

**FACTORS INFLUENCING THE RELATIONSHIP BETWEEN
STRESS AND PERFORMANCE OF COMPANIES LISTED AT
THE NAIROBI STOCK EXCHANGE //**

By

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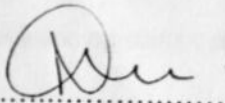
**A Thesis Submitted in Partial Fulfillment of the Requirements for the Award
of the Degree of Doctor of Philosophy in Business Administration, School of
Business, University of Nairobi**



June, 2012

DECLARATION

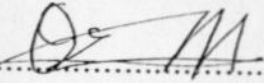
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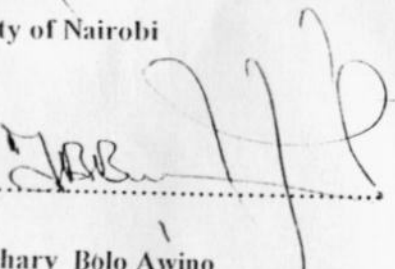
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DEDICATION

I dedicate this thesis to my dear family members; Fidel my son, Oscar my loving husband, Elias and Anne Musyoka my parents, my late and only sister Damaris. My brothers; Eric, Joseph and Raymond. Thank you and God bless you all.

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ABSTRACT

Stress is an all too common part of life today. Growing evidence suggests that high levels of stress adversely affect physical health, psychological wellbeing and general performance. Despite this evidence, a number of factors seem to influence how stress will affect performance. The purpose of the research was to investigate factors that influence the relationship between stress and corporate performance. The study was guided by six specific objectives. The study employed a cross sectional survey design which consisted of a sample of 32 companies listed at the NSE. The population was stratified into top management, middle level management and non-managers, and then random sampling was used to select respondents. Both primary and secondary data were also used. The secondary data on financial performance was collected from the NSE Handbook of 2007 and 2010. On the other hand, data on stress, stress manifestation, stress management, individual characteristics and qualitative performance was collected using a structured questionnaire. Both descriptive and inferential statistics were used to analyze data. Contrary to expectation, the relationship between stress and corporate performance was found to be positive. The results of the study also showed that the relationship between stress and stress manifestation, and that of stress manifestation and corporate performance were positive. The strength of the relationship between stress manifestation and corporate performance was found to be moderated by some of the stress management indicators which include social support and corporate approach to stress management. There were mixed findings on the moderating effects of individual characteristics, only level of education and personality were critical factors at influencing the relationship between stress manifestation and corporate performance. The study also established the joint effect of the moderators stress management and individual characteristics on stress manifestation and corporate performance was greater than the independent effect of individual characteristics. The findings of the study also revealed that non-managers were more stressed than managers. The study experienced limitations in terms of use of questionnaires only, which are sometimes subject to reporting inaccuracies. It was also challenging to distribute questionnaires to workers in the factories and farms as the relevant authorities felt it would interfere with their duties. Further research recommended the use of interviews or focus groups, which are relatively inexpensive and can provide fairly dependable data within a short time

frame. The study also recommended that other moderating variables be included in future studies to further establish factors that influence the relationship between stress and corporate performance. The findings and conclusions of the study were discussed in view of implications on policy, practice and theory. On theoretical implications, the study was able to support and extend studies by Welford (1973) on the relationship between stress and performance. Specifically the study revealed social support, corporate approach to stress management, level of education and personality as important moderators in the stress manifestation and corporate performance relationship. The study recommended that managers conduct frequent stress audits among employees in order to ensure stress is maintained at moderate levels in order to enhance performance. The government together with other stakeholders who include FKE and COTU should come up with regulations that take care of the psychological health of workers. The study further recommended that stress management programmes be put in place, these may include; flexible work schedule and work life programmes such as site daycare center for children, extended maternity and paternity leave.

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ACRONYMS AND ABBREVIATIONS

AIMS	Alternative Market Segment
CMA	Capital Markets Authority
CHD	Coronary Heart Disease
COTU	Central Organization of Trade Unions
EPS	Earnings per Share
EAP	Employee Assistance Programmes
FKE	Federation of Kenyan Employers
FISM	Fixed Income Security Markets
GAS	General Adaption Syndrome
GoK	Government of Kenya
KEBS	Kenya Bureau of Standards
KNBS	Kenya National Bureau of Statistics
MIMS	Main Investment Market Segment
NSE	Nairobi Stock Exchange
ROA	Return on Assets
ROE	Return on Equity
ROI	Return on Investment
TABP	Type A Behavior Pattern
UK	United Kingdom
USA	United States of America

CHAPTER ONE

INTRODUCTION

This chapter provides the background of the study, statement of the problem and research objectives. It also contains justification of the study, and finally outlines the structure of the thesis.

1.1 Background of the Study

In recent years there has been considerable academic and practitioner interest in the relationship between stress and corporate performance. This has arisen out of the realization that stress is a threat to the wellbeing of individuals and that of the organization (Bloona, 2007). Whereas numerous studies have focused on stress and individual performance, researchers have gone further to propose a link between stress and corporate performance measures such as increased customer satisfaction, employee turnover, productivity, efficient use of resources, achievement of goals and quality objectives (Ivancevich, Konapske & Matteson, 2006; Imtiaz & Ahmad, 2009). According to Sayeed (2001), stress also continues to jeopardize the health of organizations. Unhealthy organizational climates reduce employee involvement and negatively affect performance at the individual and corporate level.

The experience of work and stress is certainly not new in Kenya. Kenyans continue to experience stress as a result of poor environmental conditions, political uncertainty, poor working conditions and extreme levels of poverty. Ngeno (2007) concurs and further points out that employees in Kenya have to contend with low salaries, lack of involvement in decision making, heavy workload, and few opportunities for promotion. Research conducted by Munali (2005) reveals that employees are reporting increased levels of stress which has led to poor health and consequently performance. Globalization has left Kenyan suppliers facing stiff competition and aggressive cost cutting. Information technology has accelerated the speed at which business transactions can be performed and put pressure on the workforce to learn new skills and be more productive (Kenya National Bureau of Statistics, 2007).

Recent trends have made it increasingly difficult for employees to adequately balance the responsibility of their jobs and 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 relationship such that coordination of work, vacation schedules and child care options have become very stressful (Aryee, Luk & Stone, 1998). More and More voices warn about the possible risks that could emerge if the human resource management ignores the effects of demotivated and unproductive workforce as result of increase in stress levels (Earnshaw & Morrison, 2001). Organizations therefore need to respond to stress experienced by employees in order to enhance their legitimacy and obtain the resources necessary for their survival.

Previous studies (Elogovan 2001, Allen; Hurst, Bruck & Sutton, 2000; Kossek & Ozeki, 1998) have identified low organizational commitment, increased absenteeism and turnover as key employee stress aspects that continue to affect corporate performance negatively. According to Greenberg and Baron (2007), expenses involved in selecting and training employees to replace those who have resigned can be considerable ranging from 70 to 200 percent of the employees annual compensation. Even unscheduled absenteeism can be very expensive. Further research in stress has examined moderators that have influenced the relationship between stress and performance. Stress management and individual characteristics are important concepts in understanding how stress affects corporate performance (Balakrishnamurthy & Shankar, 2009; Perry-Smith & Blum, 2000). The study was an attempt to establish the influence of stress management and individual characteristics on the stress and corporate performance relationship in the Kenyan context. Interactions among these variables were expected to allow for a much richer, more complex multifaceted and dynamic characterization of the process by which stress affects organizations and how they adopt to these challenges.

1.1.1 Stress

Stress is an adaptive response mediated by individual differences and psychological processes; that is a consequence of any external action, situation or event that places excessive physiological, psychological and behavioral demands on a person (Ivancevich et al. 2006). Deshpande & Chopra (2007) posit that stress is an inherent characteristic of human life. It indicates the pressure people feel. As a result, people develop symptoms of stress that affect their performance. It is therefore important to understand situations that may lead to work stress and non work stress and how they

lead to physiological, psychological and behavioral consequences which have been generalized as stress manifestation. Work stress and non-work stress are both a result of stressors caused by factors within the organization and outside the organization. These factors may lead to stress manifestation, which may negatively or positively affect performance. The reaction of the individual will depend upon how they interpret or appraise the situation and determine whether it is harmful, threatening, or challenging. The list of stressors that lead to work stress is long and range from high levels of organizational politics, inadequate career development opportunities, work overload and pressure to complete tasks within limited time. Non work stressors are challenges and problems that people encounter during the non-working hours and can spill over to the work place hence affecting performance (McShane, Von Glinow & Sharma, 2008).

National surveys consistently show that marital difficulties, childcare challenges and economic problems created by individuals' overextending their financial resources or hard economic times can create personal problems that may manifest themselves as poor performance at the workplace (Robbins, 2003). Therefore, the first step in understanding stress, is examining how work stress and non work stress lead to various stress manifestation, as they are very important in developing strategies to manage stress.

1.1.2 Stress Manifestation

Stress manifestations are typically grouped into three general categories. These include physiological, psychological and behavioral manifestation. Physiological manifestation include immune system problems, where there is lessened ability to fight off illness and infection, high blood pressure, heart disease and muscoskeletal system problems such as tension headaches and backaches. According to Basson (2000), profound physiological and endocrine changes that accompany fatigue and stress contribute to a loss of sexual desire in both men and women.

Stress also produces various psychological experiences including, lack of motivation, depression and lower organizational commitment. Job dissatisfaction in fact is the simplest most obvious effect of stress. Job burnout and trauma are also extreme products of stress (Newstroom, 2007). In behavioral manifestation, stress has been

identified as the fastest growing reason for unscheduled work absence and employee turnover. Other behavioral aspects include changes in productivity, eating disorders, increased smoking or consumption of alcohol, violence, fidgeting and sleep disorders. Both organizations and individuals are concerned about stress and its effects and have devised different strategies to manage stress as discussed in the next section.

1.1.3 Stress Management

Greenberg & Baron (2007) describe stress management as systematic programs designed to help employees reduce or prevent stress. The underlying assumption of these programs is that by minimizing employees' adverse reactions to stress, they will be healthier, less likely to be absent and consequently more productive on the job, which in turn has beneficial effects to the corporation. Purposeful living and setting goals are important strategies of managing our own stress. According to Bloona (2007), we can reduce stress by enjoying life more and slowing the pace of our lives.

Stress researchers continue to emphasize on the need for providing sports facilities to promote the health of employees, creating in house catering facilities and including work life policies such as on-site childcare centers, part-time work and paid paternity leave in order to encourage work life balance (Allen, 2001). Empirical research conducted by Perry-Smith & Blum (2000) revealed that work family policies, which included on-site day care, paid paternal leave, elder care had a positive effect on corporate performance. Wellness programs and EAPS focus on helping individuals who are stressed by providing free counseling.

Ivancevich et al. (2006) categorize types of social support and these include emotional support (expressing concern and boosting self-esteem); appraisal support (providing feedback and affirmation) and informational support (giving advice and providing direction). Viable social relationships make possible identification and involvement, which can be viewed as the polar opposite of alienation and anomie. Park, Wilson & Lee (2004) also found that social support at work had a direct and beneficial effect on workers psychological well being and corporate productivity. An organization that acts to reduce stress at work commits itself to the costs involved in order to obtain the full benefits, which can be measured financially as well as in terms of morale, high organizational commitment and increased productivity. Due to the unique personal

characteristics, it is important to understand how people respond to stress and the various stress management approaches they use to prevent and control stress. The next section focuses on individual characteristics.

1.1.4 Individual Characteristics

An individual at work is perceived by others in three perspectives. Firstly, as a physical person having age, gender, race and size characteristics. Secondly, as a person with a range of abilities such as intellectual and social abilities and thirdly, as a personality (Cole, 2005). Age is defined as the number of years that a person has lived. Empirical research conducted by Dua (1994) shows that younger employees experience more stress unlike their older counterparts who over time have learnt to take it easy when faced with challenging situations. Gender refers to being male or female. Gender issues continue to feature in most debates more so at the workplace. Matud (2004) reports that even though women scored highly on chronic stress, they managed to apply emotional coping skills that were more helpful, unlike men who are emotional inhibitors. Marital status is used especially on official forms to identify whether one is married or single. Research shows that married employees report higher levels of stress especially during the midlife phase of the relationship, which also coincides with dealing with adolescences and paying college fees (Bloona, 2007).

An individual's abilities, skills and cognitive bases are largely reflected by their level of education. Even though little has been written in this area, research shows that individuals with higher levels of education experience more stress, but they have the ability to manage stress better than those who have no education. Tenure refers to the average number of years that employees have been with the organization. According to Schimidit & Hunter (2004) long tenure within an organization has a positive impact on corporate performance because employees learn and enhance their skills as they gain experience to handle stressful situations.

Personality refers to the characteristics pattern of behavior; modes of thinking that determine a person's adjustment to the environment. Friedman & Rosenman (1974) define the Type A personality as an action emotion complex that can be observed in any person who is aggressively involved in chronic, incessant struggle to achieve more and more in less and less time. The type A personality is generally verbally

aggressive, hard driving, unable to relax, very time conscious, easily angered and hostile (Luthans, 2008). Type B personalities are the opposite. They are generally relaxed and easy going and therefore, manage stress better (Newstroom, 2007). In the following section the meaning of corporate performance and various measures of performance are discussed.

1.1.5 Corporate Performance

Corporate performance is the outcome of the activities of the company. Whatever management decision is made within a corporation is expected to have a relationship with performance, hence its effectiveness. However measuring corporate performance has been a major challenge for scholars and practitioners as well. Staw (1986) proposes that performance be staged at the level of the individual, group or organization. Dyer & Reeves (1995) proposes four possible outcomes, which include human outcomes such as employee turnover and productivity; organizational outcomes such as: productivity and service quality; financial accounting outcomes such as: return on assets and profitability and finally use of capital market outcomes such as stock price and market growth resource.

Similarly, the Kaplan & Norton (1996) balanced score card indicates that corporate performance not only include financial measures but also customer criteria's such as: customer satisfaction and retention; internal business processes such as best practices and innovativeness. They also argue that employee criteria's such as learning and growth be included as corporate performance measures. Therefore, organizations need to regularly scan their operating business environment and design relevant strategies to optimize their profitability, achieve shareholder value and responsible corporate citizens. Empirical studies advanced in these area show that stress may directly affect corporate performance. The studies further report, that stress is a major contributing factor to corporate inefficiency, high staff turnover, absenteeism, decreased quality and quantity output and increased health care cost (Kemery, Mossholder & Bedian, 1987; Salami, Ojokuku & Ilesnami, 2010). Robbins (2003) concurs and reports that stress cost USA employers \$200 billion annually in absenteeism, reduced productivity, employee turnover, accidents, worker's compensation and direct medical, legal and insurance fees.

1.1.6 Companies Listed at the Nairobi Stock Exchange

The study focused on companies listed at the Nairobi Stock Exchange, which is currently known as the Nairobi Securities Exchange (NSE). The NSE is the fourth largest trading volume across the African continent and plays a key role in the economic growth of Kenya. It began its operations in the early 1920s and was an informal market place for local stocks and shares. By 1954, a true stock exchange was created when the NSE was officially recognized by the London Stock Exchange as an overseas stock exchange (Kibuthu, 2005). After independence, the stock exchange continued to grow and has become a major financial institution. The facilities have modernized and the NSE recently adapted an automated trading system to keep pace with other major world stock exchange.

The NSE was registered as a limited company under the companies' Act in 1991. With the 1994 CMA Act (Amendments), it became mandatory that a stock exchange approved by the CMA was to be a company limited by guarantee. There are more than 20 licensed stock brokers at the exchange, and at least 100 million shares are traded each month. Currently, there are 52 companies listed in NSE, which have been actively trading in the NSE for at least five years. The companies operate in the various sectors of the economy grouped under three market segments namely: Main investment Market Segment (MIMS), Alternative Investment Market Segment (AIMS) and Fixed Income Security Market Segment (FISM). Companies whose shares are traded in the NSE operate as public companies incorporated and registered under the Companies Act Cap 486, Laws of Kenya (CMA handbook, 2010).

The stock exchange plays a major role in the economic development of Kenya by facilitating and providing for a culture of thrift or saving. The very fact that institutions exist where savers can safely invest their money and in addition earn a return is an incentive to people to consume less and save more. Secondly, the stock exchange assists in the transfer of savings to investment in productive enterprise as an alternative to keeping the savings idle. Thirdly, a robust stock market assists in the rational and efficient allocation of capital. Fourthly, stock markets promote higher standards of accounting, resource management and transparency in the management of business. Fifthly, the stock exchange improves the access to finance of different types of users by providing the flexibility for customization. Lastly, and very

important, the stock exchange provide investors with an efficient mechanism to liquidate their investment in securities (NSE, 2008). Though listing requirements at the NSE are viewed as strict and inhibitive, they are necessary to ensure that only the best managed companies find their way to the NSE. In a way, this strictness helps create competition among companies, and in the long run motivates them to work at enhancing corporate profitability and wealth.

The NSE was specifically targeted for the study as it represents key sectors of the economy, which include agriculture, commercial and services sector, financial and investment sector and industrial and allied sector. The Kenyan economy is characterized by turbulence in terms of market forces and scarcity of resources such as oil and minerals. The Kenyan economy has traditionally relied on both agricultural and manufacturing sectors for its development (KNBS, 2007). This is however changing towards the service sector. The cost of production has been escalating almost to levels requiring government intervention measures such as price control; infrastructure and other facilities are limited and now overwhelmed, as is reflected by the frequent traffic jams. Insecurity continues to impose a huge burden on businesses in the country, with some firms spending up to 11 percent of the total cost on security infrastructure and personnel (GOK, 2007). These constraints are experienced by companies listed in the NSE, and in turn affect both the employers and the employees. As such, employees continue to experience stress as a result of unsuitable working conditions, job insecurity due to cutbacks, layoffs, downsizing and long working hours that have resulted to the work family conflict. As the performance of the employees declines so does the performance of these organizations.

It is also worthwhile to note that Kenya has a vibrant informal sector, but the study focused on the formal sector specifically the NSE, since these companies have well established formal systems. Moreover obtaining the company's financial performance was not problematic, since this information was guaranteed because their reports are audited regularly by reputable auditing firms. These reports are also regulated by the Capital Markets Authority (CMA). This provided for objective and reliable economic/ financial performance data on these organizations.

1.2 Statement of the Problem

The issue of stress and its effect on performance has generated strong debate over the years (Khanka, 2007). Studies conducted in USA and Pakistan by Kemery et al. (1987), Rabinowitz & Stumpf (1987) and Imtiaz & Ahmad (2009) found that stress affected organizations negatively through increased accidents, mistakes and complaints from customers, conflict among employees, ill health leading to high rates of absenteeism, employee turnover and adverse public relations. Despite the great emphasis on the link between stress and corporate performance, none of the above studies relates stress to performance measures such as profitability and sales turnover. Similar studies conducted in Pakistan by Ali, Farooqui, Amin, Yahya, Idrees, Amjad, Ikhlang, Noreen & Irfan (2011) on the effect of stress on performance did not support the negative linear relationship and recommended that in order to understand the complexity of stress future studies should be initiated with a larger sample.

Research conducted in Kenya by Munali (2005), Ngeno (2007) and Naituli (2009) have all concentrated on the relationship between stress and individual performance. Ngeno (2007) study revealed that there is a negative relationship between stress and individual performance. The researcher recommends further studies that would help establish burnout or stress management programs. Munali (2005) study focused on the effect of stress on the performance of hotel workers at the Kenyan coast. The study introduced gender as the moderating variable. The study revealed that the explanation of the effect of stress on individual performance increased upon the inclusion of moderating variables. The study further recommends the inclusion of other moderating variables in order to understand the relationship between stress and performance. Naituli (2008) also investigated the relationship between stress and leadership practices and concluded that stress negatively affected the performance of managers. She recommended further research on how stress affects the performance of the corporation.

A number of empirical studies conducted on stress and corporate performance and stress and individual performance support the inclusion of other variables in order to understand the complexity of stress. Research conducted in the USA by Konrad & Mangel (2000) found that organizations that included stress management programs had a direct and beneficial effect on psychological wellbeing and corporate

productivity. Empirical studies conducted in Botswana by Ongori & Agolla (2008) reveal that each individual is unique and future research should focus on practical and efficient interventions to manage stress in organizations. Similar studies conducted in Nigeria by Salami et al. (2010) also concur and proposes further research into stress management programs that benefit the health of individuals and that of the organization. The study included a variety of stress management techniques that were likely to have significant influence on the relationship between stress and corporate performance.

Research by Mundell (2002), Golubic, Milosevic, Knezevic & Mustajbegovic (2009) and Munali (2005) have only focused on one aspect of individual characteristics, and all recommend inclusion of other variables in future studies. Thus, the study proposed that a combination of individual characteristics which include age, gender, marital status, educational level, tenure and personality have a significant influence on the relationship between stress and corporate performance.

While all these studies have looked at stress, performance and individual variables such as age, gender, tenure, stress management among others, no known study has focused on the moderating effect of both stress management and individual characteristics on the relationship between stress and corporate performance. The study contributed to the field of stress and corporate performance in companies listed at the Nairobi Stock exchange. More specifically the study investigated the influence of stress management and individual characteristics on the relationship between stress and corporate performance of publicly quoted companies in Kenya. The study answered the following broad research question, what is the relationship between stress and corporate performance and how do stress management and individual characteristics influence this relationship?

1.3 Objectives of the Study

The main objective of this study was to determine the relationship between stress and corporate performance of companies listed at the Nairobi Stock Exchange and establish how stress management and individual characteristics influence this relationship. The study was also guided by the following specific objectives:

- i. Determine the relationship between stress and corporate performance.

- ii. Determine the relationship between stress and stress manifestation.
- iii. Determine the relationship between stress manifestation and corporate performance.
- iv. Establish the influence of stress management on the relationship between stress manifestation and corporate performance.
- v. Establish the influence of individual characteristics on the relationship between stress manifestation and corporate performance.
- vi. Establish the joint effect of the moderating variables stress management and individual characteristics on the relationship between stress manifestation and corporate performance.

1.4 Significance of the Study

The purpose of the study was to determine the relationship between stress and corporate performance and establish how this relationship is influenced by stress management and individual characteristic. Understanding this relationship will enable the end user adopt stress management strategies that will enhance corporate performance; thus the information from the study would be useful to the following categories of people. Firstly, the information will be useful to policy makers and union officials contemplating initiating policies and legislation aimed at helping their members to deal with stress. The work - life balance policy of 2000, which allows employers to introduce flexible working arrangements, has continued to provide a conducive working environment that has led to improved corporate performance in Britain (Perry-Smith & Blum, 2000).

Secondly, managers will use it in designing appropriate strategies to control and reduce stress in their companies, with a view of enhancing employee satisfaction and commitment which will in turn benefit the corporation. Thirdly it will assist employees identify stress in their lives and consequently seek to establish effective stress management techniques. Finally academicians will use it as a basis for further research in the area of stress, stress manifestation, individual characteristics, stress management and corporate performance.

1.5 Structure of the Thesis

The thesis consists of five major chapters. Chapter one presents the introduction and background of the study variables which include, stress, stress manifestation, stress management, individual characteristics and corporate performance. It further highlights the statement of the problem, the research objectives and justification of the study. The second chapter presents a theoretical exposition of the framework around which this study is pegged. The chapter also reviews empirical literature relating to the major variables of the study, namely; stress (work stress and non-work stress), stress manifestation (physiological, psychological and behavioral), stress management, individual characteristics and corporate performance. In addition the chapter sets out the conceptual framework and study hypothesis.

Chapter three identifies the research design and methodology adopted for this study. It also covers the population of study, the data collection method. It further highlights the analytical data models. Chapter four provides both descriptive and inferential data analysis and discusses the findings of the study. Finally, chapter five presents the summary of the findings, conclusion, limitations of the study, recommendations for further research and implication on theory, policy and practice.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter gives an in depth analysis of the theories guiding the study. It also reviews literature and research pertinent to the variables depicted in the conceptual framework to explain the relationship between the study variables: stress, stress manifestation, individual characteristics, stress management and corporate performance. A summary of empirical studies on the study variables, their findings and the gaps to be addressed are presented. Finally, the chapter outlines the conceptual model and the hypotheses to be tested.

2.2 Theoretical Foundations of Stress

This section reviews various theoretical foundations upon which stress studies are based. Several scholars have developed theories on stress, which explain the physiological, psychological, behavioral basis of stress and finally give a wellness model of coping. The theories that were integrated include the Response based theory, Welford performance and demand theory, Man environment transaction theory and finally the Herzberg two factor theory. The theories provide a perspective from which to understand how stress affects corporate performance. Below is a brief explanation of each of the relevant theories.

2.2.1 Response Based Theory of Stress

This particular view of stress appears to have received its initial impetus from Hans Seyle theory (Cox 1980). He called his theory the General Adaptation Syndrome (GAS), and it has three distinguishable phases: alarm, resistance and exhaustion. These three phases are sequential; that is the source of stress sounds, the alarm initiates the GAS, and if the stress is not removed or coped with, the body progresses to resistance and eventually exhaustion. However recovery is an alternative outcome to exhaustion when the source is either removed or coped with effectively.

Levi & Keegan (1971) later developed Selye's view of stress and introduced the aspect of psychological factors in the mediation of physical disease. They emphasized that, the external influences identified as psychosocial stimuli interact with genetic factors to bring out stress. The stress experience then degrades one's performance. Frankhausen (1975) points out that since this theory explains the pattern of response as stress, and gives a better understanding of stress when treated as a dependent variable in stress studies. Mcgarth (1976) has criticized this theory and points out that one is unable to identify with surety what is stressful about a particular real life situation. It also ignores the individual variation of the stress experience and this compounds the difficulty in making generalizations.

2.2.2 Welford Performance and Demand Theory

This theory was developed by Welford (1973) and 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. Most 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 too high and 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 goes into a state of disequilibrium or breakdown. This may be temporary, pending readjustment or may proceed to 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 (Robbins, 2003). Cox (1980) 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.

2.2.3 Man Environment Transaction Theory

Cox & 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. It is important to note that what may be perceived as stressful by one individual may not be stressful for another as a result of their different cognitive appraisal experience. McGarth (1976) 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 organic variables such as personality which contribute 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 complex psychological processes (Cox, 1980).

2.2.4 Herzberg Two Factor Theory

Herzberg two factor theory has been used to explain occupational stress. He carried out his now famous survey of 200 accountants and engineers from which he derived his initial frame work 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, non-work related factor such as company policies, salary and supervisory style. Each set of factors related to one aspect which identified the human being's dual nature regarding the work environment.

Thus motivation factors relate to job satisfaction and hygiene factors relate to job dissatisfaction. This will in turn reduce stress and improve performance. Herzberg's work is credited for its stimulating thought of introducing motivation at the work place and therefore giving people a better understanding of job related stress. Critics of the theory argue that it does not give sufficient attention to individual characteristics which are very important in understanding human behavior (Bloona, 2007).

2.3 The Concept of Stress

The origin of the concept of stress predates antiquity. Derived from the Latin word "stringere" stress was popularly used in the seventeenth century to mean hardship, adversity, or affliction. It was used in the eighteenth centuries to denote force, pressure, strain or strong efforts with reference to an object or person (Khanka, 2007). The concept of stress was first used in medical sciences by endocrinologist Hans Selye. According to Selye (1974), stress is the way one responds to change. It affects the function of the nervous system, cardiovascular system and the brain, so that if an individual is overwhelmed by overstimulation of these systems they end up in a state of chronic stress activation. Cox (1980) views stress as a set of physiological adaptations of the body to maintain homeostasis in the face of threat, harm or loss.

Robbins (2003) 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. 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 (Bloona, 2007). It is important to note that researchers have identified good stress also called eustress which refers to the healthy, positive, constructive outcome of stressful events and stress response. It is also the experience that activates and motivates people to achieve their goals and succeed in their life's challenges (Deshpande & Chopra, 2007). In order to understand stress it is important to look into the causes of stress. These are discussed in detail in the next section.

