coe/resmeths/types.doc.

Rosania, A. E., Low, K. G., McCormick, C.M. & Rosania, D. A. (2009). "Stress, depression, cortisol, and periodontal disease":*J Periodontol* 80(2): 260-266.

Santos, J. R. A., (1999) *Cronbach Alpha: A Tool for Assessing the Reliability of Scales.* Available at http: // www.joe.org/joe/1999april/tt3.html.

Sayeed, O.M., (2001*), organizational commitment and conflict*. New Delhi: Sage publication.

Selye, H., (1956) *Stress of Life.* McGraw Hill: New York.

Spector, P.E., (2002), *"Employee Control and Occupational Stress"*: Sage publications, 11 (4), 133-136.

Sultana, B. (2012), The Nature and Impact of Teacher Stress in the Private Schools of Gilgit-Baltistan, Pakistan: International Journal of Academic Research in Progressive Education and Development, 82, 83.

Sveinsdottir, H., Biering P. & Alfonset R. (2006). Occupational stress, job satisfaction, and working environment among Icelandic nurses: a cross-sectional questionnaire survey: *International Journal of Nursing Studies*. 43(7), 875-89.

Tettey, J.W. (2009), *Deficits in Academic Staff Capacity in Africa and Challenges of Developing and retaining the next Generation Academics:* Partnership for Higher Education in Africa.

Trice, H.M. & Sonnenstuhl, W.J., (2010), "The construction of drinking norms in work organizations*": Journal of studies on Alcohol* vol. 51, 201-220.

Vakola, M., & Nikolaou, I. (2005), Attitudes towards organizational change: What is the role of employees' stress and commitment? *Employee Relations*, 27, 160-174.

Vitaliano, P.P.,Russo J., Carr E. J., Maiuro D. R. &Becker J. (1985), The Ways of Coping Checklist Psychometric Properties, *Multivariate Behavioural Research*, 20, 3-26.

Warr, P., (1990), The Measurement of Well-being and Other Aspects of Mental Health.: *Journal of occupational psychology.*52, 129-148.

Waswa F. &Swaleh S. (2012), Faculty opinions on emerging corporatization in public Universities in Kenya. *Education and General Studies* 1(1), 009-015

Webster, T., & Bergman, B., (2009*), Two international conferences on management 969 (21CM 2012): Occupational stress: counts an*d rates *compensation and working conditions.* Washington, USA.

Welford, A., (1973), "*Stress and performance":* Ergonometric, 16,567.

West, H., &Mackay, J., (1999)*, "*Employment Roles and Counsellors in Employee Assistance Programmes*": Journal of counselling psychology*. 7, 355-389.

White E. (2006), *Opportunity knocks and it pays a lot better*, The Wall Street Journal, 13

Wilson, B., (2007*) Wilson Heart care, Heart Math and Cardiologist…publications in January 2007(PhD).* www.wilsonheartcare.com/bio 2.html

Workplace Relations Ministers' Council (2003)*Comparative performance monitoring, fifth report,*' Australia and New Zealand Occupational Health and Safety and workers' compensation schemes,' Canberra.

Worrall, L., &Cooper, C., (1999*), Quality of working life survey*: Institute of Management, London.

Yagil, D., (1998*).* If anything can go wrong, it will: occupational stress among inexperienced teachers: *International journal of stress management*. 5, 179-188.

Yamane, Y., (1976*) Statistics: An introductory Analysis, 2nd Ed*. New York: Harper and Row.

Yambo, J.M.O., Kindiki, J. N. &Tuitoek, J.K. (2012), Investigating High Schools Principals Stress in Relation to their job experience in schools in Southern Nyanza Region of Kenya: *International Journal of Academic Research in Progressive Education and Development*, vol. 1, No. 4 ISSN 2226-6348.

Zhimin, L. &Ramani K., (2012), A study on the conflict resolution mechanisms in higher educational institutions: A case of Kenya's public universities. *Educational Research Journals* 2(6), 208-216.

APPENDIX 1: QUESTIONNAIRE

VERBAL CONSENT

Dear respondent,

I am John Ng'ang'a Karihe, a student at Jomo Kenyatta University of Agriculture and Technology pursuing a degree of doctor of philosophy in Human Resources Management. I'm carrying out a study to establish and better understand the determinants of occupational stress affecting employees' performance in selected public universities in Kenya. The study aims at suggesting ways through which stress at the work place can be dealt with thus making the work environment more comfortable.

