

IMPACT OF EMOTIONAL AND COGNITIVE INTELLIGENCE ON JOB PERFORMANCE:  
THE CASE OF GOVERNMENT CHEMIST'S DEPARTMENT

A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILLMENT FOR  
THE AWARD OF THE DEGREE OF MASTER OF PUBLIC ADMINISTRATION

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## DECLARATION

This research project is my original work and has not been presented for a Degree or other Award in any other university or institution.

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This research project has been submitted for examination with my approval as a University Supervisor.

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## DEDICATION

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## ABBREVIATIONS

CI	Cognitive Intelligence
DV	Dependent Variable
DPM	Directorate of Personnel Management
EI	Emotional Intelligence
FY	Financial Year
HOD	Head of Department
HRM&D	Human Resource Management and Development
IV	Independent Variable
J/G	Job Group
JP	Job Performance
KES	Kenya Shillings
KIPPRA	Kenya Institute for Public Policy Research and Analysis
Lab	Laboratory
M/F	Male/Female
MPA	Master of Public Administration
MSCEIT	Mayer-Salovey-Caruso Emotional Intelligence Test
MSPS	Ministry of State for Public Service
OCB	Organizational Citizenship Behavior
OCBO	Organizational Citizenship Behavior directed at the organization
OCBI	Organizational Citizenship Behavior directed at individuals
SLDP	Strategic Leadership Development Programme
SMC	Senior Management Course
SOPs	Standard Operating Procedures
t-others	Technical-others
USA	United States of America

## ABSTRACT

This is a report of a case study that examined the impact of emotional and cognitive intelligence on job performance at Government Chemist Department. Levels of staff emotional and cognitive intelligence measured among staff were examined against levels of staff performance using scores derived from scale ratings. Self-report questionnaires and participant observation schedules were used in collection of primary and secondary data from respondents who included employees and supervisors working at Government Chemist Department, Nairobi: this was the research site.

The study was undertaken during the month of November 2014. The Department is a key institution of the Government particularly in its role in forensic science crime investigations providing vital information for the administration of justice. It is also the referral Headquarters of the Department where operations were expected to be at their best, and where official records are kept.

The findings of the study show that staff emotional intelligence scores (Average 68.9 %) closely matched staff performance scores (Average 71.7 %) and the Department's performance (Average 70 %). Furthermore, staff cognitive intelligence scores (Average 74.6 %) fairly matched staff performance scores (Average 71.7 %) and the Department's performance (Average 70 %). These findings show that there is an association between emotional intelligence and performance, and between cognitive intelligence and performance. This case study, thus, found that emotional and cognitive intelligence have an impact on job performance.

## CHAPTER ONE

### INTRODUCTION

#### **1.1 Background to the study**

“The past two decades have witnessed the emergence of increasing demands for ‘efficiency’ within public sector in Kenya. As democratic governance takes root and citizen demand more responsive government services, new systems have been put in place to encourage the responsiveness of those who deliver public services at the grass-roots level” (Riggs, F., 2013). This observation is important to this study because Kenya is one of the many countries that have put in place new systems that encourage responsiveness of public servants in delivery of cost-effective, quality and prompt services to the citizenry at grass-roots level. Kenyan public administration adopted performance appraisal system in 2006. This provides a framework for public employees to be evaluated on performance on the job at the end of each financial year. This provision proved invaluable in this study.

Studies done in USA and Canada show that emotional intelligence (or people’s skills) to the largest extent determines the performance of each and every public or private organization. For example: Belcher (1987, 1991) found positive correlation between organizational productivity and leadership that has high degree of emotional intelligence. Goleman (1995, 2008) found a person’s emotional intelligence is not only positively related to job performance but that it is twice as important as cognitive intelligence in all areas of human endeavour. Petrides & Furnham (2000, 2001) found emotional intelligence as “trait and ability personality” attribute and that “association between emotional intelligence and job performance becomes more positive as cognitive intelligence decreases”. Salovey & Grewal (2005) found emotionally intelligent people perform better than people with low levels of emotional intelligence. Cote & Miners (1999, 2001, 2004, 2006, 2010) found cognitive intelligence to enhance job performance, and, that there is either no relationship or an inconsistent relationship between emotional intelligence and job performance on some jobs. This study sought to test the above hypotheses (or assumptions) by evaluating how emotional and cognitive intelligence impact on performance of organizational tasks at Government Chemist Department in Nairobi, Kenya.