2.3.1 Work Stress

Work stress arises from stressors at the workplace. These are the demanding and unreasonable situations associated with the organization itself. They include high levels of organizational politics, demanding organizational cultures and poor leadership styles which can create friction; heighten dysfunctional competition between individuals and increase stress (Ivancevich et al. 2006). Lack of performance feedback, inadequate career development, work place violence, sexual harassment and inequality in remuneration and incentives have also been cited as some of the causes in the increase of stress among employees (McShane et al. 2008). Gidarno, Everly & Dusek. (1990) identified a condition called assembly line hysteria which was caused by boredom on the job due to repetitive tasks, lack of ability to communicate and converse with other workers and led to low job satisfaction. Empirical research by Turnage & Spielberg (1991) found opportunity for career advancement to be the most frequently cited work stressor.

Coleman (1998) has identified role conflict and role ambiguity as some of the major sources of stress. Deshpande & Chopra (2007) describe role conflict as the simultaneous occurrence of two or more tasks which are sets of pressure such that compliance with one would make it impossible to comply with the other. The emotional cost of role conflict is reflected in increased job tension, low levels of job satisfaction and reduced confidence in the employing organization. Role ambiguity occurs when an individual has inadequate information about his role at work. This may reflect on clarity about work objectives, colleagues' expectations and level of authority. Individuals may also experience role ambiguity when they enter new situations such as, joining the organization or taking foreign assignments (McShane et al. 2008). Greenberg & Baron (2007) posit that having more responsibility at work can lead to greater stress. It is the responsibility for people which appears to carry greater risk to health, after all managers are caught between the need to satisfy members (giving raises) while at the same time maintaining budgets. Work overload is a situation where employees are assigned more work than they can complete in a specific time period. A common problem in Japan is that of death from overworking and has its own name Karoshi (Khanka, 2007).

2.3.2 Non Work Stress

Non work stress is as a result of stressors outside the organization and should be taken into account when trying to understand job related stress since they impact on employees' performance. Extreme environments and economic disruption have become very stressful with Kenyans having to deal with drought, floods and inflations (Munali, 2005). For most people in the recent years, the weak financial position has forced them to take a second job (moonlight) or the spouse has had to enter the workforce in order to make ends meet. This situation reduces time for recreation and family activities. The overall effect on employees is more stress on their primary jobs. Conditions of housing and services such as shopping, transport and healthcare services continue to be very stressful. Aspects of diversity such as race, gender and culture have also been sighted by Kenyan managers as major contributors to stress, as they have to deal with employees who have different beliefs, values and disparity in opportunities for economic development (Naituli, 2008). Terrorism is an increasing source of environmentally induced stress in the twenty first century. Flying, working in skyscrapers and attending large public events have also become great concern for security and this has led to increase in the stress experienced by individuals (Robbins & Judge, 2007).

Life events such as death of a spouse, divorce and injury to one's family member have serious effect on people and can be major sources of non work stress. A survey conducted by Havlovic & Keenan (1991) found that divorce interferes with work more than any other trauma in a person's life. Time based conflict refers to the challenge of balancing the time demanded by work and other non work activities. According to Phillips, Campbell & Morrison (2000), while carrying out a survey on 242 married veterans found that the greatest stress emanated from lack of quality family time and financial constraints.

According to McShane et al. (2008), strain based conflict occurs when stress from one domain spills over to the other. For instance many professionals now routinely use their cell phone, pagers and Black Berry wireless devices for work related tasks while at home or even on holidays. They argue that the use of technology while on holiday beats the logic of taking leave to manage stress. New responsibilities such as the birth of a child and a mortgage are also stressful to most people. According to Khanka

(2007), when stress persists and becomes excessive various symptoms harm the employee's job performance, health and threaten their ability to cope with the environment. Consequently the subsequent section focuses on how stress manifests itself.

2.4 Stress Manifestation

The emergence of stress outcomes takes time to identify and eventually evidence is available upon which to conclude whether employees are stressed. For example, an employee develops uncharacteristic pattern of Friday and Monday absence, a sales person begins to lose business deals. In another instance, an employee displays sudden apparent unprovoked outburst of anger. Each of these individuals is experiencing the effects, or consequences of stress (Ivancevich et al. 2006). Robbins (2003) proposes that employee stress manifestation be typically grouped into physiological, psychological and behavioral categories.

Physiological manifestation describes the cumulative damage that stress has on the human body. The stress response shuts down the immune system which makes us more vulnerable to viral and bacterial infection. Many people experience tension headaches, high blood pressure, ulcers, back pain and coronary heart disease. These physiological ailments are attributed to muscle contractions that occur when people are exposed to stressful situations. Wardwell, Hyman & Bahson (1964) set out to examine consequences of stress. They found that cardiovascular diseases, migraines, ulcers, accident proneness and hypertension which lead to premalignant tumors later on in life were highly correlated to the stress that individuals experienced. McShane et al. (2008) further observes that cardiovascular disease is one of the most disturbing effects of stress in modern society and, is now among the leading cause 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 function of the heart.

Psychological manifestation which include, irrational beliefs, irritability, lack of concentration, anger, poor self-esteem anxiety, low motivation, low job satisfaction and organizational commitment are consequences of stress. Barsky, Therom, Warren & Kaplan (2004) while conducting empirical research on the negative effects of stress found that workplace stress is negatively related to job satisfaction and organizational

commitment. Similar studies conducted in Malaysia by Ahsan, Abdullah, Fie and Alam (2009) found that stress was negatively correlated to job satisfaction. In chronic situations the psychological symptoms of stress start to become manifest in anxiety states, phobias, obsessions and neurosis (Bloona, 2007). These psychological manifestations of stress can have a direct cost on the organizations. Khanka (2007) provides analysis of the detrimental effects of stress and points out that it has been estimated that its annual cost exceeds 10 percent of the US gross national product. Experts have predicted that if the number of stress related worker compensation claims continue to grow at the current rates, this increase will be reflected in organizations increased expenditure on medical cover and may in turn affect the organizations effectiveness (Luthans, 2008).

Behavioral manifestation of stress is characterized by sleep disorders, obesity, rapid speech, increased drinking, smoking and drug abuse. Several billions of barbiturates and amphetamines are consumed annually in America (Luthans, 2008). Basing his observations on executives in India, Khanka (2007) gives the following statistics: that 1 in 4 Indian executives suffer from obesity and 44 percent of the middle level executives report that job stress drives them to high level of alcohol consumption. Low productivity and missed targets, increased accidents, internal conflicts, committing more errors than normal and taking longer over tasks are also behavioral consequences of stress. In utterly intolerable conditions individuals may leave the organization and seek work elsewhere or sink to despair at home (Cole, 2005).

Ivancevich et al. (2006) reports that it cost approximately 1.2 million US dollars a year to employ new personnel to make up for lost productivity as a result of absenteeism, alcoholism, substance abuse, sabotage and turnover in the USA. The loss to the organizations all over the world resulting from stress related conditions is estimated to be substantial (Cole, 2005). Holmes & Rahe (1967) conducted a study on stress and found that the more an individual experiences sudden life events the more is stress experienced and in turn the poorer will be his consequent health. It is therefore important to identify strategies that will help us cope with stress. Stress management as discussed in the subsequent section is important in ensuring that stress does not lead to poor performance both at the individual and corporate level.

2.5 Stress Management

Ivancevich et al. (2006) contend that much of the stress experienced by people in industrialized nations originates in organizations and stress that originates elsewhere affects our behavior and performance in the same organizations. Stress management involves developing programs that improve the overall wellbeing of employees in the long run; these in turn have a positive impact on corporate performance. In an effort to improve financial and operational performance, organizations are now including stress management component as one of their strategic choices. This strategy will depend upon the size and resources of the organization. The organization may focus on primary prevention level which intends to reduce or eliminate the demand causing stress. It may also take the secondary prevention level which intends to modify the individuals or organizations' response to stress. The tertiary prevention level is intended to heal the individual or organizational symptoms of distress and strain (Nelson & Quick, 2009). Ivancevich et al. (2006) have identified a variety of approaches for preventing and managing stress. These include social support, individual and corporate approach.

Social support can be defined as the comfort, assistance or information one receives through formal or informal contacts with individuals or groups. Seeking social support is referred to as "tend and befriend" response to stress rather than the alternative "fight or flight option". According to Overholser, Norman & Miller (1990) social support is a contributing factor to the development of an individual's well being and lack of it can lead to psychological and physical illness. Social support operates by providing some kind of buffer between people and the stress caused by work and non-work stress. Both the quantity and the quality of social relationship that individuals have with others appear to have a potentially important effect on the amount of stress they experience as well as the likelihood that stress will have negative effects on employees' performance as a result of poor mental and physical health (Ivancevich et al. 2006).

Social support sources include family members (immediate and extended). Families try to work at promoting positive relationships among members and attempts with varying degrees of success to arrange itself into a functional group so that it enables each member to meet their goals and objectives. More specifically families develop

their own special styles or strategies for coping with stress imposed from outside or from within the family (Bloona, 2007). People are faced with perpetual uncertainty about their world and the issues within them. Social support is consistently cited as an effective stress coping strategy and reduces the health complaints experienced during periods of high stress. Billings & Moos (1982) examined the possible buffering effects of work and family resources in a sample of 294 families in the San Francisco Bay Area. They found that work and family resources moderated the relationship between stressors and outcomes including depression, anxiety and physical symptoms. Other extra organizational support systems include the neighborhood we live in, the spiritual support groups we belong to, health professionals we consult and self help groups.

Both teams and groups in organizations provide a structure for the work and interaction of their members. A team's work and performance is said to be synergistic or greater than the work and the performance of an individual but its effectiveness relies on the satisfaction and wellbeing of its members. It therefore must be able to maintain the commitment of its members particularly during stressful times (Robbins, 2003). Supervisor support is the degree to which employees perceive that the supervisor offers employees support, encouragement and concern. Supportive supervisors will ensure that their staff have access to the resources they need at work. It is also important that supervisors allow time for employees to develop and nature their social support networks as they are effective at reducing work stress (McShane et al. 2008).

Individual approach to stress management includes escaping stress by requesting for transfers, finding alternative employment or even taking early retirement. According to Robbins (2003), noncompetitive physical exercise such as aerobics, walking, jogging, swimming and riding a bicycle have long been recommended by physicians as way of dealing with excessive stress levels. Employees can also adopt stress reduction techniques such as meditation, hypnosis, biofeedback and positive thinking. An understanding and utilization of basic time management principles can help individuals cope better with tension created by job demand such as constant rushing, missed deadlines, work overload and the sense of being overwhelmed, insufficient time to rest and indecision. Kreitner & Kinicki (2007) have noted that these

techniques only relieve the symptoms rather than eliminate the stressor. The recommendation is for employers to use broader approaches to manage stress.

Corporate approach to managing stress is characterized by organizations provision of personal leave, flexible work time, telecommuting, child care support services and redesigning jobs to help employees experience a better balance between their work and personal life. Sabbatical leaves are programs created to encourage stress relief and personal education. Newstroom (2007) points out that sabbatical leave adds to corporate flexibility and raises employee competence and esteem. According to Ivancevich et al. (2006), wellness programs also known as health promotion programs focus on the employees overall physical and mental health. They typically provide workshops for people to quit smoking, control alcohol consumption, improve nutrition and diet control. Simply offering wellness programs does not guarantee positive results for either employers or the sponsoring organizations. Successful programmes need top management and union support which involves philosophical and material support. Luthans (2008) categorically states that EAPs have been found to consistently reduce absenteeism, health care cost and disciplinary action. Empirical research conducted Spell & Blum (2005) contend the EAPs give the organization a caring nature and knowing these programs exist can actually reduce the stress experienced by employees. It is also important to note that individuals' level of stress and how they handle it may be determined by individual characteristics. This is discussed in detail in the next section.

2.6 Individual Characteristics

According to Robbins (2003), it is important to recognize and appreciate individual characteristics, as they have an impact on employee productivity, turnover, absence and satisfaction. Workers with different characteristics interact differently with their managers, supervisors, colleagues, and even customers. In a multitude of different ways, individual characteristics shape behavior and consequently lead to individual and corporate success (Ivancevich et al. 2006). More importantly, some people thrive on stressful situations, while others are overwhelmed. Researchers have thus focused on investigating the different factors that differentiate people in terms of their ability to handle stress which in turn affects their performance (Robbins & Judge, 2007). This is well elaborated in the next paragraph.

Educational level is a reflection of one's abilities, skill and cognitive basis. A more educated person exhibits a broader and more complex cognitive functioning. Such individuals can be expected to discriminate among a variety of stimuli and have a higher capacity for information processing. Creativity is an intellectual resource that helps us discover new, innovative ways to perceive potential stressors and cope with them. Jong & Hartong (2007) concur and assert that employees' level of education is likely to determine their creativity and innovative behavior at work and may lead to better corporate performance. According to Folkman & Lazarus (1993) our cognitive abilities allow us to adequately appraise the consequences of exposure to the potential stressor. They also emphasize on problem focused coping skills which work by changing either the environment related to the potential stressor or doing something to change the way the stress affects the person. Empirical research by Golubic et al. (2009) revealed that nurses with secondary school qualification perceived hazards at work and shiftwork as being more stressful than nurses with college degrees.

The age of employees is one of the factors that distinguish people. The age of employees has an important impact on career development, performance, labor turnover, absenteeism, job satisfaction and stress experience (Cole, 2005). Nelson & Quick (2009) observe that younger employees are more experienced, stable, reliable and make up a healthy workforce. They further observe that many are well trained and educated and their knowledge can have positive effect on corporate performance. It is likely that career development and promotion for younger employees will be slower as higher proportions of older employees remain at the work force. Empirical studies conducted by the University of Michigan (2007) found that older employees experience less stress unlike their younger counterparts as a result of developing resilience. According to Newstrom (2007) resilience involves specific competencies and behaviors that develop overtime in an individual and help one to respond and adapt more effectively to stress. However Studies conducted by Patrickson & Hartmann (1995) reveal that there is no correlation between age and performance.

Khanka (2007) argues that gender has a profound impact on behavior at work. It affects one's turnover and absenteeism. Research shows that women's absenteeism level's will be higher than that of men as a result of their home and family responsibility, while men will score higher on turnover due to their risk taking nature

and need to explore their entrepreneurial characteristics. According to Robbins (2003) changes that have taken place in the last 30 years have increased female participation rate at the workplace. Resolutions such as affirmative action in African countries and especially Kenya are giving women more opportunities at the workplace (GoK, 2007). Furthermore, half of the working women are single, divorced, widowed or head of families. Key issues such as work family conflict, child care and sexual harassment continue to be major sources of stress and may reduce organizational efficiency. Despite this, stress research conducted by Marcinkus, Whelan-Berry & Gordon (2007) revealed that women were able to cope with stress since they apply better coping methods like seeking social support from other members of the family, their friends and colleagues. Whereas men will ignore the stressor or try and deal with it on their own, women seek help.

Marital status is characterized by establishing long term relationships. Bloona (2007) points out that it is important to note that an increasing percentage of individuals are choosing to remain single as a result of the changing concept of marriage and desire to remain single. What people find when they do marry is that many of the expectations are unrealistic and cannot be fully realized. Money and sexual problems also start to feature in long-term relationships. This leads to higher levels of stress, as couples seek separation and divorce. Sutherland & Cooper (1995) undertook a survey on the lifestyle and pressure faced by 118 chief executives listed in the "The Time" top 100 European companies and their spouses. They listed time pressure and work family conflict as their main stressors. Hence it appears married couples seem to experience more stress than those who choose to remain single.

Tenure refers to the average number of years the employees have been with an organization. There is a positive relationship between long tenured employees and productivity. Studies by Salami (2008) demonstrate that long tenure is positively related to organizational commitment which translates to lower levels of absenteeism. In fact, in terms of both frequencies of absence and total days lost at work, tenure is the single most important explanatory variable. Tenure is also a potent variable in explaining turnover (Robbins, 2003). It is assumed that skills, knowledge, values and aptitude of employees improve with time. Employees who have acquired these characteristics over time are able to identify sources of stress and apply effective

coping skills. Tenure is thus positively related to the management of stress. Bloona (2007) concurs and asserts that if we have coped effectively with stress in the past, we can draw from that experience to help us manage the stress that we face in the future.

Personality is a collection of thoughts, attitudes, values, beliefs, perceptions, behaviors and emotions that define who we are, how we view the world around us, and how others perceive us. Bloona (2007) acknowledges that the link between Type A personality and stress is one of the most widely documented relationships. An empirical study conducted by Friedman & Rosenman (1974) found that traditional coronary risk factors such as dietary and genetics could not totally explain or predict coronary heart disease (CHD). Instead they began to uncover a pattern of behavior or traits which they eventually called Type A behavior pattern (TABP). They describe Type A individuals as someone who is always trying to achieve or acquire more and more things in less and less time. Their competitive nature, aggressiveness, impatience, hostility and obsessive behavior enhance vulnerability to stressful experiences. Friedman & Rosenman (1974) went a step further and identified a second personality pattern. Type B behavior pattern is mainly free of type A characteristics and has a calmer and more relaxed personality. The type B person has a considerable drive to want to accomplish things and work hard but he has a confident style that allows him or her to work at a steady pace and not race against the clock (Ivancevich et al. 2006). Individual characteristics influence individual performance which may affect corporate performance. Different measures for corporate performance are well elaborated in the subsequent section.

2.7 Corporate Performance

Corporate performance is crucial to the survival of any organization. Performance measures are needed for decisions regarding management compensation packages and resource allocation. Peacock (1995) argues that there is no correct definition of performance and suggests that conflicts between managerial perspectives be recognized. The classical approach to corporate performance is best described by the Sink and Tuttle model (Sink & Tuttle, 1989). The model proposes that the performance of a corporate system is a complex interrelationship among seven performance criteria: effectiveness, efficiency, quality of products, productivity, quality of work life, innovation and profitability. As such corporate performance can

be judged in terms of whether or not an organization achieves the various set objectives. These objectives may be quantitative measures such as increase in overall revenue and qualitative measures such as customer satisfaction and creation of new products according to time and resource target.

2.7.1 Quantitative Performance Measures

The most objective and commonly cited indicators of performance measurement are the financial data. Getting the financial measures is an important part of running a growing business. A financial measure should provide the corporation with a set of tools and metrics that help to understand the corporation's financial position. This information can be used for making business decisions in a number of areas including business profitability, pricing, budgeting, cost, strategic planning and incentive compensation. Most growing businesses ultimately target increased profits, so it's important to know how to measure profitability. According to Murphy, Trailer & Hill (1996), profitability measures the extent to which a business generates a profit from the factor of production: labor, management and capital.

Profitability analysis focuses on the relationship between revenues and expenses and on the level of profits relative to the size of the investment of the business. These include sales turnover and profitability measures like return on investment (ROI), return on assets (ROA), return on equity (ROE) and earnings per share (EPS) which measure financial success (Parker & Bradley, 2000). Financial efficiency measures the degree of efficiency in using labor, management and capital. Efficiency analysis deals with the relationship between inputs and outputs. Because inputs can be measured using both physical and financial terms, a large number of efficiency measures in addition to financial measures are usually possible. These include depreciation expense ratio, interest expense ratio and net firm income operation ratio (Gray, 1997).

2.7.2 Qualitative Measures

In the last few years financial performance has been incorporated with other non-financial performance measures. Since scholars and practitioners have expressed dissatisfaction with exclusive use of financial measures arguing that it encourages short-termness and local optimization and therefore overlooks the long term

improvement strategy, ignoring competitor information and interaction with customers. This has forced experts to design non - financial performance measures that focus on aspects of market share, market growth, cost market effectiveness, technological effectiveness which ensures faster delivery of quality products and services, diversification, and product development (Kaplan & Norton, 1996).

Other measures include human resource strategies especially the ability to retain employees over a long period of time, leadership effectiveness, customer retention, growth and brand image and reputation (Evans, 2005). Corporate effectiveness is the measure of how successful organizations achieve their mission through their core strategies. Corporate effectiveness studies are concerned with the unique capabilities that organizations develop to assure success (McCann, 2004). Internal performance is also referred to as the healthy system, which is characterized by focused and goal oriented problem solving, balanced power relationships, experimentation and new behaviors, dispersed decision making processes, top management commitment and development of good relationship between management and employees have also been adapted as important measures of qualitative measures (Sayeed, 2001).

2.8 Stress and Corporate Performance

Although having undeniable effects on corporate performance, stress has been understood from the individual perspective. Most of the research on the effects of stress has been centered on individual performance. Newstrom (2007) cites the inverted U relationship as the most widely studied pattern. The logic underlying the inverted U is that moderate levels of stress stimulate the body and enhance performance. In contrast, too low or too high stress affects performance negatively. This inverted U pattern may also describe the reaction to stress overtime as well as to changes in stress intensity (Robbins, 2003).

The notion that stress has detrimental effects on individuals, and subsequently affects the performance of organizations is shared by a several researchers. Lambert, Lambert & Ito (2004) cite stress as a major contributing factor to corporate inefficiency, high staff turnover, absenteeism, decreased quality and quantity output and increased health care cost for staff. According to Ivancevich et al. (2006), while organization consequences are many and varied, they share one common feature. Stress cost

organizations money. A variety of estimates and projections from government, industries and health groups in USA give the estimate at 300 billion dollars annually. This huge figure reflects on the costs associated with mental and physical health, lost work time, turnover sabotage medical, legal and insurance cost (Kreitner & Kinicki, 2007).

A notable research conducted in the USA by Kemery et al. (1987) found that stress negatively influenced organizational performance. Data collected from 370 employees of a South Eastern University and analyzed using a correlation design to examine the relationship between role ambiguity, role conflict and performance found that role ambiguity and role conflict resulted to high levels of job dissatisfaction which in turn influenced turnover intentions. Studies conducted in the USA by Rabinowitz & Stumpf (1987) using a sample of 102 University faculty members of the Texas Technical University, found that role conflict was negatively related to performance.

Imtiaz & Ahmad (2009) also investigated the relationship between stress and corporate performance using a correlation design. Data was collected from 78 medical officers in Pakistan. The study revealed that the medical officers were highly stressed by inadequate pay, rigid organizational structure and personal issues. This in turn affected their job performance and also reflected negatively on the organizations effectiveness. In a similar study on the relationship between stress and performance carried out on 47 bank managers Ali et al. (2011) reported that their study did not support the negative linear relationship. Their study found a positive linear relationship between stress and performance. Unfortunately their study could not be generalized due to a limited sample size. Furthermore in order to comprehend the complexity of stress further studies should be initiated with a larger sample size.

Empirical studies conducted in Nigeria by Salami, Ojokuku & Ilesnami (2010) also found that stress was negatively correlated to performance. The study interviewed 135 individuals holding managerial positions in their organizations. They reported long office hours and work overload as being most stressful. They recommended inclusion of counseling at the workplace and stress reduction workshops. Research conducted in Botswana by Ongori & Agolla (2008) reveal that work overload, uncertainty about the future, poor communication in organizations, insufficient resources and conflicts

as being the major stressors. The study also revealed that these stressors could adversely affect the efficiency of organizations, increase employee turnover, lower motivation and increased expenditure in health care cost, which in turn has a negative effect on corporate performance. They recommend larger samples that will give a holistic view of the source and effects of stress.

Ngeno (2007) examined the causes of burnout among primary school teachers within Kericho municipality in Kenya and found that burnout had negative impact on performance of teachers. The research also found out that low salaries, lack of involvement in decision making, heavy work load and few opportunities for promotion were the main contributing factors to teacher burnout. His research concentrated on individual performance. Studies conducted at the Kenyan coast by Munali (2005) also found that stress affected the performance of hotel workers. Data collected from 300 respondents revealed that there was an increase in the number of employees who absented themselves from work as result of poor health. Naituli (2009) also found that stress affected leadership practices. Data collected from Managers working in both the public and private sector in Kenya revealed that occupational stress affected the performance of Managers.

According to the University of Michigan studies, the more significant costs commonly overlooked and therefore under measured consequences of stress by the organization include low staff morale, breakdowns in communication, dissatisfaction and disruption of working relationships, While it is easier to identify the direct, tangible loss associated with stress, research by the European Agency for Safety at Work has indicated that it is the intangible indirect cost which may have more costly effect on the organization (Luthans, 2008).

2.9 Stress, Stress Manifestation and Corporate Performance

According to Robbins (2003), most of the early concern with stress was directed at physiological symptoms, this was predominantly due to the fact the topic was researched by specialist in health and medical sciences. Research conducted by Everly & Benson (1989) found that overtime stress response exerts a generalized wear and tear on the body. When the body parts and systems are forced to work overtime for long periods without rest and rejuvenation, they begin to malfunction and eventually

breakdown. The relationship between stress and physical disease is connected to five body systems: the endocrine system, muscular system, cardiovascular system, immune system and digestive systems. Studies by Chapman, Mandryk, Frommer, Edye & Ferguson (1990) found that chronic work stress was associated with high blood pressure. Excess strain on these systems results to inefficiency and gradual breakdown in performance at work.

Stress is a risk factor for psychological problems such as burnout, anxiety disorders and mood disorders. Chernisses (1992) noted the following symptoms of burnout affected the performance of workers. He cited lack of concern for clients, tendency to treat clients in a detached and mechanical fashion, increased discouragement, pessimism and fatalism about work. He also pointed out that individuals that were experiencing burnout lacked motivation and involvement in work. Research conducted by Parslow, Jorm, Christen, Broom Straadis & D'Souza (2004) revealed that both men and women who reported higher levels of work stress were found to have poorer mental health and well being. The intensity of these psychological symptoms results to high stress levels which may disrupt normal daily functioning both at home and at work (Stein, Miller & Trestman, 1991).

Direct behaviors that may accompany high levels of stress include unpredictable weight gain or weight loss, sleeplessness, increased drug and alcohol use, aggressive behavior, family disharmony, lack of skill development, absenteeism and high turnover rates. According to research by Kennedy, Homant & Homant (2004), workplace aggression has become a major concern in recent years. Although certain individuals are more likely to be aggressive, their behavior is a consequence of extreme stress. In particular employees are more likely to engage in aggressive behavior if they believe they are being treated unfairly, experience other forms of stress that are beyond their personal control and work in physical environments that are stressful. The most current evidence available suggests that stress exerts mainly negative effects on task performance. The greater the stress people encounter in life; the more adversely their job performance tends to be. The end result is negative effect on performance of organizations (Ongori & Agolla, 2008).

2.10 Stress, Stress Management and Corporate Performance

Both organizations and individuals are highly concerned about stress management and its impact on the stress, corporate performance relationship. Corporations continually seek to improve managerial communication skills, empower employees through participation, and redesign jobs to be more fulfilling in order to enhance performance. Research studies conducted by Saundlund & Norlander (2004) revealed that senior adults who had undergone tai chi, a form of yoga and exercise noted that there was improvement in their overall psychological wellbeing which is associated with positive effects on performance. Empirical research conducted by Konrad & Mangel (2000) examined the impact of work life programmes on firm productivity in a national sample of 658 USA organizations. They measured work life programmes as a composite work life index, which included onsite day care, extended maternity leave and sick child care programmes. Productivity was measured in terms of logarithms of sales per employees. They found that organizations that had extensive work – life programs reported higher productivity levels.

Studies conducted by Wang & Walumbwa (2007) found that flexible work schedules were positively related to organizational commitment, reduced turnover and increased productivity. The impact of substance abuse on the workforce plus a heightened recognition that employees' general mental health affects productivity has stimulated the development of wellness programs and work life programs. According to Cole (2005), stress management programs are important strategies for coping with stress, and are likely to be found in any well managed organization that sees its employees as its biggest single investment as well as one of its principal stakeholders.

Studies by Day & Bedian (1991) reveal that supportive work environments are associated with improved workplace performance and higher corporate performance. Empirical studies conducted in Turkey by Babin & Boles (1996) found that increased perception of a supportive management team reduces role stress and increases job satisfaction. Studies conducted in the USA by Philips et al. (2000) also reveal that male employees who got more spousal support on their careers performed better. Research conducted by Marcinkus et al. (2007) also found that work based social support was positively associated with job satisfaction and organizational commitment.

2.11 Stress, Individual Characteristics and Corporate Performance

When looking at stress as an aspect that affects employee productivity, it is important to focus on individual characteristics such as employees' age, gender, marital status, level of education, length of service in the organization and personality. Research conducted by Mundell (2002) reveals that younger employees experience more stress than their older counterparts. In a survey of USA adults aged between 25 to 74 years, only 8% of young adults said they only had one stress free day in a given week, compared with 12% of mid-life starters and 19% of those over 60. The researchers concluded that older people seemed to mellow down and realize there was no need to get upset over small things. Studies conducted by McCarthy (1995) have found that the area of the brain that activates response to stress varies among men and women. Women secrete more oxytocin from the pituitary gland which helps scale back the production of cortisol and adrenaline thus minimizing the harmful effects of stress and promoting effectiveness at work.