Kindly respond to the following questions as honestly as possible. All information collected in this study is purely for academic purposes and will be treated with confidentiality. Your answers will be grouped with the answers of other people like you and I will not make any reference to your names. You are free to participate only if you wish. Thank you for your cooperation.

Do you agree to participate in this survey? Yes [   ] No [   ]
Tally:_____

Record Tallies for refusals and use same instrument for the next Respondent.

LOCATORS

Date of Survey:	**day___/MM___/2013**

A. BACKGROUND AND DEMOGRAPHIC INFORMATION

1. Respondent's University	1 = JKUAT		2 = UoN 3 = KU			
2. Respondent's sex		1 = Male			2 = Female	
3. Age bracket	20 – 24	25–29	30 – 34	35– 39	40 – 44	45 +
4. Highest level	Primary	Secondary	Certificate		Diploma	

	of Education	Undergraduate	Masters	PhD	None

5. Which department are you working under?

6. What is your position/ role in your current department/

place of work?

7. How long have you worked in the university?   Year(s) =

8. How long have you worked under your **current**

position/ station of work?   Year(s) =

B. WORKER'S RELATIONSHIP

9. How do you rate your worker's relationship in the organization based on the following attributes? (Use 1=Strongly Disagree   2=Moderately disagree 3=Neither agree nor Disagree   4=Moderately Agree 5=Strongly Agree).

	5	4	3	2	1
a. There exists a good relationship between the workers/ colleagues at my place of work/ office					
b. My colleagues are supportive in case of a problem at my place of work					
c. Staff welfare committee is supportive and follows up on the concerns of the employees					
d. When issues are forwarded to the welfare section /committee, they are acted upon promptly					
e. Members of the welfare section / committee are supportive in case of a problem.					
f. The organization staff welfare committee is effective in matters relating to employees welfare					
g. The disciplinary actions in my institutions are relevant and					

	5	4	3	2	1
reasonable to their respective punishable actions					
h. The current disciplinary procedure is relatively fair as it is					

C. WORKER'S MOVEMENT

10. How do you rate your worker's movement in the organization based on the following attributes? (Use 1=Strongly Disagree   2=Moderately disagree 3=Neither agree nor Disagree   4=Moderately Agree 5=Strongly Agree).

	5	4	3	2	1
a. I'm very comfortable in my current status/ place of work/ position					
b. Interviews are conducted regularly at my current place of work.					
c. The working condition/ environment at my current place of work is conducive					
d. Job transfers in my organization rarely takes place					
e. Upon exit of an employee the organization does replacement promptly					
f. Working shifts are well designed and coordinated					

D. WORKPLACE FACILITIES

11. How do you rate your workplace facilities in the organization based on the following attributes? (Use 1=Strongly Disagree   2=Moderately   disagree 3=Neither agree nor Disagree   4=Moderately Agree 5=Strongly Agree).

12.

	5	4	3	2	1
a. I have all the facilities I require to do my work at my place of work/ office.					
b. Every worker in my organization is accorded office space where and when needed					
c. Offices at my place of work/ section are enough and comfortable					
d. The current facilities available for us to work with are adequate and enough for our needs					
e. The location of my place of work and offices are well planned in line with our requirements and therefore appropriate					
f. The physical working conditions (e.g., ventilation, space, cleanliness) are very good					

E. MOTIVATION

13. How do you rate your motivation in the organization based on the following attributes? (Use 1=strongly Disagree 2=moderately disagree   3=Neither agree nor Disagree   4=moderately Agree 5=Strongly Agree).

	5	4	3	2	1
a. I am encouraged to find new and better ways to do my work					
b. When I put extra effort in my work I can be appreciated for this					
c. I am encouraged to take initiative in my work					
d. My organization gives enough recognition and rewards for work well done					
e. Creativity and innovation are valued at my organization					
f. My department often holds social activities for motivation of staff members					
g. It is easy to discuss/ share personal problems with my boss or members of the department.					
h. We are occasionally taken to trips for purposes of team building and					

reducing monotony at my department/section					
i. Promotion is based on performance					
j. Appraisals are regular and focused on personal development					

F. MANAGEMENT

14. How do you rate management in your organization based on the following attributes? (Use 1=Strongly Disagree 2=Moderately disagree   3=Neither agree nor Disagree   4=Moderately Agree 5=Strongly Agree).