At the regional level, a study on “Manpower development in Africa found most employers, particularly in engineering and production sectors, preferring to employ graduates from middle

level technical colleges instead of graduates from technical universities” (Asingo, 2000). This finding suggests that technical ability, measured by the level of education, is not the panacea for high performance on the job (or organizational productivity). In African socio-cultural context, it seems that staff socialization and organizational culture play a determining role in organizational productivity than technical ability or intellectual intelligence, measured by the level of education.

At the local level, a study done in Nairobi, Kenya on “Enhancing sectorial contribution towards reducing poverty, unemployment and inequality in Kenya” identified technical and generic skills development as a major obstacle to manufacturing and services firm’s productivity. (KIPPRA, 2012)

The foregoing findings appear to suggest that emotional intelligence or people’s skills provides a panacea for organizational productivity. This study therefore sought to evaluate how these two knowledge skills (technical or cognitive, and emotional or generic) impact on job performance in Government Chemist Department as an organization.

At independence, the Government of Kenya adopted Sessional Paper No.10 of 1965 which spelt out its public policy on the development of skilled manpower in an effort to Africanize and revamp public services sector. This focus is on technical skills training. In the year 2006, the Government of Kenya realizing that productivity in the public service was not commensurate with available technical skills inventory started strategic leadership development programme at Kenya School of Government for serving senior officers particularly in the civil service. This is an added effort meant to equip both management and leadership of civil service with necessary generic or people’s skills and competences (MSPS Report, 2012). This noble effort has made the country arguably the richest in human capital within the eastern and central African region. During Financial Year 2013/2014, the Government spent approximately five hundred and seventeen million Kenya Shillings (KES 517 Million) from taxpayers’ money to run the Government Chemist Department (National Budget Estimates for 2013/2014). It is therefore expected from the foregoing that delivery of services at Government Chemist Department should be at its best.

Indeed the Government Chemist Department has performed fairly well judging by the many high profile homicide, paternity and public health cases it has successfully analysed and presented as expert evidence in courts of law. Nonetheless, there have recently arisen public complaints from citizens and other Government functionaries against the performance of the Department concerning unsatisfactory delivery of its services. The public furore is underpinned

by the expectations from constitutional obligations that such institutions provide efficient and cost-effective services to the general public as returns on investment. This study sought to investigate if there is a relationship between levels of performance and the study variables.

## **1.2: Statement of the Problem**

The Government Chemist Department provides forensic and analytical science services to Criminal Investigation Department for administration of justice, other Government departments, State corporations/agencies, NGOs, private sector and the general public for quality assurance. Annual reports published by Government Press (1986, 1993) give summary and status-report of services provided by the Department. The Government's socio-political slogan "Huduma Bora Ni Haki Yako" is a call on citizens as consumers of public services to ask by right prompt, efficient, cost-effective, and quality services from public officers.

The parent Ministry of Health in its Audit report(2012) recommended that the Department upgrades its laboratory infrastructure and train its line and senior managers (Job Group "L" - "S") to acquire generic skills (emotional intelligence) and technical skills (cognitive intelligence). This upgrading and staff training was jointly done by Ministry of Health and Directorate of Personnel Management during Financial Year 2012/2013 –2013/2014. This effort was meant to enable the Department provide more prompt, efficient, cost-effective, and quality services yet consumer complaints still persist. The reported backlog of cases at the end every calendar year is a cause of concern particularly to courts because of delay in administration of justice against the backdrop of the citizen's service charter and public expectations. It is this apparent underperformance of the Department that this study sought to explain as a problem.

## **1.3: Research Questions**

The over-all question the study sought to answer is: what is the impact of emotional and cognitive intelligence on job performance? Specifically, the study asked the following questions:

1. What is the level of emotional intelligence among staff at the Department?
2. What is the level of cognitive intelligence among staff at the Department?
3. What is the association between staff emotional intelligence levels and job performance at the Department?
4. What is the association between staff cognitive intelligence levels and job performance at the Department?

#### **1.4: Objectives of the Study**

The overall objective of the study is to examine the impact of emotional intelligence and cognitive intelligence on job performance at the Government Chemist Department.

Specific objectives are:

1. To assess levels of emotional intelligence among staff at Government Chemist Department;
2. To assess levels of cognitive intelligence among staff at Government Chemist Department;
3. To examine if there is any association between emotional intelligence and job performance at Government Chemist Department;
4. To examine if there is any association between cognitive intelligence and job performance at Government Chemist Department.