A sample of 300 workers taken in Australia by Combs (2004) revealed that married couples seemed to experience more stress unlike their unmarried colleagues. They reported work life balance, and child care as their major source of stress. Philips et al. (2000) also concur and report that time based conflict is usually more acute for women than for men because house work and child care fall more on their shoulders as a second shift in most dual career families. They also found that spousal support in marriages enhanced job satisfaction and organizational commitment. Ruderman, Oholott, Panzer and King (2002) reported that managerial women found juggling multiple personal responsibilities promoted efficacy, focus and organization at work.

Stress may affect corporate performance differently depending on the education level of those working in the organizations. Research conducted in the USA by Grzywacz (2004) revealed that people without high school diplomas reported stress 30 percent of the time, while people with college degrees reported stress 44 percent of the time. They also found that the downward turn in health was connected with daily stressors and the effect on the health is much more devastating for those without a high school diploma. Research conducted in Cyprus by Karatepe & Karatepe (2010) revealed that long tenured employees managed stress better. Results of a hierarchical moderated regression analysis revealed that the positive effects of role conflict and emotional

exhaustion were weaker among frontline employees with longer tenure. Empirical studies conducted by Balkrishnamurthy & Shankar (2009) also found that long tenured officers in the central reserve police reported lower stress levels. The researcher are of the view that over time employees learn certain stress coping tactics in the course of experience at work, thereby enabling them to deal stress triggered by both work and non-work stressors. They recommend that stress programs be launched to help deal with stress and enhance the wellbeing of both employees and the organization.

According to McShane et al. (2008), stress affects corporate performance differently depending on the personalities of those working in the organizations. Howard, Cunningham & Rechnitzer (1976) while conducting research on stress found that 60 percent of the sampled managers could be clearly identified as type A, while only 12 percent were classified as type B. Surprisingly, the characteristics that seemed most helpful to type A individuals in their rise through managerial ranks (such as persistence, fanatic observance of deadlines and the like) did not aid them in their performance records in top management positions. They concluded that tolerance for ambiguity and the belief that they were in control of their destiny, of the type B individuals appeared to give a better perspective on running large organizations (Luthans, 2008).

From the literature review it is apparent that stress is a growing concern in corporations. Growing evidence suggests that stress does have substantial impact on corporate performance; such evidence makes a strong case for understanding stress and how to manage it (Ongori & Agolla, 2008). Researchers have mainly studied the relationship between individual variables. No known study has explored and examined the influence of stress management and individual characteristics on the relationship between stress and corporate performance. Sullivan & Bhaghat (1992) concluded that the complexity of stress is best understood by casting a wider variety of variables in an interdisciplinary framework. The conceptual framework presented on page 39 thus explains the linkages in the literature review.

Table 2.1: Empirical Studies carried out on Stress, Stress Manifestation, Individual Differences and Stress Management and Corporate Performance

Researcher(s)	Variables	Study population	Findings	Gap in Knowledge
Kemery, Mossholder & Bedian (1987)	Role Ambiguity, Role Conflict and Performance	370 employees of South Eastern University in USA	Role conflict and Role ambiguity resulted to higher levels of dissatisfaction which in turn influenced turnover intentions.	Need for further research in other areas of stress and how they affect performance.
Rabinowitz & Stumpf (1987)	Role Conflict and Performance	102 university faculty Member of the Texas Technical University.	Role conflict was negatively correlated to performance.	Concentrated on one component of stress.
Imtiaz & Ahmad (2009)	Stress, Productivity Performance and Turnover	78 medical officers in Pakistan	Stress was negatively correlated to performance with doctors citing inadequate pay and personal issues as most stressful.	Explore stress management issues such as counseling.
Ali, Farooqui, Amin, Yahya, Idrees, Amjad, Ikhlag, Noreen & Irfan. (2011)	Stress and Job Performance	47 respondents of management level in Pakistan banks	Stress was positively correlated to performance.	Recommended a larger sample for purpose of generalization.
Salami, Ojokuku & Ilesanmi (2008)	Job Stress and Performance	135 individual holding managerial positions in Nigerian banks	Found that stress had a negative effect on performance. Respondents cited work overload and long working hours as most stressful.	Recommended stress reduction workshops and encouraging stress reduction activities such as exercise, diet and relaxation.
Ongori & Agolla (2008)	Occupational Stress and Organizational Performance	75 respondents from five public organizations	Stress was negatively correlated to organizational performance. They cited workload poor communication, insufficient resources and conflicts in the organization as being most stressful.	They recommended the use a larger sample size for purpose of generalization.

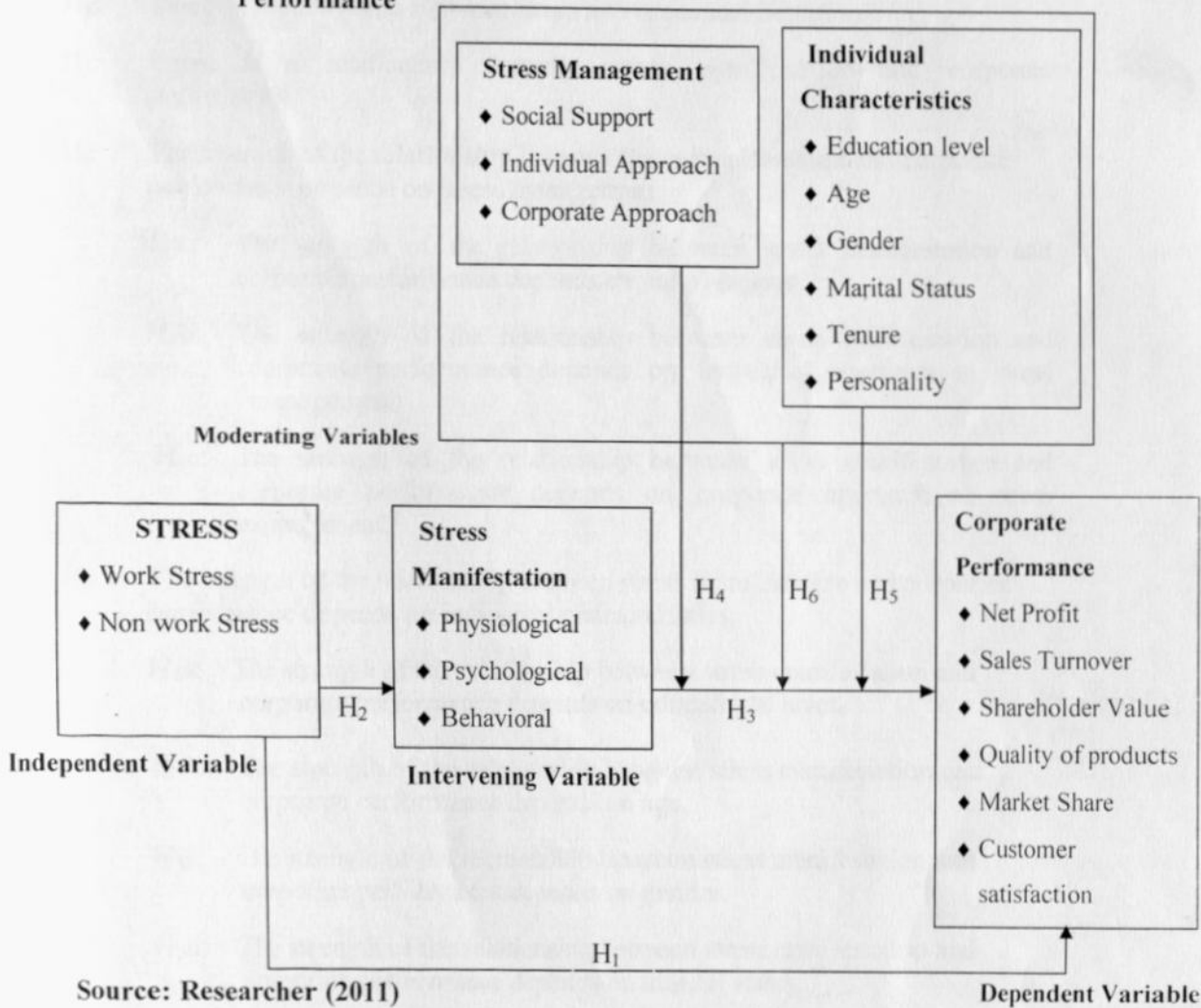
Munali (2005)	Stress, Individual Performance and Gender	300 hotel workers at the Kenyan coast	The studies revealed that the explanation of stress on performance significantly increased upon the inclusion of other variables.	Focused on individual performance. Recommended the inclusion of other variables in order to understand the complexity of stress.
Ngeno (2007)	Burnout, Work Stress and Performance	120 teachers in Kericho, Kenya	Found that burnout was on the increase where teachers experienced stress as a result of heavy work load, low salaries and few opportunities for advancement among others.	Focused on individual performance. Recommended further research in the area of stress management.
Naituli (2008)	Stress and Leadership Practices	Managers in Both private and public sector in Kenya	Found that leadership practices were negatively influenced by stress.	Need to examine how stress affects performance of all staff and the organization itself.
Parslow, Jorm, Christensen, Broom, Straadins & D'Souza. (2004)	Work stress and Mental Health	806 government employees in Australia	Found that both women and men who reported higher levels of stress were found to have poorer mental health and wellbeing.	Recommended reducing the impact of work stress on its workforce because it benefits both the individual employee and the productivity of the organization as well.
Mundell (2002)	Age Stress Level and Performance	Adults in the USA aged between 25 and 74 years	8 percent of young adults said they had even one stress free day in a week compared with 12% of mid-lifers and of those over 60.	Recommends looking at other moderators that help understand the stress experience.
Matud (2004)	Gender Differences and Stress	2816 U.S citizens 1516 women 1300 men	Women scored highly on chronic stress. They also scored highly on the emotional coping skills whereas the men were found to score highly on emotional inhibition.	Recommend further research to identify the area of the brain that activates stress in both men and women.
Grwywacz (2004)	Stress and Education Level	1031 workers in the USA	Less educated people suffer fewer stressful days but when they do suffer stress it is more severe and had a large impact on their health.	Recommended inclusion of other variables such as the personalities of the workers.
Golubic, Milosevic, Knezevic, and Mustajbegovic (2009)	Stress, Education and Work ability	1392 employees of four university hospitals in Croatia	Nurses with secondary school qualification perceived hazards at work and shift as being statistically significant more stressful than nurses with college degrees.	Recommended hospital managers develop strategies for managing stress and improve working conditions for nurses in Croatia.

Combs (2004)	Marital Status and Stress	300 workers Australia	Married couples reported more stress than their single counterparts.	Recommends further research on how single individuals who are divorced or widowed with children deal with stress.
Karatepe & Karatepe (2010)	Role Stress, Emotional Exhaustion and Turnover	Frontline hotel employees in Cyprus	Results show that the positive effect of role conflict and emotional exhaustion on turnover intentions was weaker among the front line employees with longer tenure.	Future research to focus on stress management programmes for employees with shorter tenure.
Balakrisnamurthy & Shankar (2009)	Age, Level of Experience and Stress	163 respondents from the central police reserve force in India	Employees with greater experience exhibit lower levels of stress.	Recommend that information obtained from the research be used to prepare suitable stress management programs.
Philips, Campbell & Morrison (2000)	Satisfaction Stress and Spousal Support	242 married veterans in the USA	Both genders reported that income and time required for work was the greatest dissatisfaction Males reported more spousal support on their careers, which enhanced job satisfaction and organizational commitment.	Examine the interactive effect among combinations of stressors that are commonly found in the world of work.
Park, Wilson & Lee (2004)	Social Support, Depression and Organizational Productivity	240 workers in public hospitals in Southeastern United States	Social support at work had a direct and beneficial effect on psychological wellbeing and organizational productivity.	Given that no single variable can explain the relationship it's important to include other variables.
Marcinkus, Whelan-Berry & Gordon (2007)	Social Support, Work Family Balance and Work Outcomes	1089 women between the age of 35-50 across several organizations	Social support was positively associated with job satisfaction and organizational commitment.	Need to examine which personality types benefit from social support.

Konrad & Mangel (2000)	Work Life Programmes and Firm Productivity	658 employees of different Organizations in the USA	Organizations that had extensive work life programmes enjoyed productivity benefits.	Need for more research that takes into account other organizational variables.
Perry- Smith & Blum (2000)	Work Family Policies and Perceived Organizational Performance	527 workers of different firms in the USA	Found that family policies were positively correlated to perceived organizational performance.	Need to examine individual characteristics and how they affect the worker's choice of work policies.
Sayeed (2001)	Organizational Commitment, Job Involvement, Conflict and Organizational Health	Managers across different organizations in India	Increase in perceived organizational health results in increase in job involvement through which the organization benefitted.	Further research to find out the benefits of organizational commitment for the individual as well as for the organization.
Saunders & Norlander (2000)	Relaxation, Exercise, Stress Response and Wellbeing	Senior adults in different states	Tai Chi and Exercise enhanced psychological wellbeing of senior adults.	Study limited to two stress management intervention techniques. Recommended looking at other moderators of stress.

2.12 CONCEPTUAL FRAMEWORK

Figure 2:1 Model of the relationship between Stress and Corporate Performance



Source: Researcher (2011)

The schematic diagram presented in figure 2.1 shows the relationship between five variables under study, stress, stress manifestation, stress management, individual characteristics and corporate performance. Stress is the independent variable, while corporate performance is the dependent variable. Stress manifestation (physiological, psychological and behavioral) is the intervening variable. Individual difference (level of education, age, gender, marital status, tenure and personality) and stress management (social support, individual approach and corporate approach) are the moderating variables which affect the relationship between stress manifestation and corporate performance of publicly quoted companies in Kenya.

2.13 Hypotheses of the Study

- H₁: There is a relationship between stress and corporate performance.
- H₂: There is a relationship between stress and stress manifestation.
- H₃: There is a relationship between stress manifestation and corporate performance.
- H₄: The strength of the relationship between stress manifestation and corporate performance depends on stress management.
 - H_{4a}: The strength of the relationship between stress manifestation and corporate performance depends on social support.
 - H_{4b}: The strength of the relationship between stress manifestation and corporate performance depends on individual approach to stress management.
 - H_{4c}: The strength of the relationship between stress manifestation and corporate performance depends on corporate approach to stress management.
- H₅: The strength of the relationship between stress manifestation and corporate performance depends on individual characteristics.
 - H_{5a}: The strength of the relationship between stress manifestation and corporate performance depends on educational level.
 - H_{5b}: The strength of the relationship between stress manifestation and corporate performance depends on age.
 - H_{5c}: The strength of the relationship between stress manifestation and corporate performance depends on gender.
 - H_{5d}: The strength of the relationship between stress manifestation and corporate performance depends on marital status.
 - H_{5e}: The strength of the relationship between stress manifestation and corporate performance depends on tenure.
 - H_{5f}: The strength of the relationship between stress manifestation and corporate performance depends on personality.
- H₆: The joint effect of the moderating variables, stress management and individual characteristics on the relationship between stress manifestation and corporate performance is greater than the independent moderating effects on the same variables.

2.14 Chapter Summary

This chapter reviewed exiting theoretical and empirical literature on key variables which include stress, stress manifestation, stress management, individual characteristic and corporate performance. The theoretical perspectives of stress which include the Response based theory, Welford performance and demand theory, Man environment transaction theory and Herzberg two factor theory were critically reviewed.

The literature review also identified the knowledge gaps that sought to be addressed. From the conclusion a conceptual framework indicating the linkages between the factors that influence stress and corporate performance was developed. The research hypotheses were clearly stated. The next chapter describes the methodology that was used to carry out the research.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses the research methodology that was used in the study. In particular, the section discusses the research philosophy, the research design, population of the study, data collection, validity and reliability of the instrument, and data analysis.

3.2 Research Philosophy

The philosophical foundation of the study was positivism. Positivism is founded on the assumption that social world is hard, concrete, real thing with human beings being seen as responding to externally engineered stimuli in the network of structural relations within which behavior is directed in a rule-governed manner (Kuada, 1994). Based on this assumption, the study of human behavior should be conducted in the same way as studies conducted in the natural sciences and is expected to be determinate and predictable (Hussey & Hussey, 1997). According to King, Keohane & Verba (1994), positivism is based on quantitative research which uses numbers and statistical methods. It seeks measurement and analysis that are easily replicable by other researchers.

Positivism attempts to be highly objective in nature and based on the belief that the researcher is independent from that which is being researched. Positivists also believe that only phenomena, which are observable and measurable, can be validly regarded as knowledge. They argue that reality is precisely determined through reductionist and deterministic measure without consideration of various differences such as cultural, social, ethnic and economic (Easter-Smith, Thorpe & Lowe, 2000).

The study was therefore guided by the positivist paradigm, where scientific processes were followed in hypothesizing fundamental laws then deducing the observations so as to determine the truth or falsify the said hypothesis. The study also sought to verify the propositions through empirical tests by operationalizing variables in the conceptual framework to allow for measurement and enough samples were selected for purposes of generalizing the results.

3.3 Research Design

A research design is the plan and structure of investigation conceived by the researcher so as to obtain answers to research questions. The plan is the overall scheme or program of the researcher. It includes the outline of what the investigator will do from formulating hypotheses, operationalizing the study variables to the final analysis of data (Cooper & Schindler, 2008). A research design also seeks to provide confidence that the finding derived from the design captures reality and possess high levels of reliability and validity. Considering the purpose of the study and the philosophical orientation adopted, the research design employed was a cross-sectional survey of listed companies in the Nairobi Stock Exchange.

Zikmund (2003) notes that surveys provide quick and accurate means of assessing information if properly conducted. A survey also attempts to quantify social phenomena on particular issues, conditions or problems that are prevalent in the society. It assists the researcher to establish whether significant associations among variables exist at one point in time depending on the resources available and the target population.

The chosen design was able to offer the researcher the opportunity to establish the relationship between stress and corporate performance, and also determine the influence of stress management and individual characteristics on this relationship in companies listed at the Nairobi Stock Exchange. Since a cross-sectional survey ensured unbiased representation of the population of interest, consequently the researcher had no control of the variables in the sense of being able to manipulate them and reported only the results of the research.

3.4 Population of the Study

This was a census study of all publicly quoted companies in the Nairobi Stock Exchange (NSE) and included both foreign and local organizations operating in Kenya (Appendix II and III). As at December, 2010 there were fifty two (52) companies listed at the NSE. These organizations were specifically targeted for the survey as they represented the various sectors of the Kenyan economy which include agriculture, commercial and services, finance and investment, and industrial and allied sector.

The Companies Act (Cap 486) provides that companies should publish audited financial statements (complying with international accounting standards) for every accounting period it is in operation. Consistency in the reporting requirements for publicly traded firms offers the advantage of comparison and evaluation across firms within the same industry and the across different industries (Murray, 1989). For the purposes of the study, objective and reliable economic/financial performance data on these organizations was provided as a result of their conformity to stock market and other legal requirements.

3.5 Data Collection

Both primary and secondary data were used in the study. Primary data was collected on stress, stress manifestation, individual characteristics, stress management and qualitative performance. The researcher used a questionnaire (Appendix 1) for collecting data. It contained both structured and unstructured questions. The questionnaire method was preferred for the study because of the nature of the respondents and size of the sample. The researcher used stratified random sampling technique to categories employees in every organization into a meaningful strata; the stratification chosen was based on the position held in the organization (top management, middle level managers and non managers). Simple random sampling method was used to select the top managers, middle level managers and non managers within their respective strata. Such a method of identifying respondents for study has been used in the previous researches with little bias reported (Sekeran, 2003).

All respondents were expected to answer questions on stress, stress manifestation, individual characteristics, stress management and qualitative performance. A modified version of the Holmes & Rahe readjustment rating scale (1967) was used to measure stress. Kirkman & Rosenman (1999) perceptual measure of performance which had a reliability coefficient of 0.94 was used. The measure for organizational commitment was adopted from the Allen & Meyer (1991) and had a reliability coefficient of 0.84. Information on personality type A or B was tested using the Caplan, Cobb, French & Harrison scale of 1985. The measure for social support was adopted from the Winefield, Winefield & Tiggerman (1992) and had a reliability coefficient of 0.75.

Secondary data was obtained on corporate financial performance. This included data on net profit, average sales turnover and shareholder value which was obtained from the published records found in the NSE handbook (2010).

Table 3.1: Study Variables and their Operationalization

Variable	Indicators	Measure	Questionnaire Item
Stress (Independent)	<p>Work stress</p> <ul style="list-style-type: none"> • Too many responsibilities • Unreasonable deadlines • Office politics • Job insecurity • Difficult coworkers • Demanding customers • Lack of control over work load. <p>Non work stress-</p> <ul style="list-style-type: none"> • Concern about one's general health • Death of significant person • Divorce or separation • Financial constraints • Problems with child care • Concern over insecurity 	Five Point Likert - Type Scale	Question 2
Stress Manifestation (Intervening Variable)	<p>I) Physiological Manifestation</p> <ul style="list-style-type: none"> • Headaches • Ulcers • High blood pressure • Heart problems • Sexual difficulties • Constipation • Heart disease • Nausea 	Five Point Likert - Type Scale	Question 3 (i)

	<p>ii) Psychological Manifestation</p> <ul style="list-style-type: none"> • Anger • Anxiety • Depression • Guilty • Trauma, • Low self-esteem • Low trust • Lack of commitment • Low motivation • Low job satisfaction <p>iii) Behavioral Manifestation –</p> <ul style="list-style-type: none"> • Violent behavior • Substance abuse • Family disharmony • Lose creativity • Avoid responsibility • Poor time management • Lack of respect for others • Poor communication • Avoid change • Low delegation • Unable to complete tasks • Poor skill developments • Poor sleeping patterns • Unpredictable weight gain or weight loss • Opting to leave work 		<p>Question 3 (ii)</p> <p>Question 3 (iii)</p>
<p>Stress Management (Moderating Variable)</p>	<p>Individual approach</p> <ul style="list-style-type: none"> • Diet and nutrition • Physical exercise • Spiritual support • Relaxation • Financial management • Time management • Assertiveness • Taking action • Challenge stressful thinking • Humor • Spiritual wellbeing 	<p>Five Point Likert - Type Scale</p>	<p>Question 7</p>

	<ul style="list-style-type: none"> • Quality products and services • Quick decision making • Employee turnover • Response to customer needs • Market share 		
	<p>Qualitative Performance</p> <ul style="list-style-type: none"> • Annual net profit, • Sales turnover, • Shareholder Value 	<p>Secondary data from the NSE handbook of 2007 and 2010</p>	<p>Part B Question 4-6</p>

3.6 Data Analysis

Descriptive statistics such as mean scores, standard deviations, percentages, index, cross tabulation and frequency distribution were computed to describe the characteristics of the variables of interest in the study. To establish the nature and magnitude of the relationships between the variables and to test the hypothesized relationships, the researcher used inferential statistics. The appropriate tests applied were Pearson's Product Moment Coefficient Correlation (r) and multivariate techniques such as multiple regression analysis and hierarchical regression analysis. In order to facilitate multivariate analysis including correlation and regression, a composite index for performance was computed. The composite index was computed by aggregating the various items, dividing them by the maximum rating and computing a percentage (Gupta, 2008).

The relationship between stress and corporate performance was investigated by testing H_1 . The relationship between stress and stress manifestation was also investigated by testing H_2 . The relationship between stress manifestation and corporate performance was investigated by testing H_3 . To test hypothesis H_1 , H_2 and H_3 , Pearson's Product Moment Coefficient (r) was computed. This determined the nature and the strength of the relationship among the variables, with r ranging from -1 to +1.

The expression of the variables is indicated below:

P = Corporate Performance

X = Stress

β = Beta Coefficient

ϵ = Error term

a = Constant term

$$r = \frac{\sum (X_i - \bar{x})(Y_i - \bar{y})}{n \alpha_x \alpha_y}$$

H₄, and H₅, and, involved a combination of variables thus interactions were computed and multiple regression analysis was used. H₆ focused on determining the joint effect of the moderating variables individual characteristics and stress management on the relationship between stress and corporate performance, and was investigated using multivariate regression analysis. Hierarchical regression analysis was used to calculate for the independent effect of each moderating variable and the results were compared.

A summary of tests of hypothesis and related research objectives are presented in table 3.2

Table 3.2: Research Objectives, Hypotheses and Data Analytical Models

Objective(s)	Hypotheses	Data Analytical Methods
To determine the relationship between stress and corporate performance.	H ₁ : There is a relationship between stress and corporate performance.	$P = a + \beta_1 X_1 + \beta_2 X_2 + \epsilon$ Where: a = intercept P = Corporate Performance β_1 , and β_2 are beta coefficients for H ₁ X ₁ and X ₂ represent dimensions of stress ϵ is the error term

<p>To determine the relationship between stress and stress manifestation.</p>	<p>H₂: There is a relationship between stress and stress manifestation.</p>	<p>$SM = a + \beta_1 X_1 + \beta_2 X_2 + \epsilon$ Where: a = intercept SM = Stress Manifestation β_1, and β_2 are beta coefficients for H₂ X₁ and X₂ represent dimensions of stress ϵ is the error term</p>
<p>To determine the relationship between stress manifestation and corporate performance.</p>	<p>H₃: There is a relationship between stress manifestation and corporate performance.</p>	<p>$P = a + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \epsilon$ Where: a = intercept P = Corporate Performance $\beta_1, \beta_2, \dots, \beta_3$ are beta coefficients for H₃ X₁ X₂ and X₃ represent dimensions of stress manifestation ϵ is the error term</p>
<p>To establish the influence of stress management on the relationship between stress and corporate performance</p>	<p>H₄: The strength of the relationship between stress manifestation and corporate performance depends on stress management.</p> <p>H_{4a}: The strength of the relationship between stress manifestation and corporate performance depends on social support.</p>	<p>Multivariate Regression Analysis</p> <p>Model 1</p> <p>$P = a + \beta_1 X_1 + \beta_2 X_2 + \beta_{11} X_1 X_2 + \epsilon$ Where: a = intercept P = Corporate Performance β_1, β_2 and β_{11} are beta coefficients for H_{4a} X₁ represent stress manifestation X₂ represent social Support X₁ X₂ represent the interaction term ϵ is the error term</p>

	<p>H_{4b}: The strength of the relationship between stress manifestation and corporate performance depends on individual approach to stress management.</p> <p>H_{4c}: The strength of the relationship between stress and corporate performance depends on corporate approach to stress management</p>	<p>Model 2 $P = a + \beta_1 X_1 + \beta_3 X_3 + \beta_{12} X_1 X_3 + \epsilon$ Where: a = intercept P = Corporate Performance β_1, β_3 and β_{12} are beta coefficients for H_{4b} X_1 represent stress manifestation X_3 represent individual approach to stress management $X_1 X_3$ represent the interaction term ϵ is the error term</p> <p>Model 3 $P = a + \beta_1 X_1 + \beta_4 X_4 + \beta_{13} X_1 X_4 + \epsilon$ Where: a = intercept P = Corporate Performance β_1, β_4 β_{13} are beta coefficients for H_{4c} X_1 represent stress manifestation X_4 represent corporate to stress management $X_1 X_4$ represent interaction term ϵ is the error term</p>
<p>To establish the influence individual characteristics on the relationship between stress and corporate performance</p>	<p>H₅: The strength of the relationship between stress manifestation and corporate performance depends on individual characteristic.</p> <p>H_{5a}: The strength of the relationship between stress manifestation and corporate performance depends on level of education.</p>	<p>Multivariate regression analysis</p> <p>Model 4 $P = a + \beta_1 X_1 + \beta_5 X_5 + \beta_{14} X_1 X_5 + \epsilon$ Where: a = intercept P = Corporate Performance β_1, β_5 and β_{14} are beta coefficients for H_{5a} X_1 represent stress manifestation X_5 represents level of education $X_1 X_5$ represent the interaction term ϵ is the error term</p>

	<p>H_{5b}: The strength of the relationship between stress manifestation and corporate performance depends on age.</p>	<p>Model 5 $P = a + \beta_1 X_1 + \beta_6 X_6 + \beta_{15} X_1 X_6 + \varepsilon$ Where: a = intercept P = Corporate Performance β_1, β_6 and β_{15} are beta coefficients for H_{5b} X₁ represent stress manifestation X₆ represents age X₁ X₆ represent the interaction term ε is the error term</p>
	<p>H_{5c}: The strength of the relationship between stress manifestation and corporate performance depends on gender.</p>	<p>Model 6 $P = a + \beta_1 X_1 + \beta_7 X_7 + \beta_{16} X_1 X_7 + \varepsilon$ Where: a = intercept P = Corporate Performance β_1, β_7 and β_{16} are beta coefficients for H_{5c} X₁ represent stress manifestation X₇ represents gender X₁ X₇ represent the interaction term ε is the error term</p>
	<p>H_{5d}: The strength of the relationship between stress manifestation and corporate performance depends on marital status.</p>	<p>Model 7 $P = a + \beta_1 X_1 + \beta_8 X_8 + \beta_{17} X_1 X_8 + \varepsilon$ Where: a = intercept P = Corporate Performance β_1, β_8 and β_{17} are beta coefficients for H_{5d} X₁ represent stress manifestation X₈ represents marital status X₁ X₈ represent the interaction term ε is the error term</p>

	<p>H_{5e}: The strength of the relationship between stress manifestation and corporate performance depends on tenure.</p>	<p>Model 8 $P = a + \beta_1 X_1 + \beta_9 X_9 + \beta_{18} X_1 X_9 + \epsilon$ Where: a = intercept P = Corporate Performance β_1, β_9 and β_{18} are beta coefficients for H_{5e} X₁ represent stress manifestation X₉ represents tenure X₁ X₉ represent the interaction term ϵ is the error term</p>
	<p>H_{5f}: The strength of the relationship between stress manifestation and corporate performance depends on personality.</p>	<p>Model 9 $P = a + \beta_1 X_1 + \beta_{10} X_{10} + \beta_{19} X_1 X_{10} + \epsilon$ Where: a = intercept P = Corporate Performance β_1, β_{10} and β_{19} are beta coefficients for H_{5f} X₁ represent stress manifestation X₁₀ represents personality X₁ X₁₀ represent the interaction term ϵ is the error term</p>
<p>To establish the joint effect of stress management and individual characteristics on the relationship between stress and corporate performance.</p>	<p>H₆: The joint effect of the moderating variables stress management and individual characteristics on the relationship between stress manifestation and corporate performance is greater than the individual moderating variable on the same</p>	<p>Multivariate Regression Analysis Corporate performance = f (Stress Management + individual characteristics)</p>

3.7 Chapter Summary

This chapter introduced the philosophical foundation of the research. It described the research design adopted for the study. The population of study was also provided. The chapter also described the data collection method. The operationalization of the research variables has also been presented. This chapter also presented a tabulated summary of the objectives, corresponding hypotheses, and analytical models.