	5	4	3	2	1
a. I am aware of my Organization Structure.					
b. The Organization Structure is appropriate					
c. People are held accountable for the quality of work they produce					
d. My supervisor asks for my input to help make decisions					
e. My supervisor tells me when I do my work well					
f. My supervisor tells me when my work needs improvement					
g. My supervisor delegates work effectively					
h. I feel adequately utilized in my job					
i. Management is sensitive to employee problems					
j. I am involved in decision making in my organization					

G. EMPLOYEE PERFORMANCE

15. How do you rate your employee performance in the organization based on the following attributes? (Use 1=Strongly Disagree   2=Moderately disagree 3=Neither agree nor Disagree   4=Moderately Agree 5=Strongly Agree).

	5	4	3	2	1
a. I am not aggressive and depressed at work and therefore can perform my duties effectively					
b. I do not always feel lazy, boredom and headache lowering my output					
c. You do not do the best possible job					
d. I enjoy my work					
e. We are committed to our jobs					
f. We take responsibility for our actions within the job environment					
g. We are always motivated, productive and creative					
h. Stress makes me produce poor quality work					
i. Stress reduces my productivity at work					
j. Employees in this University have high morale/commitment.					
k. I am able to serve the customers efficiently					
l. I am able to produce accurate work as expected by my organization.					
m. We have acquired efficient service delivery and quality of services in this University.					

APPENDIX 2: KEY INFORMANT INTERVIEW GUIDE

The study will carry out some key informant interviews with specific individuals in the five selected universities. They are:

1. Head of Human Resources Department
2. University Counsellor
3. Deputy Vice Chancellor in charge of Administration
4. Departmental Head
5. Chief Medical Officer
6. Union Officials (UTENSU, UASU and KUDHEIHA)

<u>Guide Questions</u>

1. What are some of the common problems affecting the workers that you have encountered in the course of executing your duties and responsibilities in the university?
2. What are some of the causes of these common problems affecting these workers that you have encountered?
3. Are there any measure, policies/ procedures put in place to deal with such stressed workers who have been affected by these problems?
4. What do you suggest can be done to alleviate the problems affecting such stressed workers encountered?
5. In your opinion, how do stressed workers affect the overall performance and productivity of the entire department/ university?
6. On the other hand, how does stress affect the general well-being of a worker?

<u>Log sheet (for note taking)</u>

Interviewee's name:	Venue:	
Position held:		
Interviewer's name:	**Date of interview:** DD___/MM___/2013	**Time:___:_____**

NOTES	
Key points – Record major points mentioned as well as individual opinions	**Notable Quotes** – These are striking statements and comments obtained when a key point is explained

1. What are some of the common problems affecting the workers that you have encountered in the course of executing your duties and responsibilities in the university that lead to workers stress?

_____

_____

_____

_____

_____

_____

2. What are some of the internal causes of these common problems causing workers stress that you have encountered?

_____

_____

_____

_____

_____

3. What are some of the external causes of these common problems causing workers stress that you have encountered?

_____

_____

_____

_____

_____

4. According to your experience what are some of the individual based factors that might cause workers stress?

_____

_____

_____

_____

_____

_____

5. Are there any measure, policies/ procedures put in place to deal with such stressed workers who have been affected by these problems?