#### **1.5: Definition of concepts**

**Intelligence** lexically means ability to grasp and reason correctly with abstractions or concepts and solve problems (Schmidt and Hunter, 2003). In this study, intelligence is used to imply the ability of staff at the Department to learn and understand from experience of knowledge acquired and retained or to respond successfully to new experiences in performing their job descriptions.

**Emotion** lexically means a moving of the feelings, agitation of the mind, or any of various phenomena of the mind such as anger, joy, fear or sorrow that is associated with physical symptoms (Chambers Dictionary, 1<sup>st</sup> Ed, 1994). In this study, emotion is used to imply feelings or subjective reactions by staff either pleasant or unpleasant that positively or negatively impact on Departmental performance i.e. abrasiveness, arrogance, temperament, empathy, stubbornness, friendliness, anger, understanding or compassion shown between employees or boss and juniors.

**Emotional intelligence** lexically means self-awareness, self-regulation, motivation, empathy, social skills, impulse control, persistence, good moods, hope, and optimism. (Goleman, 1995)

In this study, emotional intelligence is used to imply ability of staff to understand own emotions and feelings of customers, and correctly use information-loaded feelings to enhance performance.

**Ability emotional intelligence** lexically refers to the actual ability to recognize process and utilize emotion-laden information hence measured by performance tests (Petrides & Furnham, 2000, 2001). In the study, ability emotional intelligence is used to imply ability of staff to apply emotional skills in the performance of tasks at the Department adapting Mayer-Salovey-Caruso

Emotional Intelligence Test method successfully used at Yale University (Salovey & Grewal, 2005) and University of Toronto (Cote & Miners, 2006) to measure ability emotional intelligence.

**Cognitive** lexically means the act or process of knowing in the widest sense and includes sensation and perception (Chambers Dictionary, 1<sup>st</sup> Ed, 1994). In this study, cognitive is used to imply knowledge of work processes and procedures (SOPs, strategic and annual work plans, citizen's service charter, regulations, etc.) which is inherent among staff of the Department

**Cognitive intelligence** lexically is ability to learn new things, recall information, think rationally, apply knowledge and solve problems (Kaplan & Sadock, 1991). In the study, cognitive intelligence is used to imply staff levels of awareness of organization culture, customer expectations, rules and regulations, standard operating procedures and ability to apply skills and perform technical duties.

**Cognitive ability** lexically means capacity to understand complex ideas, learn from experience, reason, problem solve, and adapt (Nessler, Boodoo et al, 1996; Sternberg, 1997). In this study, cognitive ability is used to imply educational qualification, professional training and continuous service (years of job experience) adapting Mayer-Salovey-Caruso Emotional Intelligence Test method successfully used at University of Toronto (Cote & Miners, 2006) to successfully measure cognitive intelligence as an ability to perform tasks.

**Job** lexically means any individual piece of work or any undertaking or employment done for payment or profit or an occupation or someone's proper business or a transaction in which private gain is sought under pretence of public service (Chambers Dictionary, 1<sup>st</sup> Ed, 1994). In this study, job is used to imply a piece of work done by staff of Department for compensation i.e. analysis of laboratory samples or exhibits, writing laboratory/technical reports, and giving expert evidence.

**Job performance** lexically means the degree to which an individual helps the organization reach its goals (Motowidlo, Borman, and Schmit in Cote & Miners, 2006). In this study, job performance is used to imply measured accomplishments to which performance of tasks are pegged on i.e. service desirability, acceptability, output and promptness as agreed in the performance contract.

**Underperformance** lexically means an act of doing less well than expected or thought possible (Chambers Dictionary, 1<sup>st</sup> Ed, 1994). In this study, underperformance is used to imply the inability of staff at Government Chemist Department to serve customers timorously as outlined in its citizen



service charter and performance contract whereof a staff mean performance score of below 70 % is rated as very poor or underperformance and may attract sanctions against the Appraisee.

**Standard Operating Procedures** in this study is used to imply sets of generally agreed upon sampling, sample/exhibit handling, laboratory testing and report writing procedures used at the Department during the performance of tasks as stipulated in the Department's Information Bulletin of 24<sup>th</sup> February 1986 and published by Government Printer: GPK 472-150-3/86.