CHAPTER FOUR

DATA ANALYSIS, FINDINGS AND DISCUSSIONS

4.1 Introduction

This chapter presents the results of the reliability and validity tests, the profile of the companies studied and that of respondents. Both descriptive and inferential statistical analyses are presented herein and the findings are discussed, within the framework of the research questions, objectives and hypotheses.

4.2: Reliability and Validity Test

A pilot study was conducted to find out if the respondents could answer the questions without difficulty. Respondents in the pretest were drawn from three corporations listed at the Nairobi Stock Exchange. They were asked to evaluate the questions for relevance, comprehension, meaning and clarity. The instrument was modified on the basis of the pilot test before administering it to the study respondents. Even though many of the scales were adopted from previous researchers who have studied the relationship between stress and corporate performance, it was necessary to assess the psychometric properties of the construct. Cronbach Alpha was therefore used to test reliability of the instrument. A summary of the scores of the variables on the Cronbach's Alpha reliability coefficient are presented in appendix V.

The data collection instrument was subjected to an examination by a panel of experts who were asked to review the instrument to ascertain its validity. The instrument was also subjected to a thorough examination by the Doctoral Committee members of the School of Business, University of Nairobi, and by the researcher's supervisors.

The study empirically examined the structure of the research instrument utilizing a factor analysis procedure. Several well-recognized criteria for the factorability of correlation were used. All items were correlated at least with one other item, suggesting reasonable factorability. Secondly, the Kaiser-Meyer-Olkin measure of sampling adequacy was .889, above the recommended value of .6, and Bartlett's test of sphericity was significant ($\chi^2 (61618) = 10296, p < .05$). Most of diagonals anti

image correlation were above 0.5 supporting the inclusion of each item in the factor analysis. The factors with communalities below 3 were dropped; all other factors with communalities above 3 were included in the factor analysis. Given this indicator, factor analysis was conducted with 120 items. In a good factor analysis, there are a few factors that explain a lot of the variance while the rest of the factors explain relatively small amounts of variance. Those with high variance are summarized in Table 4.1 below.

Table 4.1 Factor loadings and Reduced Interpretation

Factor	Item Description	Factor Loadings	Reduced Interpretation
1	Good performance in the last five years	.518	Performance measures
	Very good organizational image	.508	
	Quality products and services	.496	
	Increased outputs	.509	
	High market share	.487	
2	Too many responsibilities	.488	Work Stress
	Demanding and unreasonable deadlines	.543	
	Difficult co workers	.505	
	Lack of control over workload	.697	
	Demanding and difficult customers	.480	
	Job insecurity	.500	
3	Concern for general Health	.423	Non work stress
	Financial Constraints	.458	
	Problems with childcare	.467	
4	Quick Response to Customers complains	.514	Customer Satisfaction
	Customer oriented personnel	.610	
5	Headaches	.424	Physiological manifestation
	High Blood Pressure	.443	

6	Anger/Irritability Anxiety/panic/fearful	.414 .432	Behavioral manifestation
7	Poor Sleeping Pattern Poor time Management Poor communication	.412. .482 .429	Behavioral manifestation
8	The feeling of accomplishment i get from my job The way my job provides for steady employment The chance to try my own methods of doing jobs	.715 .731 .731	Job satisfaction
9	I like to work for my organization I have individual attachment to my organization	.549 .566	Organizational commitment
10	Assertiveness In conflict situations, I am able to speak upon my own behalf, honestly express my opinions and wishes, give constructive criticism and refuse unrealistic request. Time Management; I able to efficiently manage time Financial management; I am good at managing money, not needless worry about financial matters and have enough money to meet most of my needs and use in reducing stress Challenge stressful thinking; I am able to reduce stress by consciously monitoring , challenging and changing negative thoughts patterns, placing	.524 .463 .573 .484	Individual stress prevention

	<p>problems into proper perspective, mentally rehearsing and using positive talk</p> <p>Taking Action;</p> <p>I am able to establish priorities, take action on my plans, goals and set limits, schedule effectively and avoid procrastination and pace my efforts</p>	.465	
11	<p>How often do they really listen to you when you talk about your concerns or problems?</p> <p>How often do you feel they are really trying to understand your problems?</p> <p>How often do they help in practical ways like doing things for you or lending money?</p> <p>How often do they answer your questions or give you advice about how to solve problems?</p> <p>How often do you use them as examples to deal with your problems?</p>	.481 .422 .449 .429 .427	Social support
12	<p>I thrive on challenging situations. The more challenges, I have the better</p> <p>In comparison to most people, I know I am more involved in my work.</p> <p>In general, I approach my work more seriously than most people.</p>	.421 .448 .462	Personality

13	Leave	.425	Organizational stress prevention
	Annual, maternity, paternity and sabbatical	.426	
	Use of EAPS in form of counseling and support groups.	.417	
	Of Use of wellness programmes that encourage staff to take physical and mental health care seriously e.g weight loss and alcohol control	.448	
	Redesign jobs; Does your organization prevent and manage stress by giving employees more responsibilities, more meaningful work more autonomy and increased feedback?	.444	
	Relocate office to less congested area	.459	
	Use of increased formal organizational communication in order to reduce role ambiguity and role conflict		

In conclusion, thirteen most critical factors in the study questionnaire were established as follows: (1) Performance measures (2) Work stress (3) Non Work stress, (4) Customer satisfaction (5) Physiological manifestation, (6) Psychological manifestation (7) Behavioral manifestation (8) Job satisfaction (9) Organizational commitment (10) Individual stress prevention (11) Social support, (12) Personality, (13) Organizational stress prevention.

4.3 Profile of Companies Studied

Out of the 52 companies listed at the NSE, 32 of them participated in the study. This constitutes a response rate of 61.5 percent. The response rate is comparable to previous studies; for example Awino (2007) had a response rate of 78 percent, Waweru, (2008) had a response rate of 42 percent and, Ongore (2008) had an 87.5 percent response rate. A total of 1244 questionnaires were distributed but only 571 were returned. Out of these questionnaires, 549 were considered usable for the study. This accounted for 44 percent of the respondents. The other 22 questionnaires had highly significant levels of missing information. The remaining cases represented an adequate response rate for the precision and confidence required in this study.

Table 4 .2: Distribution of Companies by Investment Market Segment

Sector	Frequency	Percent
Agriculture	2	6.25
Commercial Service	6	18.75
Finance & Investments	11	34.4
Industrial & Allied	12	37.5
Alternative and investment	1	3.1
Total	32	100.0

As shown in Table 4.2, a total 37.5 percent of the respondents were from the industrial and allied sector. The financial and investment sector accounted for 34.4 percent of the respondents, while the commercial service sector had 18.75 percent. The agriculture sector accounted for only 6.25 of the respondents. At 3.1 percent the alternative and investment sector accounted for the lowest response rate. Despite the researcher trying to get the relevant decision makers in this sector to participate in the research, the efforts proved futile.

Table 4.3: Distribution of Companies by age

Age of Company	Frequency	Percent
11-20 yrs	3	9.4
21-30 yrs	2	6.3
31-40 yrs	5	15.6
41-50 yrs	10	31.3
over 50 yrs	12	37.4
Total	32	100.0

The period of existence of the companies was established through secondary data provided for the NSE handbook (2010). 90.6 percent of the companies had been in operation for more than 20 years since they were incorporated. Only 9.4 percent of the companies had been in operation for less than 20 years. These findings are presented in Table 4.3. The age of the company is generally expected to influence the practices within the organizations. A company that has been in existence for long is expected to have well established human resource practices which may include stress management programmes that aim at improving employee well being and in turn enhancing performance (Nelson & Quick, 2009).

Table 4.4: Distribution of Respondents by Age Group

Age Group	Frequency	Percent
Below 20 yrs	4	0.7
20-29 yrs	155	28.2
30-39 yrs	242	44.1
40-49 yrs	129	23.5
over 50 yrs	19	3.5
Total	549	100.0

The results in Table 4.4 show that all age groups were represented in the study. The results also indicate that majority of the employees were between the age of 30 to 39 years which constituted 44.1 percent of the respondents. 28.2 percent were aged between 20-29 years, while 23.5 percent were aged between 40 to 49 years. Only 0.7 percent were below 20 years of age, while 3.5 percent were over 50 years.

Table 4.5: Distribution of Respondents by Gender

Gender	Frequency	Percent
Male	265	48.3
Female	284	51.7
Total	549	100.0

Table 4.5 above shows that 48.3 percent of the respondents were male. The percentage of female respondents was 51.7 percent. This results show that there are more women than men in the sample.

Table 4.6: Distribution of Respondents by Marital Status

Marital Status	Frequency	Percent
Married	314	57.2
Single	221	40.3
Other	14	2.5
Total	549	100.0

The results in Table 4.6 show that 57.2 percent of the respondents were married. The other 40.3 percent were single. Those who indicated other on the questionnaire accounted for 2.5 percent.

Table 4.7: Distribution of Respondents by Level of Education

Level of Education	Frequency	Percent
Secondary school	36	6.6
Ordinary diploma	73	13.3
Bachelors degree	264	48.1
Masters degree	173	31.5
Doctorate degree	3	0.5
Total	549	100.0

Table 4.7 shows the distribution of respondents' level of education. Majority of the respondents at 48.1 percent had a first degree. Respondents who had attained master's level were 31.5 percent, while those with Diplomas were 13.2 percent. Only 0.5 percent had doctorate degrees. This indicates a very high educational level amongst the respondents. The results also show that there were employees who only had a secondary school qualification and constituted 6.6 percent of the sample.

Table 4.8: Distribution of Respondents by Years of Service (Tenure)

Tenure	Frequency	Percent
Below 5years	206	37.5
5-10 years	227	41.4
over 10 years	116	21.1
Total	549	100

Table 4.8 illustrates the distribution of the respondents according to the number of years worked in the current organization. A total of 37.5 percent had worked with their company for five or less years, while 41.4 percent had worked for between 5 and 10 years. Only 21.1 percent had worked for the organization for ten years and more.

Table 4.9: Distribution of Respondents by Employment Status

Employment Status	Frequency	Percent
Permanent	448	81.6
Temporary	13	2.1
Contract	88	16.3
Total	549	100

Permanent staff accounted for 81.6, which is an indication of high job security, considered to be related positively to low stress experience. Temporary staff accounted for 2.1 percent, while staff on contract constituted 16.3 percent of the respondents as per Table 4.9 above.

Table 4.10: Distributions of Respondents by Job Category

Job title	Frequency	Percent
Accountants	43	7.3
Managers	48	9.3
Architect	1	0.2
Auditors	25	4.6
Bank tellers	56	10.2
Cashiers	5	0.9
Chief librarian	1	0.2
Clerks	35	6.4
Credit officers	9	1.6
Customer Relation officers	37	6.7
Drivers	13	2.4
Engineer	1	0.2
Human Resource officers	30	5.5
Legal officers	8	1.5
Training officer	6	1.1
Liaison officers	1	0.2
Messengers	23	4.2
Procurement officers	10	1.8
Receptionists	20	3.6
Risk officers	1	0.2
Sales executives	30	6.6
Marketing officers	6	1.1
Secretaries	30	5.5
Security officers	9	1.6

Administrators	10	1.8
Supervisors	6	1.1
Surveyor	1	0.2
IT officers	40	7.2
System administrators	4	0.7
Total	549	100

The results of Table 4.10 show that majority of the job categories in the companies were represented in the study.

Table 4.11: Distribution of Respondents by Management level

Management Level	Frequency	Percent
Top Management	48	8.7
Middle Management	276	50.3
Non Managerial	225	41.0
Total	549	100

The distributions on Table 4.11 indicates that majority of the respondents were middle level management and constituted 50.3 percent of the sample. 41 percent of the respondents were non-managers, while top management accounted for 8.7 percent.

Table 4.12: Descriptive Statistics on Stress

Stress – Work Stress	N	Mean	Standard Deviation	Standard Error Mean
Too many responsibilities	548	3.71	0.911	0.039
Demanding and unreasonable deadlines	549	3.67	.983	0.042
Difficult coworker	549	3.33	.965	0.041
Conflicting with or conflicting demands, unclear expectation from superiors, or management	549	3.58	.924	0.039

Office politics	549	3.25	.914	0.049
Job insecurity due to cutbacks, layoffs, downsizing and reorganization.	549	3.42	1.030	0.042
Lack of career advancement or inadequate pay	549	3.43	.932	0.040
Lack of control over workload and or decisions affecting my job.	548	3.40	.983	0.042
Demanding or difficult customers	549	3.51	.964	0.041
Grand Mean on Work Stress	549	3.48	.973	0.044
Stress - Non Work Stress				
Concern about general health	549	3.04	.988	0.042
Death of significant person	546	2.64	.930	0.040
Separation or divorce	544	2.27	1.066	0.046
Concern for Physical appearance	540	2.21	1.120	0.048
Sexual conflicts and frustration	542	1.67	.899	0.038
Concern for poor weather	549	2.18	1.010	0.043
Problems with child care	549	2.22	1.115	0.048
Financial Constraints	549	2.79	1.062	0.045
Too little contact with people	549	2.02	.986	0.042
Concern for your neighbors/ neighborhood	549	2.57	.895	0.038
Concern over insecurity and other social issues in the country	548	2.59	.919	0.039
Grand Mean on Non-Work Stress	549	2.38	1.050	0.042
Overall Grand Mean on Stress	549	2.88	1.112	0.046

The results in Table 4.12 indicate that the overall grand mean is 2.88, which suggest that workers at the NSE were experiencing moderate levels of stress. According to Ali et al. (2011), moderate levels of stress, motivate individuals to achieve their goals and enables them to successfully face other life's challenges. The study established that work stress had a mean rating of above 3.48 indicating that most respondents reported work stress as a major source of stress. This is in line with the findings of Happel, Martin & Pinkahana (2003), where work overload, too many responsibilities, job insecurity, conflicting and uncertain job expectations and lack of career advancement were considered as some of the most stressful to employees. Workers today are much more aware of work stress than they were 20 years ago. Many people are caught up in consumerism; they want to buy more goods and services which require more income through longer work hours. For many toiling away far beyond the normal workweek is badge of honor, a symbol of their ability to multi task, which is becoming a common feature in Kenya. This increased level of awareness may have played a significant role, which led to respondents reporting and rating work stress highly on the questionnaires thus contributing to the perception that work stress is on the increase (Bloona, 2007).

Non work stress had a grand mean 2.38. Employees at the NSE did not site non work stressors such as separation and divorce, death of significant person, problems with child care, concern for physical appearance among others as being very stressful. This is an indication that respondents could cope with the stressors effectively as it did not exceed the respondents' bearable limits. Despite the low grand mean, it is important to note that concern about general health was the only non work stress factor that had a mean score of above 3. This may be attributed to the growing concern over life threatening diseases such as HIV/AIDS and cancer among others. Other risk factors such as burnout, which for many years has been associated with jobs that revolve around helping others have also become a burden to organizations, even those listed in the NSE. Both the private sector and the government realize the impact of poor health among its worker, such as increase in healthcare expenditure, which in turn slows down economic growth. The sector has therefore, set out to revitalize health care infrastructure as one of Kenya's Vision 2030 targets, (GOK, 2007).

Table 4.13: Descriptive Statistics on Stress Manifestation

Physiological Manifestation	N	Mean	Standard Deviation	Standard Error
Headaches	549	2.86	1.208	0.052
High blood pressure	549	1.95	1.274	0.054
Heart disease	549	1.37	1.862	0.037
Ulcers	549	1.33	.768	0.033
Sexual difficulties	549	1.28	.707	0.030
Constipation	549	1.58	.955	0.041
Heartburn	549	2.75	1.060	0.045
Nausea	549	1.74	1.061	0.047
Grand mean on Physiological Stress Manifestation	549	1.86	1.014	0.042
Psychological Manifestation				
Anger/Irritability	549	3.55	.056	0.024
Depression/sad/down hearted	549	1.90	1.023	0.044
Irrational beliefs	549	1.54	.865	0.037
Guilt	549	1.76	1.006	0.043
Lack of concentration	549	2.71	1.107	0.43
Poor self esteem	549	2.18	1.093	0.048
Low motivation	549	2.31	1.103	0.047
Anxiety/Panic/fearful	549	3.54	.631	0.240
Low trust	549	2.16	1.140	0.049

Job Satisfaction	549	2.25	1.141	0.049
Organizational Commitment	549	2.17	1.022	0.044
Grand Mean on Psychological Stress Manifestation	549	2.37	1.101	0.045
Behavioral Manifestation				
Violent Behavior	548	1.84	1.082	0.046
Substance abuse	542	2.13	1.430	0.049
Absenteeism	546	2.36	1.560	0.049
Withdraw from social life	549	1.92	1.28	0.044
Poor sleeping patterns	549	2.43	1.239	0.053
Lack of skill development	549	1.86	1.066	0.040
Lack of respect for others	549	1.84	.965	0.041
Unable to complete tasks	549	2.17	1.270	0.044
Avoid change	549	1.03	.842	0.004
Family disharmony	549	2.04	.990	0.042
Poor communication	549	2.09	.945	0.040
Avoid responsibility	549	1.94	.867	0.037
Low delegation	549	2.07	.939	0.040
Loss of creativity	549	2.49	1.118	0.048
Poor time management	549	1.92	.833	0.036
Unpredictable weight gain or weight loss	544	1.97	1.029	0.044
Opting to leave work due to stress	549	2.17	.945	0.041

Grand Mean on Behavioral Stress Manifestation	549	2.02	.988	0.042
Overall Grand Mean on Stress Manifestation	549	2.09	.945	0.040

The result in Table 4.13 above show that the overall grand mean on stress manifestation was 2.09, which is an indication that the outcome of stress among employees was moderate. Physiological stress manifestation had a grand mean of 1.86. Physiological stress manifestation such as headaches, heart disease, ulcers and high blood pressure did not score highly on the likert type scale, they were therefore not considered a major threat to the health of workers at the NSE and neither their performance. The effects of moderate stress are usually not harmful as long as people take action and utilize this energy. The rapid mobilization of energy created to assist us in confronting a threat, harm or challenge is in most cases, positive, life-saving adaptive mechanism, the effects are short lived and begin to reverse once the sources of stress is removed or coped with effectively. The more often people experience events that provoke alarm reactions, the greater their need for the rest to help the body restore the energy that was used up in dealing with the stressor.

Psychological stress manifestation had a grand mean of 2.37. Anger and anxiety were the only two outcomes that had a mean score of above 3 under psychological manifestation category. Anxiety sufferers feel irritable and may have difficulty concentrating. This may be coupled with physical symptoms such as shortness of breath, increased heart rate, cold clammy hands, a dry mouth, nausea, muscle tension, aches and soreness. The fight or flight response originates in the brain thus leading to a variety of psychological problems. No other psychological disorder such as depression, irrational beliefs, low motivation, lack of job satisfaction and low organizational commitment were rated highly on the scale. The primary function of the brain is to send and receive information.

The grand mean for behavioral manifestation was 2.02. When the brain is exposed to high levels of stress, the outcome may lead to serious behavioral manifestation of stress. It appears that the minds of the respondents under study did not send messages that would over stimulate their system and cause them to enter into chronic stress. The respondents did not score highly on behavioral manifestation such as poor sleep patterns, substance abuse, violence, family disharmony, loss of creativity, poor time management, unpredictable weight gain or weight loss, high levels of absenteeism and opting to leave work due to stress.

Table 4.14: Management Category in Relation to Stress Index

Management Category	Top Management		Middle Management		Non Managerial	
	N	Mean	N	Mean	N	Mean
Too Many responsibilities	48	3.71	276	3.61	225	3.81
Demanding or Unreasonable deadlines	48	3.62	276	3.65	223	3.72
Difficult coworkers	48	3.12	276	3.15	225	3.72
Conflicting and unclear demands from superiors or management	48	3.38	276	3.36	225	3.79
Office politics	48	3.21	276	3.22	225	3.32
Job insecurity due to cutbacks, layoffs, downsizing or reorganization	48	3.39	276	3.41	225	3.45
Lack of career advancement and adequate pay	48	3.41	276	3.43	225	3.47
Concerns about general health	48	3.04	276	3.03	225	3.06
Demanding or difficult customers	46	3.12	276	3.22	225	3.80
Lack of control over workload and or decisions affecting my job	48	3.48	276	3.48	225	3.58
Death of significant person	48	2.61	276	2.63	225	2.66
Separation or Divorce	48	2.25	276	2.27	215	2.30

Concern for Physical appearance	48	1.67	275	1.67	205	1.70
Sexual conflicts and frustration	44	1.65	274	1.64	200	2.21
Concern for poor weather	48	1.74	276	1.76	220	2.44
Problems with childcare	44	2.79	276	2.73	220	2.82
Financial Constraints	46	2.12	274	2.12	199	2.41
Too little contact with people	44	2.21	254	2.20	199	2.23
Concern for your neighbors/ neighborhood	44	2.55	262	2.54	212	2.62
Concern over insecurity and other social issues in the country	44	2.59	275	2.55	223	2.64
Grand Mean	48	2.78	276	2.78	225	2.98

A mean rating was computed in order to compare stress levels among the different employee categories. The study revealed that top management reported a grand mean of 2.78, the same as that of middle level management. Non managerial staff had a grand mean of 2.98, which was higher than that of managers. The findings appear to contradict previous studies. According to Greenberg & Baron (2007), by virtue of carrying the responsibilities for other workers both top managers and middle level managers experience higher levels of stress than those who have no responsibility. They are both more likely to report feelings of tension, and are likely to show symptoms of stress such as ulcers and hypertension unlike their counterparts in non-supervisory positions.

The findings of the study indicating that non managerial staff reported higher levels of stress, may be attributed to the fact that they may not have access to stress management facilities such as fitness clubs neither the ability to pay for holidays to get away from stressful situations. In the Kenyan context, workers also tend to take leave and travel upcountry which may not always be the right way to manage stress, since it is assumed that people who work in the city have more resources, which they are expected to share out with relatives. This may result to increased financial stress by the time they report back to work.

4.4 Test of Hypotheses

The six research objectives are addressed in this section. The first three objectives explored relationships between the study variables. The correlations for these variables and the regression models are presented in this section. The fourth objective sought to find out the influence of stress management on the relationship between stress and corporate performance. The fifth objective sought to establish the influence of individual characteristics on the relationship between stress and corporate performance. Finally, the sixth objective sought to establish whether the joint effect of stress management and individual characteristics on corporate performance is greater than the independent effects.

4.4.1 Stress and Corporate Performance

Objective one of the study sought to determine the relationship between stress and corporate performance.

H₁: There is a relationship between stress and corporate performance

Stress was measured by both work stress and non-work stress, which included too many responsibilities, unreasonable deadlines, job insecurity, lack of career advancement, death of significant other, divorce, problems with child care among other factors. Data was obtained using a likert type scale of 1-5 where 1= not at all, 2 = rarely, 3= sometimes, 4= often and 5= very often. Performance focused on both the efficiency and effectiveness and included both qualitative and quantitative performance. Qualitative performance was measured using the Kirkman and Rosenman scale (1999) where respondents were required to indicate performance of their business compared to that of their competitors. Organizational effectiveness was measured in terms of customer satisfaction, employee relations, organizational image and quick decision making. Using the same scale, respondents were also required to indicate the extent of the business growth in the last five years. Quantitative data which included sales turnover, shareholder value and profits was obtained from the NSE handbook of 2007 and 2010. It is important to note that hypothesis one was first statistically tested using respondents in all the market segments in the NSE. Further

analysis of the same hypothesis was conducted within three of the market segments which include financial and investment sector, commercial and services sector and the industrial and allied sector in order to determine whether the relationship between stress and performance was significant.

Table 4.15: Correlation Results for Stress and Corporate Performance.

Variables		Stress	Corporate Performance
Stress	Pearson Correlation	1	.103*
	Sig. (2-tailed)		.016
	N	549	549
Corporate Performance	Pearson Correlation	.103*	1
	Sig. (2-tailed)	.016	
	N	549	549

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

Pearson’s Product Moment Correlation statistic was used to test the relationship between stress and corporate performance. As can be discerned in Table 4.15 above, there is a statistically significant relationship between stress and corporate performance with $r = .103$ at $p < 0.05$. Further analysis presented on Table 4.16, also show that there is a relationship between stress and corporate performance.

Table 4.16: Regression results for Stress and Corporate Performance

(a) **Model Summary**

Model	R	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
				R Square Change	F Change	df1	df2	Sig. F Change	
1	.123 ^a	.015	1.266	.015	4.205	2	547	.015	1.661

a. Predictors: (Constant), Non Work Stress, Work Stress

b. Dependent Variable: Corporate Performance

(b) ANOVA^b

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	13.479	2	6.740	4.205	.015 ^a
Residual	875.027	547	1.603		
Total	888.506	549			

a. Predictors: (Constant), Non Work Stress, Work Stress

b. Dependent Variable: Corporate Performance

(c) Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	3.246	.251		12.927	.000	2.752	3.739
	Work Stress	.180	.071	.116	2.516	.012	.039	.320
	Non Work Stress	.027	.079	.016	.340	.734	-.129	.182

a. Dependent Variable: Corporate Performance

The R value was 0.123 indicating that there is a positive relationship between stress and corporate performance. The R squared (R^2) value of .015 explains 1.5 percent of corporate performance. The remaining 98.5 is explained by other strategies put in place by companies in order to enhance their performance. The model was significant with the F ratio = 4.205 at $p < 0.05$. This is an indication that the levels of stress experienced by employees at the NSE were moderate. Work stress had a β value of 2.516 at $p = 0.05$. Individuals identified all work stressor as being source of stress, only concern for general health was identified by respondents as a major stressor. These findings are supported by Welford (1973) and Jing (2008) that optimum stress may be achieved at work and reflected on job performance if the situations employees encounter provide adequate challenges. A certain amount of stress is therefore, beneficial to corporate performance.