_____

_____

_____

_____

_____

6. What do you suggest can be done to alleviate the problems affecting such stressed workers encountered?

_____

_____

APPENDIX 3: TABLES

Table 4.66: Correlations among management items

	Statistic	f1	f2	f3	f4	f5	f6	f7	f8	f9	f10
f1	Pearson Correlation	1	.208**	.013	.509**	.295**	.159**	-.139**	.443**	.466**	.180**
	Sig. (2-tailed)		.000	.806	.000	.000	.003	.009	.000	.000	.001
	N	354	354	354	354	354	354	354	354	354	354
f2	Pearson Correlation	.208**	1	-.049	.016	.009	.126*	.290**	-.089	.138**	.019
	Sig. (2-tailed)	.000		.355	.770	.871	.018	.000	.096	.009	.725
	N	354	354	354	354	354	354	354	354	354	354
f3	Pearson Correlation	.013	-.049	1	.378**	.091	.221**	.138**	.230**	.092	.342**
	Sig. (2-tailed)	.806	.355		.000	.089	.000	.009	.000	.083	.000
	N	354	354	354	354	354	354	354	354	354	354
f4	Pearson Correlation	.509**	.016	.378**	1	.424**	.310**	-.108*	.409**	.452**	.495**
	Sig. (2-tailed)	.000	.770	.000		.000	.000	.043	.000	.000	.000
	N	354	354	354	354	354	354	354	354	354	354
f5	Pearson Correlation	.295**	.009	.091	.424**	1	.097	-.173**	.329**	.356**	.323**
	Sig. (2-tailed)	.000	.871	.089	.000		.067	.001	.000	.000	.000
	N	354	354	354	354	354	354	354	354	354	354
f6	Pearson Correlation	.159**	.126*	.221**	.310**	.097	1	-.128*	.185**	.432**	.400**
	Sig. (2-tailed)	.003	.018	.000	.000	.067		.016	.000	.000	.000
	N	354	354	354	354	354	354	354	354	354	354
f7	Pearson Correlation	-.139**	.290**	.138**	-.108*	-.173**	-.128*	1	-.024	-.169**	-.010
	Sig. (2-tailed)	.009	.000	.009	.043	.001	.016		.649	.001	.854
	N	354	354	354	354	354	354	354	354	354	354
f8	Pearson Correlation	.443**	-.089	.230**	.409**	.329**	.185**	-.024	1	.168**	.115*
	Sig. (2-tailed)	.000	.096	.000	.000	.000	.000	.649		.002	.030
	N	354	354	354	354	354	354	354	354	354	354
f9	Pearson Correlation	.466**	.138**	.092	.452**	.356**	.432**	-.169**	.168**	1	.246**
	Sig. (2-tailed)	.000	.009	.083	.000	.000	.000	.001	.002		.000
	N	354	354	354	354	354	354	354	354	354	354
f10	Pearson Correlation	.180**	.019	.342**	.495**	.323**	.400**	-.010	.115*	.246**	1
	Sig. (2-tailed)	.001	.725	.000	.000	.000	.000	.854	.030	.000	
	N	354	354	354	354	354	354	354	354	354	354

	Statistic	f1	f2	f3	f4	f5	f6	f7	f8	f9	f10
f1	Pearson Correlation	1	.208**	.013	.509**	.295**	.159**	-.139**	.443**	.466**	.180**
	Sig. (2-tailed)		.000	.806	.000	.000	.003	.009	.000	.000	.001
	N	354	354	354	354	354	354	354	354	354	354
f2	Pearson Correlation	.208**	1	-.049	.016	.009	.126*	.290**	-.089	.138**	.019
	Sig. (2-tailed)	.000		.355	.770	.871	.018	.000	.096	.009	.725
	N	354	354	354	354	354	354	354	354	354	354
f3	Pearson Correlation	.013	-.049	1	.378**	.091	.221**	.138**	.230**	.092	.342**
	Sig. (2-tailed)	.806	.355		.000	.089	.000	.009	.000	.083	.000
	N	354	354	354	354	354	354	354	354	354	354
f4	Pearson Correlation	.509**	.016	.378**	1	.424**	.310**	-.108*	.409**	.452**	.495**
	Sig. (2-tailed)	.000	.770	.000		.000	.000	.043	.000	.000	.000
	N	354	354	354	354	354	354	354	354	354	354
f5	Pearson Correlation	.295**	.009	.091	.424**	1	.097	-.173**	.329**	.356**	.323**
	Sig. (2-tailed)	.000	.871	.089	.000		.067	.001	.000	.000	.000
	N	354	354	354	354	354	354	354	354	354	354
f6	Pearson Correlation	.159**	.126*	.221**	.310**	.097	1	-.128*	.185**	.432**	.400**
	Sig. (2-tailed)	.003	.018	.000	.000	.067		.016	.000	.000	.000
	N	354	354	354	354	354	354	354	354	354	354
f7	Pearson Correlation	-.139**	.290**	.138**	-.108*	-.173**	-.128*	1	-.024	-.169**	-.010
	Sig. (2-tailed)	.009	.000	.009	.043	.001	.016		.649	.001	.854
	N	354	354	354	354	354	354	354	354	354	354
f8	Pearson Correlation	.443**	-.089	.230**	.409**	.329**	.185**	-.024	1	.168**	.115*
	Sig. (2-tailed)	.000	.096	.000	.000	.000	.000	.649		.002	.030
	N	354	354	354	354	354	354	354	354	354	354
f9	Pearson Correlation	.466**	.138**	.092	.452**	.356**	.432**	-.169**	.168**	1	.246**
	Sig. (2-tailed)	.000	.009	.083	.000	.000	.000	.001	.002		.000
	N	354	354	354	354	354	354	354	354	354	354
f10	Pearson Correlation	.180**	.019	.342**	.495**	.323**	.400**	-.010	.115*	.246**	1
	Sig. (2-tailed)	.001	.725	.000	.000	.000	.000	.854	.030	.000	
	N	354	354	354	354	354	354	354	354	354	354