The study revealed that factors within the organization such as work overload, difficult co-workers, too many responsibilities, demanding and unreasonable deadlines, conflicting demands and unclear expectations did not affect performance negatively. Lack of control over workload, demanding and difficult customers and office politics may have triggered positive stress, which in turn enhanced performance. This is an indication that individuals who participated in the study were able to mobilize the energy necessary to cope with everyday work stress, which had a positive effect on performance. Non work stress, which is caused by individual experiences and other environmental demands did not have any significant effect on corporate performance. This may be explained by the fact that it is not every day that people have to deal with stressful situations such as the death of significant others or divorce among other problems.

Table 4.17: Correlation Results for Stress and Corporate Performance in the Finance and Investment Sector

Variables		Stress	Corporate Performance
Stress	Pearson Correlation	1	.135**
	Sig. (2-tailed)		.000
	N	312	312
Corporate Performance	Pearson Correlation	.135**	1
	Sig. (2-tailed)	.000	
	N	312	312

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

Pearson's Product Moment Correlation statistics was used to test the relationship between stress and corporate performance in the financial and investment sector. The results are presented in Table 4.17 above. As shown on the Table, $r=0.135$, which indicates that stress and corporate performance are correlated. The sign of the correlation coefficient indicates that the relationship is positive. The significance value $p<0.01$ means that the correlation is significant and the two variables are linearly related.

Table 4.18: Regression results for Stress and Corporate Performance in the Financial and Investment Sector.

(a) Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.165 ^a	.027	.025	1.257	.027	15.263	2	310	.001	1.714

a. Predictors: (Constant), Work Stress, Non Work Stress

b. Dependent Variable: Corporate Performance

(b) ANOVA^b

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	24.119	2	24.119	15.263	.001 ^a
	Residual	864.388	310	1.580		
	Total	888.506	312			

a. Predictors: (Constant), Work Stress, Non Work Stress

b. Dependent Variable: Corporate Performance

(c) Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	2.907	.268		10.847	.000	2.380	3.433
	Work Stress	.271	.069	.165	3.907	.001	.135	.408
	Non Work Stress	.186	.092	.147	3.693	.002	.154	.418

a. Dependent Variable: Corporate Performance

The results of the regression analysis support those of the Pearson's Product Moment Correlation that there is a positive relationship between stress and corporate performance in the financial and investment sector, where R was equal to 0.165 and R² value of .027 explaining 2.7 percent of corporate performance. The model was significant with the F ratio = 15.263 at p < 0.001. The results for work stress were significant with $\beta = .165$ at p < 0.05, while non-work stress was also significant with $\beta = .147$ at p < 0.05.

Growing research evidence shows that increase in stress to mild levels serves as a stimulus to activate employees to challenge stressors at the work place, or those outside the work place that are affecting their tasks, and this in turn facilitates an improvement to corporate performance. It is important to note that mild levels of stress will vary from individual to individual depending on how long it continues, how complex the task is and how strong the individual's resilience power is. The results of this study support findings by Welford (1973) and Jing (2008) that mild levels of stress enhance employee performance, hence affecting corporate performance positively in the financial and investment sector.

Table 4.19: Correlation Results for Stress and Corporate Performance in the Commercial and Services Sector

Variables	Corporate Performance	Stress
Corporate Performance	1	.117*
Pearson Correlation		.013
Sig. (2-tailed)		
N	75	75
Stress	.117*	1
Pearson Correlation	.013	
Sig. (2-tailed)		
N	75	75

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

Pearson's Product Moment Correlation statistic was used to test if there was a statistically significant bivariate relationship between the stress and corporate performance in the commercial and services sector. The results are presented in table 4.19. As shown in the Table 4.19, there is a positive correlation between stress and corporate performance with $r=0.117$ at $p < 0.05$.

Table 4.20: Regression results for Stress and Corporate Performance in the Commercial and Services Sector.

(a) **Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.131 ^a	.017	.015	1.264	.017	9.537	2	73	.002	1.683

a. Predictors: (Constant), Work Stress, Non Work Stress

b. Dependent Variable: Corporate Performance

(b) **ANOVA^b**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	15.226	2	15.226	9.537	.002 ^a
	Residual	873.280	73	1.596		
	Total	888.506	75			

a. Predictors: (Constant), Work Stress, Non Work Stress

b. Dependent Variable: Corporate Performance

(b) **Coefficients**

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
1 (Constant)	2.845	.356		7.982	.000	2.380	3.433
Work Stress	.211	.091	.131	3.907	.028	.177	.408
Non Work Stress	.078	.178	.059	.433	.663	.205	.478

a. Dependent Variable: Corporate Performance

The results of the regression model presented in Table 4.20 above show that stress is positively correlated to corporate performance with R value of .131. The value of R^2 is .017 meaning stress explains 1.7 percent of performance in commercial services sector. The model is significant with an F ratio of 9.537 at $p < 0.05$. The results also indicate a significant positive relationship between work stress and performance with $\beta = .131$ at $p < 0.05$, while the results of the bivariate regression analysis between non work stress and corporate performance was insignificant.

Constructive stress is a healthy stimulus that encourages employees to respond to challenges, and with time reaches a plateau that corresponds approximately with an individual's day to day performance capability. Bloona (2007) maintained that at lower levels of stress individual's function effectively, but at higher levels they begin to develop stress symptoms and their performance and that of the corporation decline overtime. Robbins (2003) noted that when individuals experience low to moderate levels of stress, it stimulates the body and increases its ability to react. Similarly the research findings support the view that mild levels of stress in the commercial and services sector affects corporate performance positively (Jing, 2008).

Table 4.21: Correlation Results for Stress and Corporate Performance in the Industrial and Allied Sector

Variables		Corporate Performance	Stress
Corporate Performance	Pearson Correlation	1	-.311**
	Sig. (2-tailed)		.002
	N	135	135
Stress	Pearson Correlation	-.311**	1
	Sig. (2-tailed)	.002	
	N	135	135

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

Correlation analysis was carried out on stress and corporate performance. The bivariate relationship was found to be statistically significant with stress affecting performance negatively where $r = -.311$ at $p < 0.01$.

4.22: Regression results for Stress and Corporate Performance in the Industrial and Allied Sector.

(a) Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	-.325 ^a	.106	.045	1.274	.001	5.802	1	134	.007	1.661

a. Predictors: (Constant), Work Stress, Non Work Stress

b. Dependent Variable: Corporate Performance

(b)

ANOVA^b

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1.301	1	1.301	5.802	.007 ^a
	Residual	887.206	134	1.622		
	Total	888.506	135			

a. Predictors: (Constant), Work Stress, Non work Stress

b. Dependent Variable: Corporate Performance

(c)

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	-3.838	.119		-7.378	.000	-1.433	-.780
	Work Stress	-.255	.016	-.238	3.385	.003	-.075	-.308
	Non Work Stress	-.109	.101	-.133	.693	.014	-.198	-.104

a. Dependent Variable: Corporate Performance

The model summary in Table 4.22 above shows that both work stress and non-work stress have a combined correlation R value of -.325 showing that there is a significant negative relationship between stress and corporate performance. The F ratio is 5.802 at $p < 0.05$, showing a significant level of predicting the results using the model. The respective beta coefficients showed that work stress had $\beta = -.238$ at $p < 0.05$, while non-work stress had $\beta = -.133$ at $p < 0.05$. Both work stress and non-work stress had a negative unique effect on corporate performance.

The research study revealed that factors within the organization such as unreasonable deadlines, lack of career advancement, lack of control over workload and decision affecting the respondents' jobs had a negative effect on corporate performance. Job insecurity due to cutbacks, layoffs, downsizing and reorganization and office politics especially wrangles among top team management, were also major contributing factors to negative corporate performance in the industrial and allied sector. Non work stressors, which included financial constraints, problems with childcare, concern for the workers general health, concern over insecurity and other social issues were also identified by respondents as being major factors that were affecting corporate performance negatively. This confirms other research findings that conclude that stress affects corporate performance negatively (Imtiaz & Ahmad, 2009; Ongori & Agolla, 2008; Salami et al. 2010).

4.4.2 Stress and Stress Manifestation

Objective two of the study sought to determine the relationship between stress and stress manifestation.

H₂: There is a relationship between stress and stress manifestation

Table 4.23: Correlation Results for Stress and Stress Manifestation

Variables	Stress	Physiological Stress Manifestation	Psychological Stress Manifestation	Behavioral Stress Manifestation
Stress	1			
Physiological Stress Manifestation	.355**	1		
Psychological Stress Manifestation	.591**	.349**	1	
Behavioral Stress Manifestation	.402**	.484**	.567**	1

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

As can be seen in Table 4.23, there is a positive and significant relationship between stress and stress manifestation in terms of physiological stress manifestation with $r=0.355$ at $p<0.01$, psychological stress manifestation with $r = 0.590$ at $p<0.01$ and behavioral stress manifestation with $r=0.402$ at $p<0.01$. The results imply that as stress increases there is a corresponding rise in the stress manifested by the workers at the NSE.

Table 4.24: Regression results for Stress and Stress Manifestation

Variables	Physiological Stress Manifestation			Psychological Stress Manifestation			Behavioral Stress Manifestation		
	B	SE	β	B	SE	β	B	SE	β
Work Stress	.16	.04.	.17*	.16	.04	.18*	.15	.04	.16*
Non work stress	.27	.04	.28*	.37	.04	.36*	.29	.04	.29*
	R = .39 R ² = .14 F Value = 47.75 P value < .001			R =.45 R ² = .20 F value = 71.04 P value < .001			R = .38 R ² = .14 F value = 44.98 P value < .001		

***P< 0.05**

The results of the regression analyses in Table 4.24 also indicate positive and significant relationships between stress and physical stress manifestation. The bivariate statistics indicate $R = .39$ and $R_2 = .14$. The bivariate correlation accounted for 14 percent of the variance in physiological manifestation. The model was significant with an F ratio of 47.75 at $p < .001$. Work stress had $\beta = .17$ at $p < .001$, while non-work stress had $\beta=.28$ at $p<.001$, which is an indication that both were statistically significant. The significance of the bivariate relationship between stress and physiological stress manifestation was assessed and the results were as follows R was equal to .45 indicating that the relationship was positive and statistically significant. R_2 was equal to .20 meaning that stress can account for 20% of the psychological stress manifestation. The F ratio was 71.04 at $p < .001$ showing a significant level of predicting the results using the model. Work stress had $\beta=.18$ at

$p < .001$, while non-work stress had $\beta = .36$ at $p < .001$ indicating that both were statistically significant. Similarly, the bivariate relationship between stress and behavioral manifestation was assessed and led to R that was equal .38 indicating that the relationship was positive and statistically significant. The R^2 was equal .14 accounting for 14 percent of behavioral stress manifestation. The F ratio was 44.98 at $p < .001$, which is an indication, that the model was significant at predicting the results. Work stress had $\beta = .16$ at $p < .001$, while non-work stress had $\beta = .29$ at $p < .001$ meaning they were both statistically significant. The results of the regression validate the results of the Pearson's correlation.

The results of the study revealed that stress experiences such as work over load, lack of career advancement, difficult coworkers, job insecurity, difficult customers, concern about general health and financial constraints among others had a significant impact on stress manifestation, especially psychologically manifestation with anger and anxiety being reported by most respondents. Individuals also reported experiencing physiological consequences of stress such as headaches and high blood pressure. Behavioral stress manifestation such as poor sleeping patterns and poor time management were also some of the effects that participants in the study reported.

These findings appear to support previous studies by Everly & Benson (1982). According to their stress model, overstimulation of the human body leads to wear and tear and eventual breakdown of target organs and systems. This will not only lead to classic stress related disorders but also psychological and behavioral disorders. These findings are also in line with research conducted by Ngeno (2007), which revealed that emotional fatigue and burnout were some of the various psychological consequences of work overload, lack of career advancement and lack of involvement in decision making. Ultimately, the psychological and physiological manifestations lead to generalized changes in behavior of individuals who are experiencing stress. This led to the acceptance of hypothesis H_2 , that there is a relationship between stress and stress manifestation

4.4.3 Stress Manifestation and Corporate Performance

Objective three of the study sought to determine the relationship between stress manifestation and corporate performance. The third hypothesis was tested for this objective.

H₃: There is a relationship between stress manifestation and corporate performance

Table 4.25: Correlation Results for Stress Manifestation and Corporate Performance

Variables	Physiological Stress Manifestation	Psychological Stress Manifestation	Behavioral Stress Manifestation	Corporate Performance
Physiological Stress Manifestation	1			
Psychological Stress Manifestation	.349**	1		
Behavioral Stress Manifestation	.484**	.567**	1	
Corporate Performance	-.076	.122*	-.105*	1

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

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

The results of the Pearson's correlation presented in Table 4.25 above indicate psychological stress manifestation had a significant positive effect on corporate performance with $r = .122$ at $p < 0.05$. Behavioral stress manifestation had negative effect on corporate performance with $r = -.105$ at $p < 0.05$, while physiological manifestation had no significant effect on corporate performance. Further analyses using regression is shown in Table 4.26

Table 4.26: Regression results for Stress Manifestation and Corporate Performance

(a) **Model Summary^b**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.150 ^a	.022	.017	1.262	.022	4.157	3	545	.006	1.710

a. Predictors: (Constant), Behavioral Stress Manifestation, Physiological Stress Manifestation, Psychological Stress Manifestation

b. Dependent Variable: Corporate Performance

(b) **ANOVA^b**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	19.875	3	6.625	4.157	.006 ^a
	Residual	868.632	545	1.594		
	Total	888.506	548			

a. Predictors: (Constant), Behavioral Stress Manifestation, Physiological Stress Manifestation, Psychological Stress Manifestation

b. Dependent Variable: Corporate Performance

(c) **Coefficients**

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	4.191	.181		23.097	.000	3.835	4.548
	Physiological Stress Manifestation	-.080	.087	-.045	-.927	.354	-.251	.090
	Psychological Stress Manifestation	.208	.086	.125	2.427	.016	.040	.377
	Behavioral Stress Manifestation	-.254	.091	-.154	-2.783	.006	-.434	-.075

a. Dependent Variable: Corporate Performance

The results of the linear regression analyses presented in the previous page show that R value was equal to .150 indicating there is a positive relationship between stress manifestation and corporate performance. The R squared (R^2) value was equal to .022 meaning the factors making up stress manifestation can explain 2.2% of corporate performance. The regression analysis also generated the following coefficients. Psychological stress manifestation had a significant positive effect on corporate performance with $\beta = .125$ at $p < 0.05$. Behavioral stress manifestation had negative effect on corporate performance with $\beta = -.154$ at $p < 0.05$, while physiological manifestation had no significant effect on corporate performance. The results imply that corporate performance is affected differently by the various stress manifestation variables. Therefore, hypothesis H_3 that there is a relationship between stress manifestation and corporate performance was accepted.

No excesses of headaches, high blood pressure, heart disease, constipation, nausea, heartburn or ulcers were reported among the respondent. This explains why physiological stress manifestation was not significant. The study findings appear to be in line with the research conducted by Deschamps, Dargner, Badinier, Machud & Merle (2003).

Even though psychological manifestation factors such as anger and anxiety had a mean above 3. Other factors had a mean of below 3. These include self-esteem, motivation, job satisfaction and organizational commitment. It is important to note that studies have revealed that organizational commitment is a function of several variables. These include emotional intelligence, participative decision making and job satisfaction (Salami & Omole, 2005). Highly committed employees demonstrate a willingness to share and make sacrifices required for the organization to achieve its performance goals. This was confirmed by the results of the regression showing that psychological manifestation had a positive effect on corporate performance.

Behavioral manifestation had a negative effect on corporate performance. These may be explained by the respondent aggressive, forceful and competitive nature. This may lead to employees becoming frustrated by the work situation, getting irritated with the work efforts of others and being misunderstood by their supervisors or manager (Luthans, 2008).

4.4.4 Influence of Stress Management on the relationship between Stress Manifestation and Corporate Performance.

The fourth objective sought to establish the influence of stress management on stress manifestation and corporate performance. The researcher hypothesized that the relationship between stress manifestation and corporate performance depends on stress management. For purpose of the study, stress management was represented by social support, individual approach to stress management and corporate approach to stress management. In order to test these hypotheses, interaction terms were created by getting the product for each of the stress manifestation and stress management variables. These interactions were tested using hierarchical regression model. In stage one, the stress manifestation variables were entered in the regression, followed by the moderator in stage two and lastly the interaction terms were entered in stage three.

4.4.4.1 Social Support

Analysis was carried out to test H_{4a} that predicted that the strength of the relationship between stress manifestation and corporate performance depended on social support. Interaction terms were created by getting the product of each of the stress manifestation variables and social support and were then regressed against corporate performance to test for their moderating effect.

Table 4.27: Regression Results for the Moderating Effect of Social Support on the relationship between Stress Manifestation and Corporate Performance

Predictor Variables	Corporate Performance				
	B	SE	β	T	P
Stress Manifestation					
Physiological Stress Manifestation	-.08	.09	-.05	-.927	.354
Psychological Stress Manifestation	.21	.09	.13	2.427	.016*
Behavioral Stress Manifestation	-.25	.09	-.15	-2.783	.006*

Model 1	$R^2 = .02 \quad \Delta R^2 = .02^*$ F Change = 4.157 p=.006				
MODERATOR	B	SE	β	T	P
Social Support	.26	.09	.12	2.835	.005*
Model 2	$R^2 = .04 \quad \Delta R^2 = .02^*$ F Change = 8.033 p=.008				
INTERACTIONS	B	SE	β	T	P
Physiological Stress Manifestation x Social Support	-.19	.15	-.45	-1.238	.216
Psychological Stress Manifestation x Social Support	.19	.14	.46	1.266	.206
Behavioral Stress Manifestation x Social Support	.43	.14	1.0	3.032	.003*
Model 3	$R^2 = .08 \quad \Delta R^2 = .04^*$ F Change = 7.988 p = .001				

*p<0.05

The results of the interactions between behavioral stress manifestation and social support where $\beta=1.0$ at $p < 0.05$ show a moderated effect. The results of the bivariate correlation when analyzed showed that F change =7.988 with $p = .001$, $R^2 = .08$ and $\Delta R^2 = .04$. The significant change in F showed that including the interaction between, behavioral stress manifestation and social support improved our ability to predict corporate performance.

Kenyans continue to value social relationships. This evidenced by the way people constantly spend their free time upcountry with their extended families. Growing numbers of people attending entertainment activities sponsored by corporations listed in the NSE and going to church is an indication that Kenyans continue to seek social support from their immediate, extended families and other non-work support sources. Neighborhood watches set up in different estates are also an important social support

among Kenyans. Employers in the NSE are also sensitizing supervisors to be more supportive to workers so to enhance corporate performance.

Social support was an effective stress moderator because it protected individuals under study against the negative impacts of stress by providing a degree of predictability, purpose, and hope in upsetting and threatening situations. This findings support previous studies (Park et al. 2004 and Markinus et al. 2007) on social support that revealed that in order for one to resist stress it is important to have a strong social network. On the basis of these findings H_{4a} was accepted.

4.4.4.2 Individual Approach to Stress Management

The interactions between stress manifestation and individual approach to stress management were tested and the results of the interactions are presented below in Table 4.28

Table 4.28: Regression Results for the Moderating Effect of Individual Approach to Management on the Relationship between Stress Manifestation and Corporate Performance

Predictor Variables	Corporate Performance				
	B	SE	β	T	P
Stress Manifestation					
Physiological Stress Manifestation	-.08	.09	-.05	-.927	.354
Psychological Stress Manifestation	.21	.09	.13	2.427	.016*
Behavioral Stress Manifestation	-.25	.09	-.15	-2.783	.006*
Model 1	$R^2 = .02$ $\Delta R^2 = .02^*$ F Change = 4.157 p = .006				
MODERATOR	B	SE	β	T	P
Individual Approach to Stress Management	.05	.08	.02	.548	.584
Model 2	$R^2 = .02$ $\Delta R^2 = .00$ F Change = .301 p = .584				

INTERACTIONS	B	SE	β	T	P
Physiological Stress Manifestation x Individual Approach to Stress Management	.01	.13	.01	.028	.977
Psychological Stress Manifestation x Individual Approach to Stress Management	.17	.12	.41	1.406	.160
Behavioral Stress Manifestation x Individual Approach to Stress Management	.02	.08	.03	.139	.120
Model 3	$R^2 = .03$ $\Delta R^2 = .01$ F Change = 1.399 $p = .248$				

* $p < 0.05$

The coefficients of the interactions were not significant. The results of the bivariate correlation when analyzed showed that F change = 1.399 with $p = .248$, $R^2 = .03$ and $\Delta R^2 = .01$, this too were not significant. Even though all interactions had positive betas none was significant.

Regarding the moderating effect of the individual approach to stress management on the relationship between stress manifestation and corporate performance, the results of the findings contradicted previous research by Blair (1990). Despite Physical exercise including sporting events such as football, basketball, golf and volleyball being found to be effective stress moderators, Kenyans remain mere spectators and hardly take part in any of these activities. Financial management and time management are useful strategies for coping with stress since they enhance effective self-management thus improving corporate performance. Hard economic times and increasing family work conflict have made it almost impossible for employees at the NSE to apply these techniques to prevent or manage stress.

Even though Koenig, Kvale, & Ferrel (1988) found that religious participation was effective at reducing stress, the respondents did not score highly on these activities. This is an indication that employees in the NSE did not use these individual strategies to manage stress. Therefore, hypothesis H_{4b}, that the strength of the relationship between stress manifestation and corporate performance depends on individual approach to stress management was rejected.

4.4.4.3: Corporate Approach to Stress Management

The interactions between stress manifestation and corporate approach to stress management were tested and the results of the interactions are presented below in Table 4.29

Table 4.29: Regression Results for the Moderating Effect of Corporate Approach to Stress Management on the relationship between Stress Manifestation and Corporate Performance

Predictor Variables	Corporate Performance				
Stress Manifestation	B	SE	β	T	P
Physiological Stress Manifestation	-.08	.09	-.05	-.927	.354
Psychological Stress Manifestation	.21	.09	.13	2.427	.016*
Behavioral Stress Manifestation	-.25	.09	-.15	-2.783	.006*
Model 1	$R^2 = .02 \Delta R^2 = .02^*$ F Change = 4.157 p = .006				
MODERATOR	B	SE	β	T	P
Corporate Approach to Stress Management	.23	.07	.14	3.342	.001*
Model 2	$R^2 = .04 \Delta R^2 = .02^*$ F Change = 11.85 p = .001				
INTERACTIONS	B	SE	β	T	P
Physiological Stress Manifestation x Corporate Approach to Stress Management	-.24	.10	-.56	-2.290	.022*
Psychological Stress Manifestation x Corporate Approach to Stress Management	.20	.11	.49	1.764	.048*
Behavioral Stress Manifestation x Corporate Approach to Stress Management	.10	.10	.25	.974	.330
Model 3	$R^2 = .06 \Delta R^2 = .02^*$ F Change = 3.595 p = .014				

*p<0.05

The results in Table 4.29 show that when the interactions are entered in the regression model, there is a significant improvement in the model with ΔR^2 improving by 2 percent. The results of the interaction between physiological stress manifestation and corporate approach to stress management are significant with $\beta = -.56$ at $p < 0.05$, while psychological stress manifestation and corporate approach to stress management were also significant with $\beta = .49$ at $p < 0.05$. The results of the bivariate correlation are also significant with F change = 3.595 with $p = 0.014$, $R_2 = .06$ and $\Delta R^2 = .02$. The results indicate that corporate approach to stress management had a moderating effect on the relationship between stress manifestation and corporate performance.

Most companies at the NSE have provision for 30 day leave, maternity leave, paternity leave and even sabbatical leave, which allows employees to take time off to relax and work at mental rejuvenation. According to research conducted by Conrad & Mangel (2000), work-life programmes which include leave and childcare services offered by the organization are effective at managing stress and enhancing firm productivity. Prevention, the core notion of the wellness movement has gained recognition as a wise investment, as employers are faced with the burden of rising cost of health care. As a result companies are also recruiting their own health care providers, who are able to assist employees with stress and prevent condition such as substance abuse, depression and other physical ailments that employees have to deal with.

Use of increased formal communication in order to reduce role ambiguity and role conflict are also strategies that have been adapted by most companies. Regular departmental meetings that allow staff to air their views are important forums for employees to discuss stressful issues and how to tackle them. Many corporations listed in the NSE have also relocated to less congested areas, therefore, reducing the stress employees experience as a result of traffic jams and air pollution. This is a clear indication that corporate approach to stress management has a positive effect on performance. Therefore, hypothesis H_{4c}, that the strength of the relationship between stress and corporate performance depends on corporate approach to stress management was accepted.

4.4.5 Influence of Individual Characteristic on the relationship between Stress Manifestation and Corporate Performance

The fifth objective sought to establish the influence of individual characteristics on stress manifestation and corporate performance. The researcher hypothesized that the relationship between stress manifestation and corporate performance depends on individual characteristics. For purpose of the study individual characteristics were represented by level of education, age, marital status, gender, tenure and personality. Interaction terms for each moderator were calculated. Hierarchical regression model was also used to test the interaction. In stage one, the stress manifestation variables were entered in the regression model, followed by the moderator in stage two and lastly the interaction terms were entered in stage three.

4.4.5.1 Level of Education of Employees

The interactions between stress manifestation and the level of education of employees were tested and the results of the interactions are presented below on Table 4.30

Table 4.30: Regression Results for the Moderating Effect of Level of Education on the relationship between Stress Manifestation and Corporate Performance

Predictor Variables	Corporate Performance				
	B	SE	β	T	P
Stress Manifestation					
Physiological Stress Manifestation	-.08	.09	-.05	-.927	.354
Psychological Stress Manifestation	.21	.09	.13	2.427	.016*
Behavioral Stress Manifestation	-.25	.09	-.15	-2.783	.006*
Model 1	$R^2 = .02 \quad \Delta R^2 = .02^*$ F Change = 4.157 p=.006				
MODERATOR	B	SE	β	T	P

Level of Education	.17	.06	.11	2.619	.009*
Model 2	$R^2 = .03 \quad \Delta R^2 = .01^*$ F Change = 6.861 p = .009				
INTERACTIONS	B	SE	β	T	P
Physiological Stress Manifestation x Level of Education	-.05	.09	-.12	-.573	.567
Psychological Stress Manifestation x Level of Education	.30	.09	.69	3.099	.002*
Behavioral Stress Manifestation x Level of Education	.19	.09	.46	1.976	.046*
Model 3	$R^2 = .08 \quad \Delta R^2 = .05^*$ F Change = 9.151 p = .001				

* $p < 0.05$

The results in Table 4.30 above show that the relationship between stress manifestation and corporate performance is moderated by the level of education and the beta coefficients for psychological stress manifestation are significant with $\beta = .69$ at $p < 0.05$, whereas behavioral stress manifestation are significant with $\beta = .46$ at $p < 0.05$. Analysis of the bivariate correlations shows that F change = 9.151, with $p = .001$, $R^2 = .08$ and $\Delta R^2 = .05$.

Learning is any permanent change in behavior that occurs as a result of experience and may in turn enhance performance (Greenberg & Baron, 2007). With increasing experience and confidence, employees have taken up the responsibility for their own learning. This is evidenced by the growing number of students registering for further education in both local and international institutions of higher learning. Companies listed in the NSE continue to provide formal training, which involves allowing their employees to go for further studies by offering scholarships or providing them with study leave. Also growing popularity among these companies are formal apprenticeship programmes in which classroom training is combined with on the job training over a period of time.

Companies are also carrying out executive training programs where they systematically develop the skills of their top management by training them on different aspects such as corporate governance, performance management and leadership styles among others. These are accomplished by either bringing in outside experts to train personnel in house or by sending them to specialized programs conducted by firms, colleges or universities. This is an indication that learned individuals have the advantage of bring both creative and innovative ideas that enhance performance in the companies. Educated individuals do not only handle stressful situations effectively since they have the intellectual resources, they too can interact effectively with customers and maintain a rich and informal environment that is conducive to positive corporate performance (Deshpande & Chopra 2007). This led to the conclusion that level of education has a significant influence on the relationship between stress manifestation and corporate performance. Hypothesis H_{5a} was therefore accepted. The findings of the study appear to support Grwywacz (2004) and Golubic et al. (2009).

4.4.5.2 Age of Employees

The interactions between stress manifestation and age of employees were tested and the results of the interactions are presented below in Table 4.31

Table 4.31: Regression Results for the Moderating Effect of Age on the relationship between Stress Manifestation and Corporate Performance

Predictor Variables	Corporate Performance				
	B	SE	β	T	P
Stress Manifestation					
Physiological Stress Manifestation	-.08	.09	-.05	-.927	.354
Psychological Stress Manifestation	.21	.09	.13	2.427	.016*
Behavioral Stress Manifestation	-.25	.09	-.15	-2.783	.006*
Model 1	$R^2 = .02$ $\Delta R^2 = .02^*$ F Change = 4.157 $p = .006$				

MODERATOR	B	SE	β	T	P
Age	.00	.06	.00	.03	.977
Model 2	$R^2 = .02 \quad \Delta R^2 = .00$ F Change = .001 p = .977				
INTERACTIONS	B	SE	β	T	P
Physiological Stress Manifestation x Age	.12	.10	.15	1.108	.268
Psychological Stress Manifestation x Age	.02	.10	.04	.177	.860
Behavioral Stress Manifestation x Age	.03	.02	.08	.334	.738
Model 3	$R^2 = .03 \quad \Delta R^2 = .01$ F Change = .855 p = .475				

* $p < 0.05$

The results of the interactions and the bivariate correlations were not significant with F change = .855 and $p < .475$. Even though all the interactions had positive betas none was significant. The findings of the study established that 67.6 percent of the respondents were aged between 30 and 49 years. This phase of life coincides with life activities such as child care, paying school fees, servicing mortgages, and balancing family and work activities. Since Kenya has not fully adopted the concept of nursing homes for the elderly, caring for aging parents in most cases is the responsibility of their adult children who have to deal with their parents deteriorating state of mental functioning. These non-work stressors create stressful situations to numerous employees. Stress experienced outside the work place is likely to have an impact on individual's performance at work (Ivancevich et al. 2006).

Despite age being related to adulthood, which involves becoming gainfully employed and productive, this was not the case. Age was not significant at moderating the relationship between stress manifestation and corporate performance. These findings are also supported by Patrickson & Hartmann (1995), who argue that there is no relationship between performance and age. Therefore hypothesis H_{5b}, that the strength of the relationship between stress manifestation and corporate performance depends on age was rejected.

4.4.5.3 Gender of Employees

The interactions between stress manifestation and gender of employees were tested and the results of the interactions are presented in Table 4.32

Table 4.32: Regression Results for the Moderating Effect of Gender on the relationship between Stress Manifestation and Corporate Performance

Predictor Variables	Corporate Performance				
Stress Manifestation	B	SE	β	T	P
Physiological Stress Manifestation	-.08	.09	-.05	-.927	.354
Psychological Stress Manifestation	.21	.09	.13	2.427	.016*
Behavioral Stress Manifestation	-.25	.09	-.15	-2.783	.006*
Model 1	$R^2 = .02 \quad \Delta R^2 = .02^*$ F Change = 4.157 p = .006				
MODERATORS	B	SE	β	T	P
Gender	-.05	.10	-.01	-.288	.773
Model 2	$R^2 = .02 \quad \Delta R^2 = .00$ F Change = .083 p = .773				
INTERACTIONS	B	SE	β	T	P
Physiological Stress Manifestation x Gender	.08	.17	.09	.493	.622
Psychological Stress Manifestation x Gender	-.14	.17	.12	-.803	.480
Behavioral Stress Manifestation x Gender	-.16	.18	-.15	-.868	.386
Model 3	$R^2 = .02 \quad \Delta R^2 = .00$ F Change = .503 p = .680				

*p<0.05

Since the respondents were to indicate whether they were male or female, a dummy variable representing gender was computed. In this study, the dummy variable was assigned and illustrated as follows; male 1 and female 0. The results of the interactions and the bivariate of the moderating variable gender were insignificant at the 95 percent significance level.

The fact that men and women react differently to stress is not only a mere observation, but accounts for their differences in longevity and good health that may improve their productivity (Bloona, 2007). Men and women are socialized differently; many believe this is shown in the way they communicate. In general, women are socialized to show their feelings while men are taught to keep their feelings hidden.

Kenya continues to face challenges of gender inequality. Women are underrepresented in social and political leadership. Women in Kenya are also exposed to stressful situations such as sexual harassment at the workplace, domestic violence and early marriages that leave them vulnerable to economic hardships. They also have to deal with poor pay and are confined to lower cadre jobs. Generally Kenyan women lag behind their male counterparts in the area of empowerment (GoK, 2007). However with the implementation of the new constitution, there is hope that some of the stressful situations that Kenyan women have to deal with will be eradicated. This may in turn translate to higher levels of performance among women thus enhancing the performance of the corporations they work for.

Gender was not significant at moderating the relationship between stress manifestation and corporate performance. This may be attributed to the methodology used in this study, where focus was generally testing the moderating effect of gender. Previous studies by Matud (2004) and Munali (2005) used comparative analysis and concentrated on how differently males and females responded when faced with stress and how it affected their performance. Therefore, hypothesis H_{5c} that the strength of the relationship between stress manifestation and corporate performance depends on gender was rejected.

4.4.5.4 Marital Status of Employees

The interactions between stress manifestation and the marital status of employees were tested and the results of the interactions are presented in Table 4.33

Table 4.33: Regression Results for the Moderating Effect of Marital Status on the relationship between Stress Manifestation and Corporate Performance

Predictor Variables	Corporate Performance				
	B	SE	β	T	P
Stress Manifestation					
Physiological Stress Manifestation	-.08	.09	-.05	-.927	.354
Psychological Stress Manifestation	.21	.09	.13	2.427	.016*
Behavioral Stress Manifestation	-.25	.09	-.15	-2.783	.006*
Model 1	$R^2 = .02 \quad \Delta R^2 = .02^*$ F Change = 4.157 p = .006				
MODERATORS	B	SE	β	T	P
Marital Status	.12	.11	.05	1.115	.265
Model 2	$R^2 = .02 \quad \Delta R^2 = .00$ F Change = 1.243 p = .265				
INTERACTIONS	B	SE	β	T	P
Physiological Stress Manifestation x Marital status	-.04	.18	-.05	-.217	.829
Psychological Stress Manifestation x Marital status	-.30	.19	-.28	-1.635	.103
Behavioral Stress Manifestation x Marital Status	.20	.19	.18	.988	.319
Model 3	$R^2 = .03 \quad \Delta R^2 = .01$ F Change = .989 p = .398				

*p<0.05

Similarly a dummy variable representing marital status was computed, those who are married were assigned the value 1 and those who were not married were assigned the value 0. The results in Table 4.33 show that when stress manifestation and marital status interactions were entered into the regression, the model was not significant with F change = .989 and $p = .398$

Marriage is a time when people enter committed relationships, raise families and focus on taking care of personal and family needs. It is also a time when individuals work hard to leave a good legacy for their family and at the work place. Under the best circumstances getting married to a good partner is not enough, a successful marriage requires continuous assessment, communication, commitment, willingness to change and hard work. Most partners expect marriage to fulfill their social, emotional, financial and sexual needs (Bloona, 2007). Marriages face many challenges such as the care of children, financial constraints and communication problems, which may increase stress among employees and in turn affect performance.

Men and women who are choosing to remain single now make up a sizeable share of the population. People who choose to remain single opt to focus on their careers and avoid the stress associated with marriage. Whereas it is assumed that single individuals have less stress, they have to contend with the African culture which supports a couple oriented society, where everyone is expected to get married one day. This puts an inordinate amount of pressure on single people especially when their family and friends are constantly criticizing their single status. They experience more stress when society keeps emphasizing on the importance of getting married and starting their own families, thus ostracizing those who choose to remain single. Others may opt for incompatible partners who end up becoming a source of stress with the end result being separation and divorce later on in life. This may in turn affect their performance at the work place. Marital status was therefore not significant at moderating the relationship between stress manifestation and corporate performance. Hypothesis H_{3d} was therefore rejected on the basis of the study findings.

4.4.5.5 Tenure of Employees

The interactions between stress manifestation and the tenure of employees were tested and the results of the interactions are presented in Table 4.34

Table 4.34: Regression Results for the Moderating Effect of Tenure on the relationship between Stress Manifestation and Corporate Performance.

Predictor Variables	Corporate Performance				
	B	SE	β	T	P
Stress Manifestation					
Physiological Stress Manifestation	-.08	.09	-.05	-.927	.354
Psychological Stress Manifestation	.21	.09	.13	2.427	.016*
Behavioral Stress Manifestation	-.25	.09	-.15	-2.783	.006*
Model 1	$R^2 = .02 \quad \Delta R^2 = .02^*$ F Change = 4.157 p = .006				
MODERATORS	B	SE	β	T	P
Tenure	.04	.06	.03	.750	.454
Model 2	$R^2 = .02 \quad \Delta R^2 = .00$ F Change = .562 p = .454				
INTERACTIONS	B	SE	β	T	P
Physiological Stress Manifestation x Tenure	.08	.09	.16	.865	.388
Psychological Stress Manifestation x Tenure	-.04	.10	-.07	-.364	.716
Behavioral Stress Manifestation x Tenure	.02	.10	.14	.202	.814
Model 3	$R^2 = .02 \quad \Delta R^2 = .00$ F Change = .434 p = .729				

*p<0.05

The results on Table 4.34 show that interactions and the bivariate of the moderator variable tenure were insignificant at 95 percent. The interactions between physiological stress manifestation and tenure had $\beta = .16$, while behavioral manifestation and tenure had $\beta = .14$, though both were positive none was statistically significant. However the interaction between Psychological stress manifestation and tenure was negative and also not statistically significant ($\beta = -.07$)

The number of years individuals have worked in a company is very important not only in their current jobs but when moving to other jobs because, most employers value experience. Work centrality, which refers to the central and fundamental role of work in the life of most individuals and is highest among long tenured employees and is highly correlated to job satisfaction and organizational commitment which translates to high productivity (Bloona, 2007). Employees who have worked in organizations for long are associated with better working experience (Schimidt & Hunter 2004). To these employees, stress represents new options and opportunities. Stressful situations are also viewed as challenges, which open new doors to success especially at the work place. Their record of past success with handling even the most stressful situations at the workplace make them very valuable to an organization

According to the findings of the study, tenure was not a significant moderator between stress manifestation and corporate performance of organizations listed at the Nairobi Stock Exchange. This may be as a result of the few respondents who had worked for ten years and more. Kenya continues to experience problems as only few long tenured professionals continue to work in areas such as engineering, technology and research. This translates to high levels of stress among the long tenured professional as result of work overload and in turning affecting corporate performance. The results of the study led to the rejection of the hypothesis H_{5e} that the strength of the relationship between stress manifestation and corporate performance depends on tenure. The findings appear to contradict research findings by Balakrishnamurthy & Shankar (2009).

4.4.5.6 Personality of Employees

The interactions between stress manifestation and the personality of employees were tested and the results of the interactions are presented below in Table 4.35

Table 4.35: Regression Results for the Moderating Effect of Personality on the relationship between Stress Manifestation and Corporate Performance.

Predictor Variables	Corporate Performance				
Stress Manifestation	B	SE	β	T	P
Physiological Stress Manifestation	-.08	.09	-.05	-.927	.354
Psychological Stress Manifestation	.21	.09	.13	2.427	.016*
Behavioral Stress Manifestation	-.25	.09	-.15	-2.783	.006*
Model 1	$R^2 = .02 \quad \Delta R^2 = .02^*$ F Change = 4.157 p = .006				
MODERATORS	B	SE	β	T	P
Personality	.20	.06	.15	3.502	.001*
Model 2	$R^2 = .04 \quad \Delta R^2 = .02^*$ F Change = 12.26 p = .001				
INTERACTIONS	B	SE	β	T	P
Physiological Stress Manifestation x Personality	-.11	.09	-.22	-1.232	.219
Psychological Stress Manifestation x Personality	-.19	.09	-.42	-2.154	.032*
Behavioral Stress Manifestation x Personality	.29	.09	.67	3.235	.001*
Model 3	$R^2 = .06 \quad \Delta R^2 = .02^*$ F Change = 3.646 p = .013				

*p<0.05

The researcher also tested to find significant interactions for the relationship between stress manifestation and corporate performance as moderated by personality. The results yielded two significant interactions that is behavioral stress manifestation and personality with $\beta=.67$ at $p < 0.05$ and psychological stress manifestation and personality with $\beta = -.42$ at $p < 0.05$. An analysis of the bivariate correlation shows that $F \text{ change} = 3.646$, with $p = .013$, $R^2=.06$ and $\Delta R^2 = .02$

Personality develops in response to meeting inner needs and fulfilling developmental tasks. Failure to completely satisfy these needs leaves individuals stuck psychologically and emotionally at dysfunctional levels. These individuals will carry around excess emotional baggage, which may retard them. Successfully working your way up Maslow's hierarchy of needs contributes to a healthy personality that can resist stress and enhance performance (Bloona, 2007).

The findings appear to be consistent with results obtained from previous studies. According to Friedman & Rosenman (1974), the type A individual is competitive, verbally aggressive, unable to relax, hostile and easily angered. The type A personalities are usually highly successful people. They are hardworking and their competitiveness is rewarded with financial success. Even though their peers admire them and often wonder how they sustain their high level of activity, research conducted by Eysenck (1990), revealed that type A personality is more at risk of developing coronary heart disease later on in life. The type B personality takes a relaxed approach towards life and accepts situations as they are, rather than fight with them. Generally, the type B individuals are also highly productive workers who are able to meet the goals and objectives of the organizations. Their personality type has positive effect on their overall performance which translates to higher levels of corporate performance. Therefore, hypothesis H_{5f} that the strength of the relationship between stress manifestation and corporate performance depends on personality was accepted.

4.4.6 Joint effect of Stress Management and Individual Characteristic on the Relationship between Stress Manifestation and Corporate Performance

The joint effect of the moderating variables stress management and individual characteristics on the relationship between stress manifestation and corporate performance was tested and the results presented in the Table 4.36 below.

Table 4.36: Summary of the Joint Effect of the Moderating Variables

Model	R	R-squared	F Change	P- Value
Model without moderators	0.150	0.022	4.157	0.006*
Model with stress management as moderator	0.255	0.065	4.609	0.003*
Model with individual characteristics as moderator	0.221	0.049	3.491	0.016*
Model with both stress management and individual characteristics	0.247	0.062	2.946	0.032*

* $p < 0.005$

The overall model with both moderating variables was significant at 95 percent confidence level. The inclusion of stress management as a moderator improved the R^2 from 0.022 to 0.065, with F change = 4.609 and $p = 0.003$, while individual characteristics improved the R^2 from 0.022 to 0.049, with F change = 3.491 and $p = 0.016$. The Overall, R^2 with both moderators improved from 0.022 to 0.062, with F change = 2.946 and $p = 0.032$. The study reveals that 6.2 percent of the variation in corporate performance is explained by the joint effect of the variables whereas 93.8 percent is explained by other factors. However by introducing the moderating variable individually and collectively the F ratio for the moderator, individual characteristics and the joint effect of both moderators dropped. It can be conclude that the joint effect of the moderating variables stress management and individual characteristics on the relationship between stress manifestation and corporate performance is greater than the independent moderating effect of individual characteristics. Therefore, hypothesis H_6 was partially supported.

Table 4.37: SUMMARY OF HYPOTHESES

Hypotheses	Empirical Evidence
H ₁ : There is a relationship between stress and corporate performance.	Supported
H ₂ : There is a relationship between stress and stress manifestation	Supported
H ₃ : The relationship between stress and corporate performance is mediated by stress manifestation.	Supported
H ₄ :The strength of the relationship between stress manifestation and corporate performance depends on stress management	Partially Supported
H _{4a} :The strength of the relationship between stress manifestation and corporate performance depends on Social support	Supported
H _{4b} :The strength of the relationship between stress manifestation and corporate performance depends on individual approach stress management	Not Supported
H _{4c} :The strength of the relationship between stress manifestation and corporate performance depends on corporate approach stress management	Supported
H ₅ : The strength of the relationship between stress manifestation and corporate performance depends on individual characteristics	Partially Supported
H _{5a} The strength of the relationship between stress manifestation and corporate performance depends on Level of education	Supported
H _{5b} :The strength of the relationship between stress manifestation and corporate performance depends on Age	Not Supported
H _{5c} :The strength of the relationship between stress manifestation and corporate performance depends on Gender	Not Supported
H _{5d} :The strength of the relationship between stress manifestation and corporate performance depends on Marital status	Not Supported
H _{5e} :The strength of the relationship between stress manifestation and corporate performance depends on Tenure	Not Supported

H ₅ f: The strength of the relationship between stress manifestation and corporate performance depends on personality	Supported
H ₆ : The combined effect of the moderating variable, stress management and individual characteristics on the relationship between stress manifestation and corporate performance is greater than the independent moderating effects on the same variables	Partially Supported

As presented in Table 4.37, H₁, H₂ and H₃ were supported by the study findings. H₄ was partially supported by two of the hypothesized stress management indicators, which include social support and corporate approach to stress management, while H₅, which was testing for the moderating effect of individual characteristics, was supported by indicators such as level of education and personality. H₆ was also partially supported, with the joint effect of the two moderating variables being greater than the individual moderating effect of individual characteristics.

4.5 Chapter Summary

This chapter presented the results of the data analysis performed. It started off with descriptive statistics, which provided the profile of the companies under study and the demographics of the respondents, which included age, gender, marital status, number of years of experience at work, job category and employment status. Pearson's correlation was then used to test the hypothesis and the results were further confirmed by regression analysis. Interaction variables were constructed to test for the moderating effects of stress management and individual characteristics. The results of each hypothesis were presented. Three of the main hypotheses were supported, while the other three were partially supported. All the data analysis results were followed by extensive discussion of the findings.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This study is an attempt to understand the relationship between stress and corporate performance and how stress management and individual characteristics influence this relationship. The study was motivated by the growing concern over the effect of stress on individual performance, which in turn affects performance of organizations. Recent events in the country and more specifically in the police force, where policemen have indiscriminately shot and killed their colleagues, family and members of the public indicate that if stress is not well managed, it may have detrimental effects. This has led to various stakeholders calling on experts to look into employees stress levels and come up with effective strategies for managing stress.

This chapter serves to demonstrate the achievements of the objectives set out at the initiation of the study and presents in brief the results of these efforts. Thereafter the conclusion, limitation of the study and suggestions for future research are presented. Finally, it outlines the implication of the study on theory, policy and practice.

5.2 Summary of Findings

The first objective of the study was to determine the relationship between stress and corporate performance. In order to ascertain the relationship between stress and corporate performance, the researcher tested the hypothesis on the relationship between the two variables. Overall, the results of the linear regression indicate a positive relationship between stress and corporate performance with $R = .123$ and the R squared value was $.015$ at a confidence level of 95 percent. A certain amount of stress also known as eustress is therefore beneficial to corporate performance. It is on the basis of these findings that H_1 was accepted.

The second objective sought to determine the relationship between stress and stress manifestation. The relationship between stress and physiological stress manifestation was significant with $R = .39$, while the relationship between stress and psychological stress manifestation was significant with $R = .45$. The relationship between stress and behavioral stress manifestation was also significant with $R = .38$. The F values and the

corresponding p values were also significant. The findings indicate a positive relationship between stress and stress manifestation. Therefore, hypothesis H₂ was accepted.

The third objective sought to determine the relationship between stress manifestation and corporate performance. Linear regression was used to test this hypothesis and the findings of the study show that the relationship was positive with R =.15. The results were significant and, H₃ was therefore accepted.

The fourth objective of the study was concerned with establishing the influence of stress management on the relationship between stress manifestation and corporate performance. It was addressed by testing 3 Hypotheses H_{4a}, H_{4b} and H_{4c}. The findings indicate that social support and corporate approach to stress management moderated the relationship between stress manifestation and corporate performance. On these basis hypotheses H_{4a} and H_{4c} were accepted. Individual approach to stress management did not moderate the same relationship. The findings of this study led to the rejection of H_{4b}.

The fifth objective of the study was concerned with establishing the influence of individual characteristics on the relationship between stress manifestation and corporate performance. It was addressed by testing 6 Hypotheses H_{5a}, H_{5b}, H_{5c}, H_{5d}, H_{5e} and H_{5f}. The study established that age, gender, marital status and tenure had no influence on the relationship between stress and corporate performance. The Hypotheses H_{5b}, H_{5c}, H_{5d} and H_{5e} were therefore rejected. When level of education was tested as a moderator between stress manifestation and corporate performance, it was found to have a significant moderating influence. The study also confirmed that people have unique personal characteristics that help them manage stress effectively which in turn enhance performance. This led to the conclusion that personality is a statistically significant moderator. The findings of this study led to the acceptance of H_{5a} and H_{5f}.

The last objective of the study sought to establish the joint effect of stress management and individual characteristics on the relationship between stress manifestation and corporate performance. Stress management seems to have a higher moderating effect on the relationship between stress manifestation and corporate

performance than individual characteristics, with the R squared (R_2) improving from 0.022 to 0.065 with F change = 4.609 at $p < 0.05$. Inclusion of individual characteristics improved R squared (R_2) from 0.022 to 0.049, with F change = 3.491 at $p < 0.016$. Overall R squared (R_2) improved from 0.022 to 0.062 as a result of both moderating variables, with F change = 2.946 at $p < 0.032$. This is an indication that the joint effect of the moderating variables was greater than that of the moderator individual characteristics. H_6 was therefore partially supported.

5.3 Conclusions

The general objective of the study was to determine the influence of stress management and individual characteristics on the relationship between stress and corporate performance. Researchers and practitioners have questioned the effect of stress on corporate performance. The study findings revealed that moderate stress had a positive influence on corporate performance. It reaffirms what some of the previous researchers (Welford, 1973; Jing 2008) have found, that moderate levels of stress do enhance performance. The findings support the inverted U relationship, which means that at low levels of stress individuals function perfectly or even better than under normal conditions, but at higher levels individuals begin to develop stress symptoms and performance declines over time. Unlike previous research (Smith, 2011) that found that managers were more stressed, the current study found that it was the non managers who experienced more stress in the Kenyan context.

The inclusion of stress management and individual characteristic gave a new appreciation to the relationship between stress and corporate performance. The study established that not all hypothesized moderating variables were statistically significant. Only social support, corporate approach to stress management, level of education and personality influenced the relationship between stress and corporate performance.

Dominant traditions of psychological research on stress and cognition have influenced the approaches to the problem, and the potential contributions of other social science disciplines have not been adequately recognized. This study used an interdisciplinary approach incorporating other areas of study such as sociology, epidemiology and business in trying to explain how stress affects corporate performance.

5.4 Limitations of the Study

Even though there are advantages to studying listed companies, especially the availability of financial data, the researcher experienced problems when obtaining data from workers in the production departments. It was challenging to distribute the questionnaires to workers in the factories within the industrial and allied sector and those in the farms in the agricultural sector, since the relevant authorities were concerned that it would interfere with their work schedules, while others were not keen to distribute questionnaires to casual workers. Research conducted by Gidarno et al. (1990) revealed that repetitive tasks in the production department led to boredom, which resulted to low job satisfaction. Therefore generalizability of the findings is limited as the respondents were mainly from the administrative departments.

Additionally, there was difficulty in distributing questionnaires to companies outside Nairobi, as a result of limitations of funds that made it difficult to travel to locations spread across the country. However, some of the firms returned the questionnaires, which ensured that the study benefited from respondents perspective on the factors that influence stress and corporate performance.

Self reporting documents such as questionnaires may lead to bias. This may have led to biased results on issues such as substance abuse, sexual dysfunction and absenteeism because they are subject to reporting inaccuracies. Despite these limitations, the quality of the findings, their interpretation, and reporting were not affected.

5.5 Suggestions for Further Research

The thesis makes an important contribution in understanding the nature of stress and how it affects performance. It further brings out the factors that influence the relationship between stress and corporate performance. Arising from this study, the researcher makes the following suggestions for further research. A study focusing on other sectors such as the hospitals, where shift work and death of patients are considered very stressful may bring out new dimensions on how stress affects performance.

Future studies may also use the case study approach, which would add value to understanding the relationship between stress and corporate performance. Being an exhaustive study design it will enable future researchers understand fully how stress manifests itself. Since the cases selected exhibit the characteristics of interest to a high degree, they would provide the researcher an opportunity to clarify how moderators influence the relationship between stress and performance. Case studies may also be used to generate other stress theories that can be empirically tested, thus enabling general knowledge on stress and performance get richer and richer.

Use of longitudinal research design in regard to how stress affects performance would provide a more meaningful picture, as prolonged exposure to stressful situations is believed to produce serious and dysfunctional behavior that may affect corporate performance negatively (Salami et al. 2010). Since multiple observations of the population of interest are made over multiple time periods, longitudinal studies would also be useful in uncovering other predictors of stress.

It is encouraged that future studies include other moderating variables such as self efficacy, internal locus of control, need for achievement, organizational culture and the environment, especially the economic and political environment because they have a great influence over performance. These findings will provide an increase in knowledge and a rich data base for future research, which can then be compared with the results of this study.

Finally, the use of other data collection methods such as interviews would help the researchers get responses that are relatively free from bias. This is because interviews afford the researcher the opportunity to allay fears, anxieties and concerns that the respondents may have. The researcher may also offer clarification when needed and help respondents to think through difficult issues. Use of focus groups sessions aimed at obtaining respondents stress experience would also help get genuine ideas and feelings about the topic under discussion. Generally, focus groups are relatively inexpensive and can provide fairly dependable data within a short time frame.

5.6 Theoretical Implications

One of the theoretical arguments is that moderate levels of stress are preferable because they can stimulate individuals to work harder and accomplish more. Stress that has positive effects also known as eustress occurs when situations perceived as challenging and demanding lead to high performance (Welford, 1973). When stress levels are too low or too high then performance is impaired. Intervening variables are conceptual mechanisms through which the independent variable, stress may affect the dependent variable which is corporate performance. Further argument about the intervening variable stress manifestation is that, if experienced in moderate levels then performance of organizations will be favorable (Barsky et al. 2004).

The findings of this study confirm that social support, corporate approach to stress management, level of education, and personality play an important role in the relationship between stress manifestation and performance of companies within the NSE. Specifically the study revealed that social support was recognized as an effective moderator on the stress manifestation and performance relationship. The results have supported and extended stress and performance studies by Park, Wilson & Lee (2004). Corporate approach to stress management was also established as an effective moderator for the relationship between stress manifestation and corporate performance. Thus according to studies conducted by Konrad & Mangel (2000) on corporate approach to stress management, as a moderator, have been supported. Similarly, the study revealed level of education as an important moderator on the relationship between stress manifestation and corporate performance. These results have supported and extended stress studies by Golubic et al. (2009) and Grwywacz (2004). Personality was also an effective moderator and supported and extended stress and personality studies (Friedman & Rosenman, 1974). Whereas age was not an effective moderator, the results did support the findings of Patrickson & Hartmann (1995).

With respect to other moderators, which include individual stress to corporate performance, gender, marital status, and tenure, the results of the research did not reveal them as effective moderators for the relationship between stress manifestation and corporate performance in the Kenyan context. Although some progress has been made to address gender disparities, a lot of effort needs to be made so as to resolve

gender differences in areas such as education and work experience. Specific, policy measures need to be implemented in order to correct the glaring gaps in access to and control of resources and economic opportunities. Whereas previous studies have found that spousal support in marriage enhanced job satisfaction and organizational commitment which in turn had a positive effect on performance, in the Kenyan context marriage comes not only with the responsibility of one's immediate family but with that of the extended family, which can be quite overwhelming leading to increased levels of stress.

Individual approach to stress management focuses on aspects, such as diet and nutrition and physical exercise among others. These concepts have only gained popularity in Kenya in the last few years as experts' advice people to use these strategies to manage diseases such diabetes, high blood pressure, cancer, HIV/AIDS among others. Unfortunately, few places offer the diets recommended by medical experts and many of the NSE workers have to make do with the many fast food joints spread all over the city. Tenure may not have been an effective moderator as a result of the hard economic times, which have led to regular retrenchment exercise. Many other companies in the NSE have also been requesting employees to opt for early retirement. This is an indication that a number of companies have had to let go their long tenured employees who according to previous research conducted by Balakrisnamurthy & Shankar (2009) and Karatepe & Karatepe (2010) show that they are better at managing stress and are effective workers.