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table 4.67: Correlations for Employee Performance

	Statistic	g1	g2	g3	g4	g5	g6	g7	g8	g9	g10	g11	g12	g13
g1	Pearson Correlation	1	.009	.012	-.080	.069	.033	-.067	-.019	-.011	-.060	-.037	-.033	-.098
	Sig. (2-tailed)		.871	.833	.153	.205	.544	.217	.726	.845	.273	.498	.541	.075
g2	Pearson Correlation	.009	1	-.025	-.070	.110	.176**	.286**	.141*	-.188**	.265**	-.147**	-.074	.139*
	Sig. (2-tailed)	.871		.658	.229	.053	.002	.000	.013	.001	.000	.009	.197	.016
g3	Pearson Correlation	.012	-.025	1	.104	-.037	-.025	.030	-.016	.028	-.008	-.075	-.059	-.006
	Sig. (2-tailed)	.833	.658		.064	.502	.645	.582	.776	.618	.881	.172	.284	.920
g4	Pearson Correlation	-.080	-.070	.104	1	.076	-.113*	.248**	.040	.261**	.309**	-.261**	-.121*	-.061
	Sig. (2-tailed)	.153	.229	.064		.169	.041	.000	.473	.000	.000	.000	.028	.278
g5	Pearson Correlation	.069	.110	-.037	.076	1	.022	-.121*	.015	-.157**	.136*	.151**	.277**	-.063
	Sig. (2-tailed)	.205	.053	.502	.169		.682	.025	.778	.004	.011	.005	.000	.249
g6	Pearson Correlation	.033	.176**	-.025	-.113*	.022	1	-.155**	.117*	.081	.068	-.273**	-.358**	-.209**
	Sig. (2-tailed)	.544	.002	.645	.041	.682		.004	.030	.134	.212	.000	.000	.000
g7	Pearson Correlation	-.067	.286**	.030	.248**	-.121*	-.155**	1	.162**	.211**	.462**	-.214**	-.140**	-.228**
	Sig. (2-tailed)	.217	.000	.582	.000	.025	.004		.003	.000	.000	.000	.009	.000
g8	Pearson Correlation	-.019	.141*	-.016	.040	.015	.117*	.162**	1	.118*	.312**	.022	-.005	.237**
	Sig. (2-tailed)	.726	.013	.776	.473	.778	.030	.003		.028	.000	.688	.933	.000
g9	Pearson Correlation	-.011	-.188**	.028	.261**	-.157**	.081	.211**	.118*	1	.176**	-.070	-.026	-.048
	Sig. (2-tailed)	.845	.001	.618	.000	.004	.134	.000	.028		.001	.194	.637	.382
g10	Pearson Correlation	-.060	.265**	-.008	.309**	.136*	.068	.462**	.312**	.176**	1	.101	.107*	.345**
	Sig. (2-tailed)	.273	.000	.881	.000	.011	.212	.000	.000	.001		.061	.049	.000
g11	Pearson Correlation	-.037	-.147**	-.075	-.261**	.151**	-.273**	-.214**	.022	-.070	.101	1	.693**	.192**
	Sig. (2-tailed)	.498	.009	.172	.000	.005	.000	.000	.688	.194	.061		.000	.000
g12	Pearson Correlation	-.033	-.074	-.059	-.121*	.277**	-.358**	-.140**	-.005	-.026	.107*	.693**	1	.218**
	Sig. (2-tailed)	.541	.197	.284	.028	.000	.000	.009	.933	.637	.049	.000		.000
g13	Pearson Correlation	-.098	.139*	-.006	-.061	-.063	-.209**	-.228**	.237**	-.048	.345**	.192**	.218**	1
	Sig. (2-tailed)	.075	.016	.920	.278	.249	.000	.000	.000	.382	.000	.000	.000	

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).