5.7 Implication on Policy and Practice

The study basically emphasizes on the importance of understanding stress and how it affects performance. It highlights the importance of the moderating effects stress management and individual characteristics. Literature has emphasized on the complexity of stress and when it becomes chronic it may have negative effect on performance. The following recommendations have been put forward on policy and practice for managers, the government and other stake holders such as the Federation of Kenyan Employers (FKE) and Central Organization of Trade Unions (COTU).

Firstly, managers must understand how stress affects their employees and how it may affect corporate performance. This is because stress is becoming a source of concern

especially as Kenyans face economic hardship as a result of the world financial recession, drought, and inflation among other factors. People are reporting high levels of stress and if not controlled can become very costly to organizations as a result high levels of absenteeism, adverse public relations, high turnover rates, poor corporate performance. At worst, it may lead to death of workers who develop fatal conditions such as coronary heart disease, which have long been associated with stress.

Secondly, managers need to review policies on health care. Employers have a duty to care for their workers both physically and psychologically. Unfortunately, most managers are more comfortable taking care of the physical health because it is observable. Stress audits need to be conducted frequently to determine whether stress levels are getting out of control and leading to chronic stress, which affects corporate 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.

Stress audits that become part of the organizations planning cycle and change management process mean that positive change occurs over the long term, thus shaping the culture of organizations in Kenya. These policies will benefit employees by becoming aware of their stress levels and engage in activities that maintain stress at levels that are beneficial to them. This may include taking leave that is provided for in most companies, undertaking exercise, developing new philosophies of life that incorporate a more broader and tolerant view towards life. They may also attend wellness programs and see counselors to talk about what is stressing them.

The government of Kenya is responsible for all workers through the ministry of labor. It has the duty to set regulations on minimum pay, health and safety of workers among others. It is therefore the duty of the government in consultation with FKE and COTU to come up regulations that will prevent or manage stress. The introduction of the Health and Safety Work regulations (1999) in the USA by the government has not only taken care of the physical health, but places a statutory duty on the employer to

conduct risk assessments at the workplace, which includes assessing the psychological risks at the workplace and putting preventive measures in place. Introduction of policies such as flexible work schedules designed to give workers greater flexibility to report on duty when it is necessary so that they may avoid daily stressors such as traffic jams, which have worsened over the years and work life programmes, which include child care support, extended maternity and paternity leave will help prevent stress and in turn improve corporate performance

The success of tackling stress is undertaking practical solutions. This may include discussing with employees about what is stressing them, by providing them with a forum where they are able express their honest opinion. It is also important to record employees' opinions and set out how one will tackle issues that are stressing them. Human resource managers who work in these corporations must be able to handle traumatic incidents, mediate conflict situations at work, and organize for drug alcohol abuse programmes for 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 an organization's 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.

While there are many ways of thinking about organizations and stress, the concept of person environment fit is most effective. A person environment fit approach generally focuses on three dimensions. One is the extent to which work provides formal and informal rewards that meet a person's need. Misfit as a result of insufficient compensation and reward for the effort expended or inadequate recognition to meet individual's needs or preferences may result in stress. The second type of fit deals with the extent to which employees' skills, abilities and experiences match the

demands and requirements of the job. When these talents are underutilized then stress results. By maximizing the fit between the employee and the organizational environment, stressful situations are eliminated and stress is prevented (Nelson & Quick, 2009).

Finally, once an individual joins these corporations, a critical strategy in maximizing fit and preventing stress is ensuring effective socialization. Socialization is the process by which the individual learns and internalizes the values, expected behaviors and social knowledge that are important for becoming an effective organizational member. Consequently when the environment person fit is not effective, then employers have the duty to implement stress management programs such as wellness programmes, employee assistance programmes, work life programs, and flexible work schedules that will help prevent stress among employees and enhance corporate performance.

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APPENDICES

APPENDIX 1: QUESTIONNAIRE

Research on Stress and Performance of Companies

Dear Respondent,

The following questionnaire aims to capture data on the impact of work place stress on both individual and organizational performance. This is purely an academic research and the results will not be traceable to you or any individual person. We would therefore urge you to freely answer the questions as only the researcher will have access to the raw data and the development of the final report.

Part A:

Q1. Biographical data

Please provide the required information or tick in the availed spaces

BIO DATA							
a.	Job Title-----			b) Gender:-	Male	Female	
c.	Department-----			d) Marital:-	Married	Single	Other
e.	Years of Service to the Company:-	Below 5 Years		5 to 10 Years	Over 10 Years		
f.	Age:	Below 20 Years	20-29 Years	30-39 Years	40-49 Years	Over 50 Years	
g.	Highest Education Level Attained						
	Secondary School			Master's Degree			
	Ordinary Diploma			Doctorate Degree			
	Bachelors Degree			Other (Specify)			
h.	Your Employment Status	Permanent	Contract	Temporary		Other	
i.	Managerial Category	Top Management		Middle Management		Non Managers	
j.	Briefly describe your job						

Q2: Stress

How often do the listed stressors affect you?

No.	Item	Very Often	Often	Sometimes	Rarely	Not at all
a.	Too many responsibilities					
b.	Demanding or unreasonable deadlines					
c.	Difficult coworkers					
d.	Conflicting with or conflicting demands, unclear expectation from superiors, or management					
e.	Office politics					
f.	Job insecurity due to cutbacks, layoffs, downsizing, reorganization.					
g.	Lack of career advancement or inadequate pay					
h.	Concerns about your general health					
i.	Demanding or difficult customers					
j.	Lack of control over workload and or decisions affecting my job.					
k.	Death of significant person					
l.	Separation or divorce					
m.	Concern for Physical appearance					
n.	Sexual conflicts and frustration					
o.	Concern for poor weather					
p.	Problems with childcare					
q.	Financial Constraints					
r.	Too little contact with people					
s.	Concern for your neighbors/ neighborhood					
t.	Concern over insecurity and other social issues in the country					

Q3: Stress Manifestation

Which of these aspects of stress have you been experiencing and how often?

No.	Item	Very Often	often	Sometimes	Rarely	Not at All
i)	Physiological Manifestation					
a.	Headaches					
b.	High blood pressure					
c.	Heart disease					
d.	Ulcers					
e.	Sexual difficulties					
g.	Constipation					
f.	Heartburn					
h.	Nausea					
ii)	Psychological Manifestation					
a.	Anger/Irritability					
b.	Depression/sad/down hearted					
c.	Irrational beliefs					
d.	Guilt					
E	Lack of concentration					
f.	Poor self esteem					
g.	Low motivation					
h.	Anxiety/Panic/fearful					
i.	Low trust					
iii)	Behavioral Manifestation					
a.	Violent Behavior					
b.	Substance abuse					
c.	Absenteeism					
d.	Withdraw from social life					
e.	Poor sleeping patterns					
f.	Lack of skill development					
g.	Lack of respect for others					
h.	Unable to complete tasks					

i.	Avoid change					
j.	Family disharmony					
k.	Poor communication					
l.	Avoid responsibility					
m.	Low delegation					
n.	Lose creativity					
o.	Poor time management					
p.	Unpredictable weight gain or weight loss					
q.	Opting to leave work due to stress					

Q4: Organizational Commitment

Show the extent to which you agree or disagree with the following statements by ticking what applies to you.

No.	Organizational Commitment	Strongly agree	Agree	Neither agree or disagree	Disagree	Strongly disagree
a.	I like to work for my organization.					
b.	I consider the organization part of my life.					
C	I look forward to coming to work.					
d..	I complete my work as scheduled.					
E	I have a strong desire to maintain membership in the organization.					
F	I have individual attachment to my organization.					

j.	I have individual attachment to my supervisor.					
k.	I have closer cooperation with my managers.					
l.	I don't intend to leave the organization.					
m.	I will stay overtime to finish my work.					

Q5: Job satisfaction:

Tick the response that you feel is most appropriate to your current job.

No.	Job Satisfaction	Strongly Agree	Agree	Neither agree or disagree	Disagree	Strongly disagree
a.	Being able to keep busy all the time.					
b.	The chance to work alone on the job.					
c.	The chance to do different things from time to time.					
d.	The chance to be somebody in the community.					
e.	The way my boss handles his/her work.					
f.	The competence of my supervisors in making decisions.					
g.	Being able to do things that don't go against my patience					

h.	The way my job provides for steady employment					
i.	The chance to tell people what to do.					
j.	The chance to do things for other people.					
k.	The chance to do something that makes use of my abilities.					
l.	The way my organization policies are put into practice.					
m.	My pay and the amount of work I do					
n.	The chances for advancement on this job.					
o.	The freedom to use my own judgment.					
p.	The chance to try my own methods of doing jobs.					
q.	The work conditions.					
r.	The way my co-workers get along with each other.					
s.	The praise I get for doing my job.					
t.	The feeling of accomplishment I get from my job.					

Q6: Personality

Answer the following question by indicating the response that most often applies to you

No.	Item	Very True of Me	True of Me	Neither True Nor Untrue	Untrue of Me	Not At all
a.	I hate giving up before I'm absolutely sure I am liked.					
b.	Sometimes I feel that I shouldn't be working so hard, but something drives me on.					
c.	I thrive on challenging situations. The more challenges I have the better.					
d.	In comparison to most people I know, I'm very involved in my work					
e.	It seems as if I need 30 hours a day to finish all the things I'm faced with					
f.	In general, I approach my work more seriously than most people I know.					
g.	I guess there are some people who can be nonchalant about their work but am not one of them.					
h.	My achievements are considered to be significantly higher than those of most people.					
i.	I have often been asked to be an officer of some group or groups.					

Q7: Individual Approach to Stress Management:

Please rate on the scale the level of your ability to apply each skill to reduce stress

No.	Individual Approach	Very Often	Often	Sometimes	Rarely	Not at All
a.	<u>Diet and Nutrition</u> I have good nutritional habits that include taking appropriate supplements and limiting intake of caffeine and sugar.					
b.	<u>Relaxation</u> I am aware when stress builds up in my body and use relaxation techniques to reduce tension.					
c.	<u>Physical Exercise</u> I am physically fit and use regular exercise to combat and prevent stress.					
d.	<u>Assertiveness</u> In conflict situations, I am able to speak upon my own behalf, honestly express my opinions, feeling and wishes, give constructive criticism and refuse unrealistic request.					
e.	<u>Financial</u> I am good at managing money, not needlessly worry about financial matters and have enough money to meet most of my needs and use in reducing stress.					

No.	Individual Approach					
f.	<u>Time Management</u> I am able to efficiently manage time.					
g.	<u>Taking Action</u> I am able to establish priorities, take action on my plans, goals and set limits, schedule effectively, avoid procrastination and pace my efforts.					
h.	<u>Challenge Stressful Thinking</u> I am able to reduce stress by consciously monitoring, challenging and changing negative thought patterns, placing problems into proper perspective, mentally rehearsing coping behaviors and using positive self talk.					
i.	<u>Humor</u> I do not take myself too seriously and use humor to balance life's frustration.					
j.	<u>Spiritual</u> I believe in a higher power and spiritual connectiveness to life.					

Q8: Corporate Approach to Stress management

Does your organization offer any of the stress management programmes and how frequently do you use them?

No.	Corporate Approach	Very Often	Often	Sometimes	Rarely	Not at all
a.	Leave: Annual, maternity, paternal or Sabbatical.					
b.	Use of EAPS in form of Counseling Programs and Support groups.					
c.	Use of health and fitness facilities provided by the organizations.					
d.	On Site Day Care Center for children under six.					
e.	Use wellness programs that encourage staff to take physical and mental health care seriously e.g. weight loss, alcohol control.					
F	Redesign jobs: Does your organization prevent and manage stress by giving employees more responsibility, more meaningful work, more autonomy and increased feedback.					
g.	Use of increased formal organizational communication in order to reduce role ambiguity and role conflict.					
h.	Relocate company's office to a less congested area.					

i.	Use of flexible work schedule e.g. work from home.					
k..	Provide dress down days when employees come to work wearing casual attire, including jeans and T- shirts					

Q9: Social Support

Please indicate which of the following statements are true regarding the social support that you get

No.	Social Support Sources	Always	Often	Sometimes	Rarely	Not at all
A	Family					
	How often do they really listen to you when you talk about your concerns or problems?					
	How often do you feel they are really trying to understand your problems?					
	How often do they really make you feel loved?					
	How often do they help you in practical ways like doing things for you or lending you money?					
	How often do they answer your question or give you advice about how to solve your problems?					
	How often do you use them as examples to deal with your problems?					
B	Friends and Colleagues					
	How often do they really listen to					

	you when you talk about your concerns or problems?					
	How often do you feel they are really trying to understand your problems?					
	How often do they help you in practical ways like doing things for you or lending you money?					
	How often do they answer your question or give you advice about how to solve your problems?					
	How often do you use them as examples to deal with your problems?					
C	People in authority such as supervisors at work or community elders and church leaders.					
	How often do they really listen to you when you talk about your concerns or problems?					
	How often do you feel they are really trying to understand your problems?					
	How often do they help you in practical ways like doing things for you or lending you money?					
	How often do they answer your question or give you advice about how to solve your problems?					
	How often do you use them as examples to deal with your problems?					

Q10: Corporate Performance

Indicate the extent to which your organization exhibits the following characteristics regarding performance

No.	Item	To a very great extent	To a great extent	Not sure	To a little extent	Not at all
a.	Good performance in the past five years as compared to competitors.					
b.	Highly satisfied customers.					
c.	Quick response to customer complains.					
d.	Customer oriented personnel.					
E	Very good organization image.					
f.	Increased outputs.					
g.	Quality products and services.					
h.	Product reliability.					
i.	Faster Deliveries.					
j.	Quick decision making.					
k.	High ability to retain employees over a long period of time.					
l.	Good relationship between management and employees.					
m.	High frequency of new product development.					
n.	High market share as compared to other competitors.					

Part B: Financial Corporate Performance

Company Details

1. Name of the Corporation.....
2. Type of products/services.....
3. Year of incorporation.....
4. Annual net profits from the corporation for the last five years.
2005
2006
2007
2008
2009
5. State average sales turnover in the last five years.
2005.....
2006
2007
2008
2009
6. Give your shareholder Value.
2005.....
2006.....
2007
2008
2009

NB: This information was obtained from the NSE handbook of 2007 and 2010

Appendix II: NSE Listed Companies in Agriculture, Commercial and Services and Finance and Investment Category

S/No.	Company	S/No.	Company
	Agriculture category		Finance and Investment
1.	Kakuzi Ltd	1.	Barclays Bank Ltd
2.	Rea Vipingo plantations Ltd	2.	Centum Investment Company Ltd
3.	Sasini Ltd	3.	CFC Stanbic holdings
	Commercial and Services	4.	Diamond Trust Bank Ltd
1.	Access Kenya Ltd	5.	Equity Bank Ltd
2.	Car and General Ltd	6.	Housing Finance of Kenya
3.	Kenya Airways Ltd	7.	Jubilee Holdings
4.	Marshall East Africa Ltd	8.	Kenya Commercial Bank
5.	CMC Holdings Ltd	9.	Kenya Re-insurance Corporation Ltd
6.	Nation Media Group	10.	National Bank of Kenya
7.	Scan Group Ltd	11.	NIC Bank Ltd
8.	Standard Group Ltd	12.	Olympia Capital Holdings
9.	Tips Eastern Africa Serena	13.	Pan African Insurance Holdings Ltd
		14.	Standard Chartered Bank Ltd
		15.	The Co-operative Bank

Source: NSE Handbook 2010

Appendix III: NSE Listed Companies in Industrial and Allied and Alternative Investment Market Segment

S/No.	Industrial and Allied	S/No.	Alternative Investment Market Segment
1.	Athi River Mining	1	A Baumann and Company Ltd
2.	B.O.C Kenya Ltd	2.	City Trust Ltd
3.	Bamburi Cement Ltd	3.	Eaagads Ltd
4.	Carbacid Investment Ltd	4.	Express Ltd
5.	Crown Berger Ltd	5.	Williamson Tea
6.	E.A. Cables Ltd	6.	Kapchorua
7.	E. A Portland Cement Ltd	7.	Kenya Orchards Ltd
8.	East Africa Breweries Ltd	8.	Limuru Tea Company Ltd
9.	Eveready East Africa Ltd		
10.	Kenya Oil Company		
11.	Kenya Power and Lighting Ltd		
12.	KenGen Ltd		
13.	Mumias Sugar Company		
14.	Sameer Africa Ltd		
15.	Total Kenya		
16.	Unga Group		
17.	British American Tobacco Ltd		

Source: NSE Handbook (2010)

Appendix IV: Survey Introductory Letter

Mary Musyoka,

P.O. Box 35549-00200,

Nairobi,

Kenya

Cellphone: 0722-644107

To whom it may concern

Dear Sir/ Madam

RE: REQUEST TO COLLECT ACADEMIC RESEARCH DATA

I am a doctoral student at the University of Nairobi. As part of the requirement for the award of the degree I am expected to undertake a research study. My topic is: **Factors influencing the relationship between stress and corporate performance of companies listed at the Nairobi Stock Exchange.**

As an active player in the NSE, I am requesting your organization to participate in the study. The research results will be used for academic purposes only and will be treated with utmost confidentiality. No one, except the University of Nairobi will have access to these records. Please find attached a letter from the University of Nairobi and copies of my questionnaires.

Thank you for your support and cooperation,

Mary Musyoka

PhD Candidate

Appendix V: Cronbach's Alpha Reliability Test

Reliability using cronbach alpha (N=549)

Factor	No. of items	cronbach alpha(a)	Conclusion
Stress			
Work stress	10	0.898	Reliable
Non work stress	8	0.788	Reliable
Stress manifestation			
Physiological	6	0.522	Not reliable
Psychological	7	0.782	Reliable
Behavioral	11	0.879	Reliable
Organization commitment			
Organization commitment	10	0.840	Reliable
Job satisfaction	14	0.914	Reliable
Personality	9	0.984	Reliable
Stress management			
Individual approach	10	0.887	Reliable
Corporate approach	10	0.796	Reliable
Social support sources			
Family	5	0.750	Reliable
Friends and colleague	5	0.750	Reliable
Authority:Supervisors,Church leaders, Elders etc	5	0.750	Reliable
Performance Measurement			
Corporate performance(Qualitative)	14	0.940	Reliable

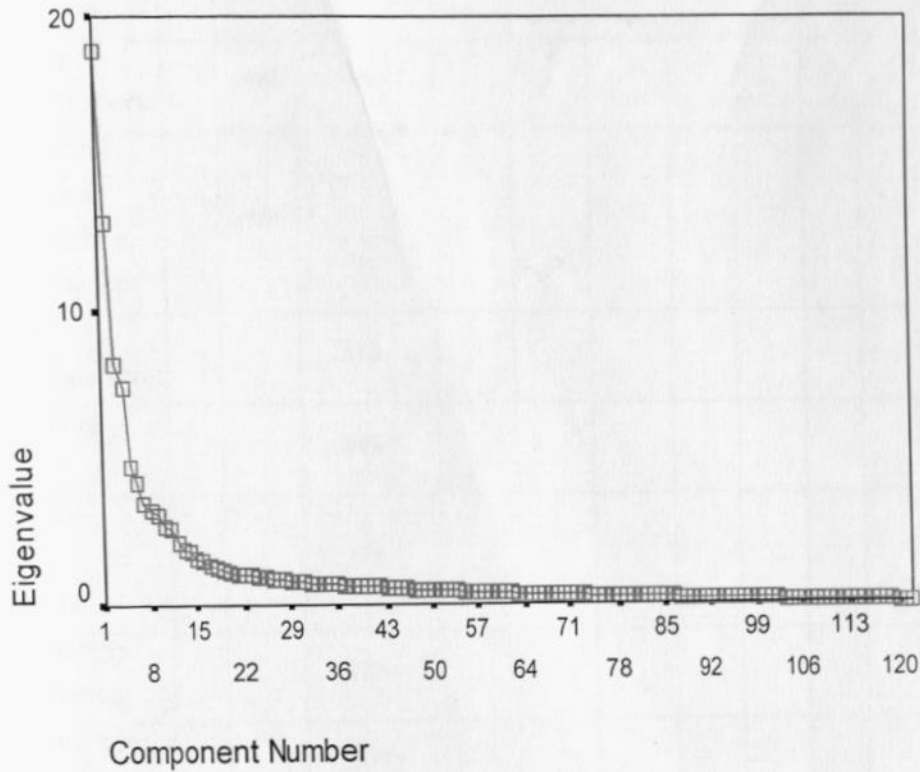
Despite having a cronbach alpha of less than 0.7, physiological stress manifestations was used since when the three stress manifestation scales were combined they yielded an alpha of 0.871.

Appendix VI: Results of Factor Analysis on Questionnaire

Total Variance Explained

Component	Initial Eigen values			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	18.848	15.449	15.449	11.536	9.456	9.456
2	12.962	10.624	26.073	8.180	6.705	16.161
3	8.185	6.709	32.782	7.761	6.361	22.522
4	7.381	6.050	38.833	5.876	4.817	27.339
5	4.704	3.855	42.688	5.758	4.720	32.059
6	4.156	3.406	46.094	5.536	4.538	36.597
7	3.441	2.820	48.915	5.090	4.172	40.769
8	3.211	2.632	51.547	4.909	4.024	44.793
9	3.035	2.488	54.034	4.327	3.547	48.340
10	2.676	2.193	56.227	4.201	3.443	51.783
11	2.582	2.116	58.344	4.082	3.346	55.129
12	2.141	1.755	60.099	4.014	3.290	58.418
13	1.889	1.548	61.647	3.939	3.229	61.647
14	1.820	1.492	63.139			
15	1.546	1.267	64.406			
16	1.516	1.243	65.649			
17	1.360	1.115	66.764			

Scree Plot



Factor loadings and communalities based on a principle component analysis with varimax rotation for 120 items

	Component													Com mun ali ties				
	1	2	3	4	5	6	7	8	9	10	11	12	13					
Too Many responsibilities		.488															.633	
Demanding Unreasonable deadlines		.543																.698
Difficult co workers		.505																.603
Job insecurity		.500																.697
Lack of career		.426																.523

	1	2	3	4	5	6	7	8	9	10	11	12	13
Unpredictable weight gain or weight loss						.280							.436
Opting to leave work due to stress						.223							.444
I like to work to my organization									.465				.750
I have a strong desire to maintain membership in the organization.									.289				.735
I have individual attachment to my organization.									.566				.752
I don't intend to leave the organization.									.283				.534
I will stay overtime to finish my work.									.220				.440
Being able to keep busy all the time.										.481			.445
The chance to work alone on the job.										.483			.516
The chance to do different things from time to time.										.572			.489
The chance to be somebody in the community.										.461			.411
Being able to do things that don't go against my patience										.625			.628
The way my job provides for steady employment										.731			.716
The chance to tell people what to do.										.562			.665
The chance to do things for other people.										.551			.615
The chance to do something that makes use of my abilities.										.587			.697
The freedom to use my own judgment.										.650			.747

	1	2	3	4	5	6	7	8	9	10	11	12	13	
physical and mental health care													.417	.598
Redesign jobs													.448	.679
formal organizational communication													.459	.641
Relocated office to a less congested area.													.444	.638
flexible work schedule													.241	.348
Provide dress down days													.255	.378
How often do they really listen to you when you talk about your concerns or problems?													.321	.779
How often do you feel they are really trying to understand your problems?													.407	.801
How often do they really make you feel loved?													.337	.754
How often do they help you in practical ways like doing things for you or lending you money?													.305	.724
How often do they answer your question or give you advice about how to solve your problems?													.403	.797
How often do you use them as examples to deal with your problems?													.447	.735
How often do they really listen to you when you talk about your concerns or problems?													.384	.821
How often do you feel they are really trying to understand your problems?													.403	.820
How often do they help you in practical ways like doing things for you or lending you money?													.436	.776

Appendix VII: Supplementary Statistical Analysis

H₂: There is a relationship between stress and stress manifestation

Regression results for stress and physiological stress manifestation

(a) Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.386 ^a	.149	.146	.660	.149	47.754	2	546	.000	1.873

a. Predictors: (Constant), Non Work Stressors, Work Stressors

b. Dependent Variable: Physiological Stress Manifestation

(b) ANOVA^b

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	41.659	2	20.830	47.754	.000 ^a
	Residual	238.159	546	.436		
	Total	279.818	548			

a. Predictors: (Constant), Non Work Stressors, Work Stressors

b. Dependent Variable: Physiological Stress Manifestation

(c) Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error				Beta	Lower Bound
				B				
1	(Constant)	.598	.131		4.568	.000	.341	.856
	Work Stressors	.152	.037	.174	4.065	.000	.078	.225
	Non Work Stressors	.272	.041	.282	6.581	.000	.191	.353

a. Dependent Variable: Physiological Stress Manifestation

Regression results for stress and psychological stress manifestation

(a) **Model Summary^b**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.454 ^a	.206	.203	.685	.206	71.002	2	546	.000	1.424

a. Predictors: (Constant), Non Work Stressors, Work Stressors

b. Dependent Variable: Psychological Stress Manifestation

(b) **ANOVA^b**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	66.583	2	33.291	71.002	.000 ^a
	Residual	256.008	546	.469		
	Total	322.590	548			

a. Predictors: (Constant), Non Work Stressors, Work Stressors

b. Dependent Variable: Psychological Stress Manifestation

(c) **Coefficients^a**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error				Lower Bound	Upper Bound
		Beta						
1	(Constant)	.533	.136		3.927	.000	.267	.800
	Work Stressors	.164	.039	.176	4.238	.000	.088	.240
	Non Work Stressors	.368	.043	.356	8.583	.000	.283	.452

a. Dependent Variable: Psychological Stress Manifestation

Regression results for stress and behavioral stress manifestation

(a) Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.376 ^a	.141	.138	.715	.141	44.977	2	546	.000	1.824

a. Predictors: (Constant), Non Work Stressors, Work Stressors

b. Dependent Variable: Behavioral Stress Manifestation

(b) ANOVA^b

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	46.038	2	23.019	44.977	.000 ^a
	Residual	279.437	546	.512		
	Total	325.475	548			

a. Predictors: (Constant), Non Work Stressors, Work Stressors

b. Dependent Variable: Behavioral Stress Manifestation

(c) Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	.858	.142		6.044	.000	.579	1.136
	Work Stressors	.148	.040	.158	3.665	.000	.069	.227
	Non Work Stressors	.296	.045	.285	6.609	.000	.208	.384

a. Dependent Variable: Behavioral Stress Manifestation

Hierarchical regression model on the moderating effect of stress management on the relationship between stress manifestation and corporate performance

(a) Model Summary^d

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.150 ^a	.022	.017	1.262	.022	4.157	3	545	.006	
2	.202 ^b	.041	.034	1.252	.019	10.532	1	544	.001	
3	.255 ^c	.065	.053	1.239	.024	4.609	3	541	.003	1.767

a. Predictors: (Constant), Behavioral Stress Manifestation, Physiological Stress Manifestation, Psychological Stress Manifestation

b. Predictors: (Constant), Behavioral Stress Manifestation, Physiological Stress Manifestation, Psychological Stress Manifestation, Combined Stress Mgmt Approach

c. Predictors: (Constant), Behavioral Stress Manifestation, Physiological Stress Manifestation, Psychological Stress Manifestation, Combined Stress Mgmt Approach, psychstressmangement, behavioralstressmanagement, physiostressmanagement

d. Dependent Variable: Overall Corporate Performance

(b) ANOVA^d

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	19.875	3	6.625	4.157	.006 ^a
	Residual	868.632	545	1.594		
	Total	888.506	548			
2	Regression	36.373	4	9.093	5.805	.000 ^b
	Residual	852.134	544	1.566		
	Total	888.506	548			
3	Regression	57.607	7	8.230	5.358	.000 ^c
	Residual	830.899	541	1.536		
	Total	888.506	548			

a. Predictors: (Constant), Behavioral Stress Manifestation, Physiological Stress Manifestation, Psychological Stress Manifestation

b. Predictors: (Constant), Behavioral Stress Manifestation, Physiological Stress Manifestation, Psychological Stress Manifestation, Combined Stress Mgmt Approach

c. Predictors: (Constant), Behavioral Stress Manifestation, Physiological Stress Manifestation, Psychological Stress Manifestation, Combined Stress Mgmt Approach, psychstressmangement, behavioralstressmanagement, physiostressmanagement

d. Dependent Variable: Overall Corporate Performance

(c)

Coefficients

		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	4.191	.181		23.097	.000	3.835	4.548
	Physiological Stress Manifestation	-.080	.087	-.045	-.927	.354	-.251	.090
	Psychological Stress Manifestation	.208	.086	.125	2.427	.016	.040	.377
	Behavioral Stress Manifestation	-.254	.091	-.154	-2.783	.006	-.434	-.075
2	(Constant)	3.393	.305		11.130	.000	2.794	3.992
	Physiological Stress Manifestation	-.074	.086	-.042	-.867	.387	-.243	.094
	Psychological Stress Manifestation	.200	.085	.121	2.352	.019	.033	.367
	Behavioral Stress Manifestation	-.240	.091	-.145	-2.648	.008	-.419	-.062
	Combined Stress Mgmt Approach	.201	.062	.137	3.245	.001	.079	.322
3	(Constant)	4.213	.418		10.080	.000	3.392	5.035
	Physiological Stress Manifestation	-.937	.374	-.526	-2.503	.013	-1.673	-.202
	Psychological Stress Manifestation	-.150	.147	-.090	-1.017	.309	-.440	.140
	Behavioral Stress Manifestation	.359	.334	.218	1.078	.282	-.296	1.015
	Combined Stress Mgmt Approach	.043	.082	.029	.522	.602	-.119	.205
	Behavioralstressmanagement	-.248	.122	-.585	-2.032	.043	-.489	-.008
	Physiostressmanagement	.313	.140	.658	2.244	.025	.039	.588
	Psychstressmangement	.024	.009	.282	2.776	.006	.007	.041

a. Dependent Variable: Overall Corporate Performance

Hierarchical regression model on the moderating effect of individual characteristics on the relationship between stress manifestation and corporate performance

(a) **Model Summary^d**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.150 ^a	.022	.017	1.262	.022	4.157	3	545	.006	
2	.174 ^b	.030	.023	1.258	.008	4.520	1	544	.034	
3	.221 ^c	.049	.037	1.250	.018	3.491	3	541	.016	1.735

a. Predictors: (Constant), Behavioral Stress Manifestation, Physiological Stress Manifestation, Psychological Stress Manifestation

b. Predictors: (Constant), Behavioral Stress Manifestation, Physiological Stress Manifestation, Psychological Stress Manifestation, individual characteristics

c. Predictors: (Constant), Behavioral Stress Manifestation, Physiological Stress Manifestation, Psychological Stress Manifestation, individual characteristics, behavioural individual characteristics, psycho individual characteristics, physio individual characteristic

d. Dependent Variable: Corporate Performance

(b) **ANOVA^d**

		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	19.875	3	6.625	4.157	.006 ^a
	Residual	868.632	545	1.594		
	Total	888.506	548			
2	Regression	27.032	4	6.758	4.267	.002 ^b
	Residual	861.475	544	1.584		
	Total	888.506	548			
3	Regression	43.390	7	6.199	3.968	.000 ^c
	Residual	845.116	541	1.562		
	Total	888.506	548			

a. Predictors: (Constant), Behavioral Stress Manifestation, Physiological Stress Manifestation, Psychological Stress Manifestation

b. Predictors: (Constant), Behavioral Stress Manifestation, Physiological Stress Manifestation, Psychological Stress Manifestation, individual characteristics

c. Predictors: (Constant), Behavioral Stress Manifestation, Physiological Stress Manifestation, Psychological Stress Manifestation, individual characteristics, behavioural individual characteristics, psycho individual characteristics, physio individual characteristic

d. Dependent Variable: Corporate Performance

(c)

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	4.191	.181		23.097	.000	3.835	4.548
	Physiological Stress Manifestation	-.080	.087	-.045	-.927	.354	-.251	.090
	Psychological Stress Manifestation	.208	.086	.125	2.427	.016	.040	.377
	Behavioral Stress Manifestation	-.254	.091	-.154	-2.783	.006	-.434	-.075
2	(Constant)	3.890	.230		16.937	.000	3.439	4.342
	Physiological Stress Manifestation	-.160	.094	-.090	-1.698	.090	-.345	.025
	Psychological Stress Manifestation	.173	.087	.104	1.986	.048	.002	.344
	Behavioral Stress Manifestation	-.312	.095	-.189	-3.282	.001	-.499	-.125
	individual characteristics	.262	.123	.121	2.126	.034	.020	.505
3	(Constant)	4.346	.273		15.908	.000	3.809	4.882
	Physiological Stress Manifestation	-.450	.394	-.252	-1.141	.254	-1.224	.325
	Psychological Stress Manifestation	-.322	.323	-.194	-1.997	.119	-.956	.313
	Behavioral Stress Manifestation	.002	.443	.001	1.004	.097	-.868	.871
	individual characteristics	.061	.140	.028	1.438	.041	-.214	.336
	Behavioural individual characteristics	-.079	.121	-.224	-.656	.512	-.317	.158
	Physioindividual characteristic	.083	.111	.211	.744	.457	-.136	.302
	psyco individual characteristics	.132	.090	.369	1.468	.013	.045	.308

a. Dependent Variable: Corporate Performance

Hierarchical regression model on the joint effect of stress management and individual characteristics on the relationship between stress manifestation and corporate performance

(a) **Model Summary^d**

Model	R	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson	
				R Square Change	F Change	df1	df2	Sig. F Change		
1	.150 ^a	.022	.017	1.262	.022	4.157	3	545	.006	1.776
2	.216 ^b	.047	.038	1.249	.024	6.912	2	543	.001	
3	.249 ^c	.062	.048	1.242	.015	2.946	3	540	.032	

a. Predictors: (Constant), Behavioural Stress Manifestation, Physiological Stress Manifestation, Psychological Stress Manifestation

b. Predictors: (Constant), Behavioural Stress Manifestation, Physiological Stress Manifestation, Psychological Stress Manifestation, Combined Stress Mgmt Approach, individual characteristics

c. Predictors: (Constant), Behavioural Stress Manifestation, Physiological Stress Manifestation, Psychological Stress Manifestation, Combined Stress Mgmt Approach, individual characteristics, psychinivsm, phsioindivsm, behindism

d. Dependent Variable: Corporate Performance

(b) **ANOVA^d**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	19.875	3	6.625	4.157	.006 ^a
	Residual	868.632	545	1.594		
	Total	888.506	548			
2	Regression	41.440	5	8.288	5.313	.000 ^b
	Residual	847.066	543	1.560		
	Total	888.506	548			
3	Regression	55.079	8	6.885	4.461	.000 ^c
	Residual	833.427	540	1.543		
	Total	888.506	548			

a. Predictors: (Constant), Behavioural Stress Manifestation, Physiological Stress Manifestation, Psychological Stress Manifestation

b. Predictors: (Constant), Behavioural Stress Manifestation, Physiological Stress Manifestation, Psychological Stress Manifestation, Combined Stress Mgmt Approach, individual characteristics

c. Predictors: (Constant), Behavioural Stress Manifestation, Physiological Stress Manifestation, Psychological Stress Manifestation, Combined Stress Mgmt Approach, individual characteristics, psychinivsm, phsioindivsm, behindism

d. Dependent Variable: Corporate Performance

(C)

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	4.191	.181		23.097	.000	3.835	4.548
	Physiological Stress Manifestation	-.080	.087	-.045	-.927	.354	-.251	.090
	Psychological Stress Manifestation	.208	.086	.125	2.427	.016	.040	.377
	Behavioural Stress Manifestation	-.254	.091	-.154	-2.783	.006	-.434	-.075
2	(Constant)	3.186	.325		9.799	.000	2.547	3.825
	Physiological Stress Manifestation	-.142	.094	-.080	-1.518	.130	-.326	.042
	Psychological Stress Manifestation	.171	.086	.103	1.976	.049	.001	.341
	Behavioural Stress Manifestation	-.290	.095	-.175	-3.062	.002	-.476	-.104
	individual characteristics	.222	.123	.103	1.802	.032	-.020	.464
	Combined Stress Mgmt Approach	.189	.062	.128	3.039	.002	.067	.311
3	(Constant)	3.940	.481		8.183	.000	2.994	4.886
	Physiological Stress Manifestation	-.535	.245	-.300	-2.184	.029	-1.016	-.054
	Psychological Stress Manifestation	-.174	.218	-.105	-.798	.425	-.603	.255
	Behavioural Stress Manifestation	.121	.268	.073	.452	.651	-.405	.648
	individual characteristics	-.084	.182	-.039	-.462	.044	-.441	.273
	Combined Stress Mgmt Approach	.187	.062	.127	3.012	.003	.065	.309
	phsioindivsm	.042	.026	.391	1.659	.098	-.008	.093
	psychinivsm	.036	.023	.357	1.562	.029	.059	.381
	Behindism	-.044	.027	-.458	-1.612	.107	-.097	.010

a. Dependent Variable: Overall Corporate Performance

Descriptive frequencies of stress factors (stressors)

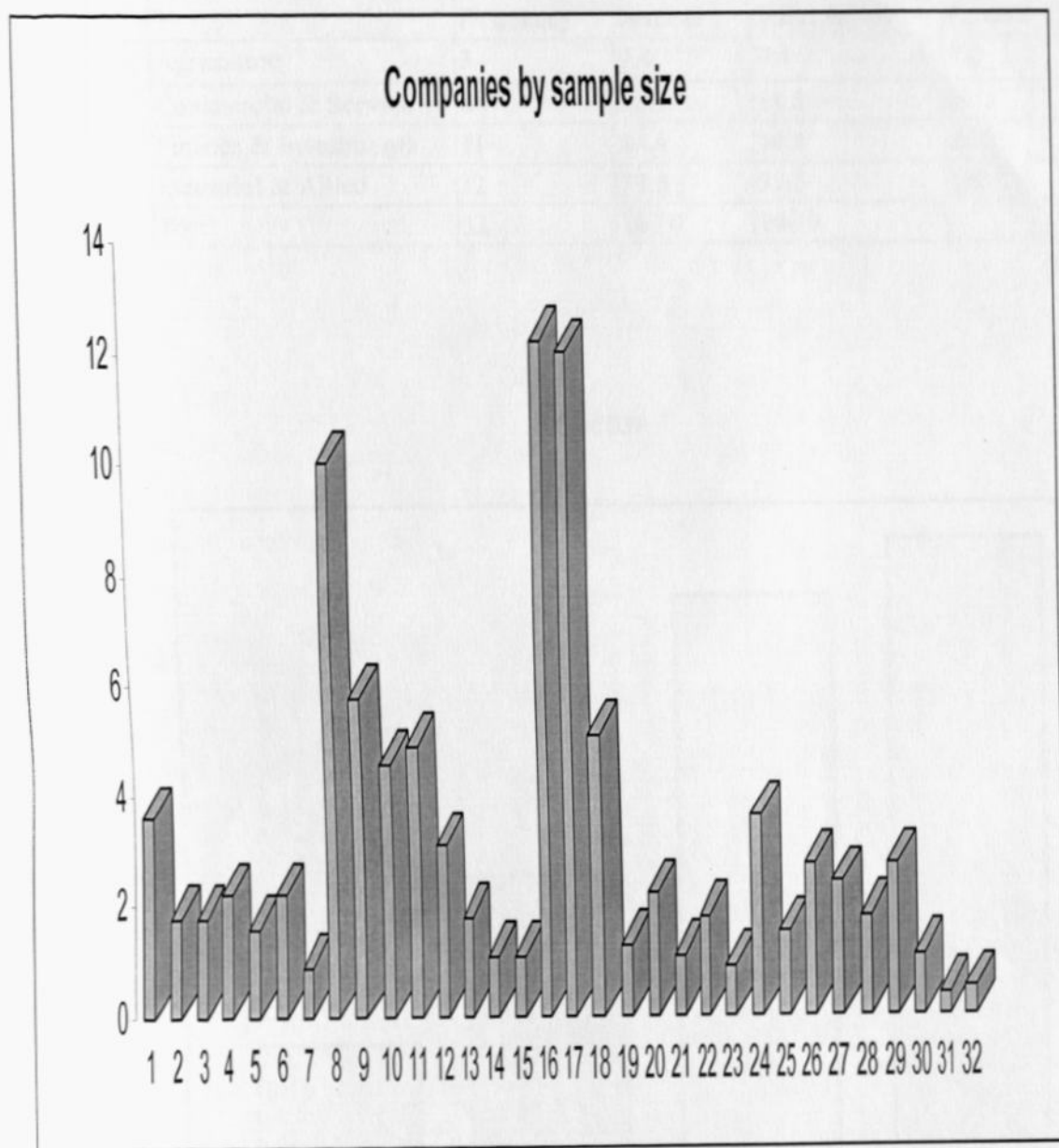
	Not at all		Rarely		Sometimes		Often		Very often		N
	N	%	N	%	N	%	N	%	N	%	
Too Many responsibilities	11	2.0	24	4.4	197	35.9	200	36.4	117	21.3	549
Demanding Unreasonable deadlines	17	3.1	46	8.4	158	28.8	215	39.2	113	20.6	549
Difficult co workers	18	3.3	80	14.6	228	41.5	158	28.8	65	11.8	549
Job insecurity	40	7.3	57	10.4	166	30.2	223	40.6	63	11.5	549
Lack of career advancement	29	5.3	36	6.6	222	40.4	205	37.3	57	10.4	549
Concerns about general health	44	8.0	38	6.9	250	45.5	121	22.0	96	17.5	549
Demanding or difficult customers	22	4.0	51	9.3	199	36.2	195	35.5	82	14.9	549
Lack of control over workload and or decisions affecting my job	33	6.0	58	10.6	196	35.7	201	36.6	61	11.1	549
Death of significant person	272	46.1	147	27.3	72	13.1	60	10.9	14	2.6	546
Separation or Divorce	175	31.9	136	24.8	171	32.1	52	9.5	10	1.8	544
Concern for Physical appearance	186	36.0	129	25.0	121	25.1	57	11.0	15	2.9	540
Sexual conflicts and frustration	285	55.3	130	25.2	72	15.3	19	3.7	2	.4	542
Concern for poor weather	229	44.5	156	30.3	105	20.4	24	4.7	1	.2	549
Problems with childcare	183	35.7	117	22.9	149	29.1	51	10.0	12	2.3	549
Financial Constraints	100	18.2	264	48.1	71	12.9	90	16.4	24	4.4	549
Too little contact with people	214	35.4	176	34.4	118	23.1	30	5.9	6	1.2	549
Concern for your neighbors/ neighborhood	166	32.7	166	32.7	137	27.0	31	6.1	8	1.6	549
Concern over insecurity and other social issues in the country	233	45.5	108	21.1	56	10.9	95	18.6	20	3.9	548

Appendix VIII: Response Rate by Company

While the company response rate against number registered was looked at from a census perspective, a sampling approach was given to number of employees targeted from each company. A sample size on 10% against available number of employees was used. The response rate was as follows:

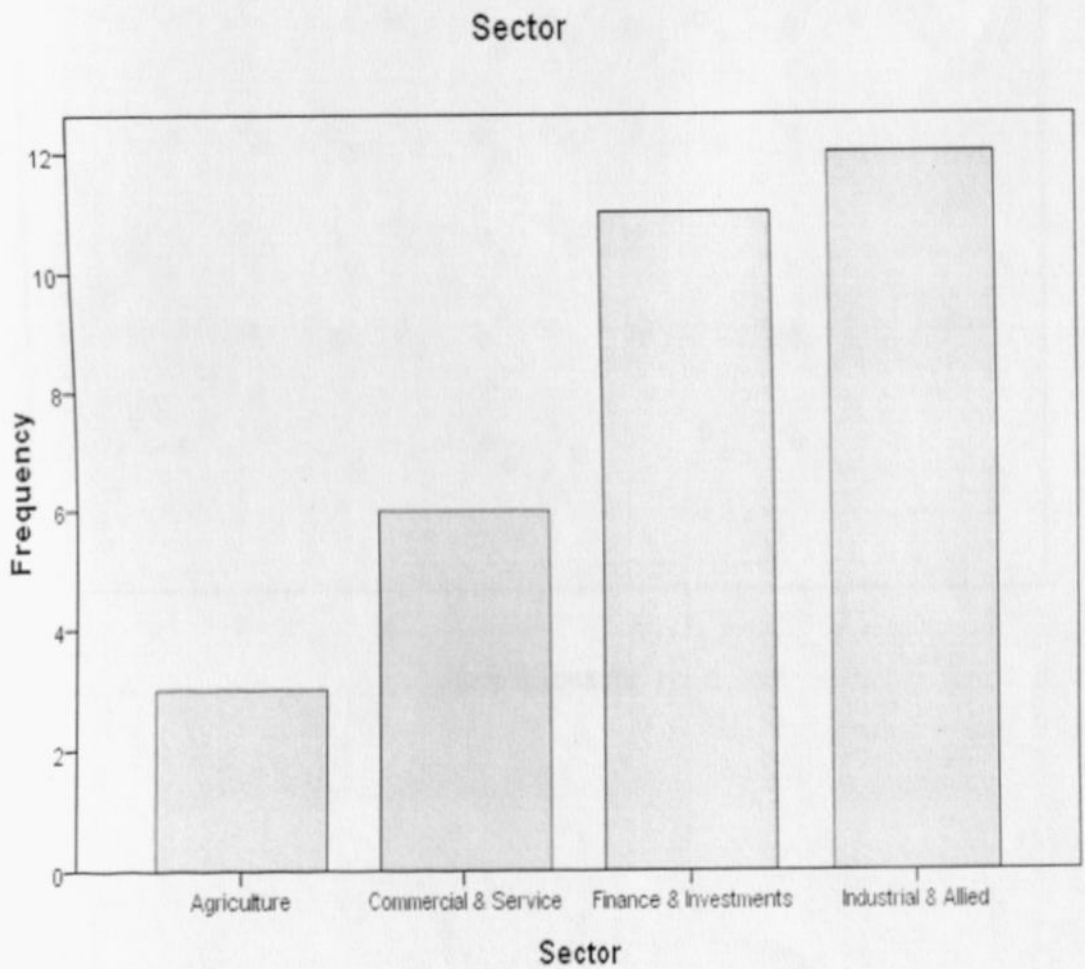
Companies	Target Population	10% Sample	Received	Response Rate
1 Athi River Mining	750	75	12	16
2 Bamburi (Head Office)	30	3	5	120
3 Barclays (Queensway)	200	20	6	30
4 BAT	800	80	27	34
5 Car and General	200	20	17	85
6 Carbacid	150	15	6	40
7 Centum	10	1	2	200
8 CFC (Kimathi St)	75	8	12	150
9 CMC	200	20	15	75
10 Cooperative bank (Head Office)	350	35	20	57
11 Diamond Trust Bank	300	30	32	106
12 EABL	800	80	10	13
13 East African Portland	1000	100	10	10
14 Equity Bank	750	75	66	88
15 Eveready	250	25	10	40
16 HFCK (Head Office)	250	25	9	36
17 KCB Bank (Head Office)	800	80	55	69
18 KenGen (Head Office)	700	70	6	9
19 KPLC (Head Office)	1000	100	28	28
20 Marshalls	50	5	10	200
21 Mumias	1000	100	13	13
22 Nation Media Group	200	20	8	40
23 NBK Bank	700	70	67	96
24 NIC Bank	300	30	25	83
25 Rea Vipingo	275	28	12	43
26 Sameer	200	20	3	15
27 Sasini	30	3	6	200
28 Standard Chartered Bank	600	60	20	34
29 Standard Group	150	15	7	47
30 Total	200	20	15	75
31 TPS	90	9	10	110
32 Williamson Tea/Kapchorua	14	2	5	250
Total	12424	1244	549	44%

Figure 1: Response Rate by Company



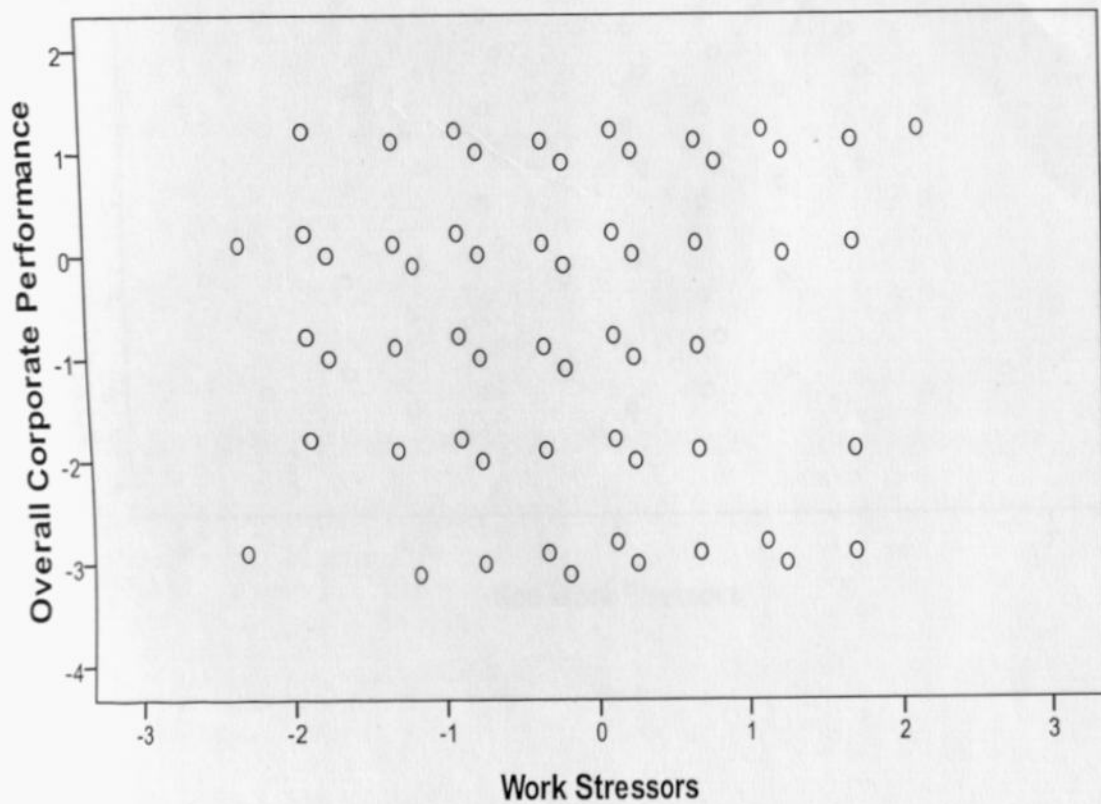
Company Response Analysis by Sector

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agriculture	3	9.4	9.4	9.4
	Commercial & Service	6	18.8	18.8	28.1
	Finance & Investments	11	34.4	34.4	62.5
	Industrial & Allied	12	37.5	37.5	100.0
	Total	32	100.0	100.0	



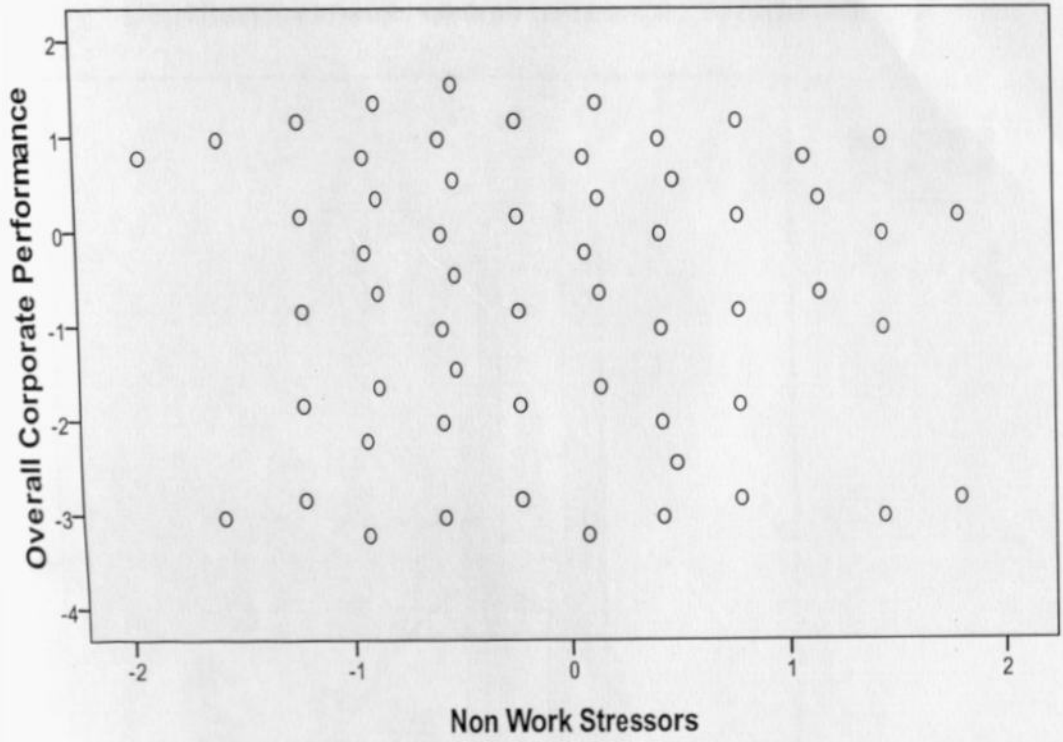
Partial Regression Plot

Dependent Variable: Overall Corporate Performance



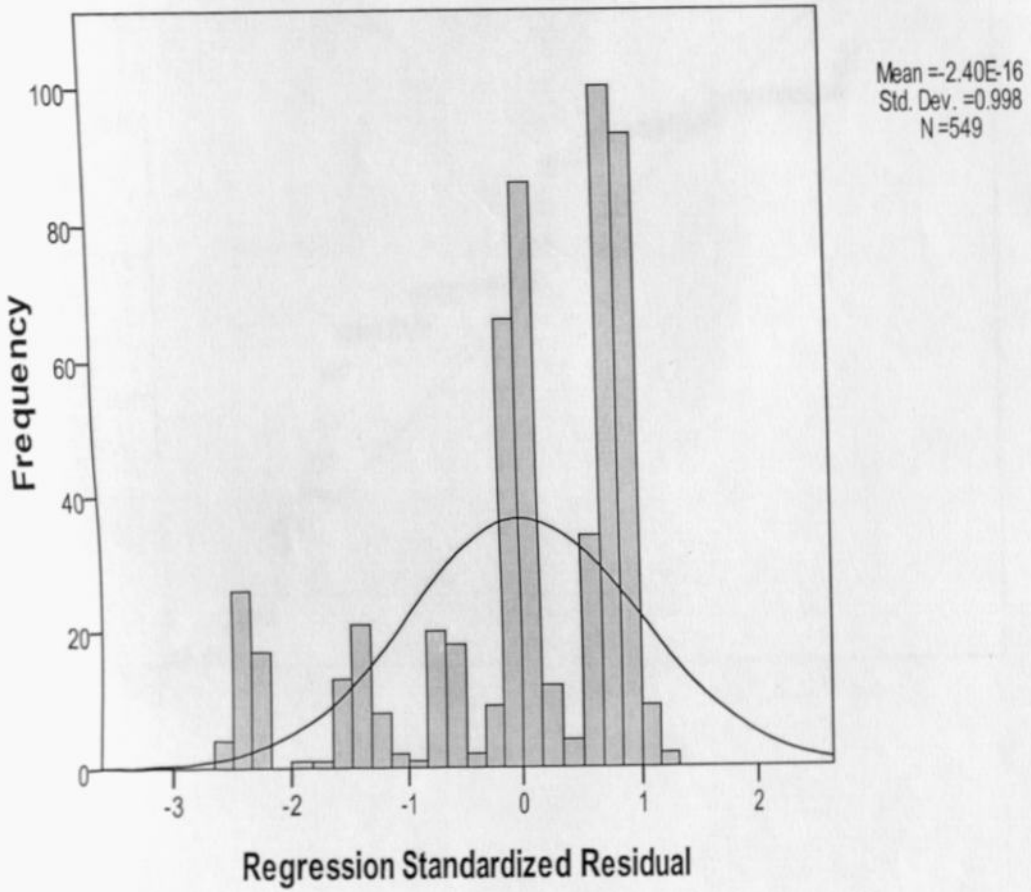
Partial Regression Plot

Dependent Variable: Overall Corporate Performance



Histogram

Dependent Variable: Overall Corporate Performance



Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Overall Corporate Performance