**Organization culture** in this study is used to imply way or tradition of doing things at Government Chemist Department characterized by way and type of official communication, staff training and deployment, promotions, socialization, dressing code, time consciousness, ethnic and regional balancing, official and unofficial reporting relationships, and succession management.

**Organization citizenship behaviour** lexically means the behaviour of members of staff directed towards organization or OCBO, and the behaviour of organization directed towards individual or OCBI (Cote & Miners, 2006). In this study, organization citizenship behaviour is used to imply level to which staff defends the Department and the level to which the employer values its staff. This Organization citizenship behaviour (or citizenship performance) is measured using rating format on performance judgments successfully used at University of South Florida (Coole, 2003).

### **1.6: Justification of the Study**

*Epistemological justification.* A search through all official records in both the registry and archives at the Government Chemist Department and the Kenya National Archives showed that there was no published or unpublished data on the impact of emotional and cognitive intelligence on job performance. Other searches in the Department's present parent Ministry (Health) including past parent Ministries (Office of the President, and Home Affairs) including the Kenya School of Government and Kenya National Library Services did not find any published or unpublished data on this particular subject matter. In my opinion, this is a premier case study in Kenya. Reviewed articles on this relatively new topic done in developed countries (USA, Canada, United Kingdom) whose organizational culture is not same as in developing African countries particularly in Kenya where public organizations are said to be ethnically-socialized. Further, reviewed articles are on studies on manufacturing organizations which produce goods. This study is on public organization

which provides services (not goods) as its products hence the need to carry out this study. The findings of this study will fill these two knowledge gaps and help in enhancing job performance.

*Empirical justification.* “Huduma Bora Ni Haki Yako” is a socio-political slogan driven by Kenya’s political leadership and anchored on the constitution of Kenya 2010 consumer rights, and values and principles of public service that requires provision of prompt, quality and cost-effective goods and services from public offices. This public campaign slogan has put pressure on public servants to meet customer expectations. Further, the country has “Kenya Vision 2030” as a development blueprint which seeks to make the country an industrializing middle income economy by the year 2030. Aware that the civil service is the engine that drives the private sector all over the world, the executive arm of Government (under which Government Chemist Department falls) introduced annual staff performance appraisal system in 2006 (revised 2008), albeit deficient with regard to constitutional performance requirements, further making her employees to feel the heat.

The findings of this study will be useful to the following three categories of consumers: (1) Academy. The study sought empirical data for purposes of testing the universality or otherwise of the hypotheses which posit that people with low emotional intelligence and high cognitive intelligence perform poorly on most, if not all jobs” and that “the association between emotional intelligence and job performance becomes more positive as cognitive intelligence decreases”. The articles reviewed appear to suggest that knowledge of how emotional and cognitive intelligence relates to job performance in organizations was sourced from manufacturing sector (Belcher, 1987, 1991; Rafael & Sutton, 1987; Hill, 2008) and not from the services sector. This study focused on the services sector whereat organizational business and productivity brings to fore the contribution of people’s skills in service delivery. Thus, its findings augment academic knowledge.

(2) Government as public service employer. The Government is keen on realizing its Vision 2030 blueprint which is largely dependent on the performance of the public sector. The Government is, among other programmes, in the process of reforming the public service to make it entrepreneurial and deliver customer services more cost-effectively. The findings of this study will therefore be invaluable to its policy formulators in domains of fiscal administration and budgeting, and human resource management and development (staff recruitment and selection, training and deployment). In addition, the findings will provide informational needs for public-private sector partnerships of mutual benefit to both the Government (public sector) and the private sector thus injecting much needed funds to capacity-build public sector institutions thereby bolstering delivery of services.

(3) Policy formulators (other than Government). Institutions like Kenya Institute for Public Policy Research and Analysis interested in up-scaling the country's generic and technical skills in all productive sectors of the economy (manufacturing, services; formal, informal) do stand to benefit from this case study on the link between organization citizenship behaviour, emotional intelligence and underperformance in organizations.

## **1.7: Scope and Limitations of the study**

### **1.7.1: Scope**

This study was done at the Government Chemist's Department Headquarters located in Nairobi, Kenya. Although the Department has two regional branches in Mombasa and Kisumu, the study was carried out in Nairobi because it is the Headquarters and has the highest number of staff and most developed laboratory infrastructure where operations are expected to be at their best. Furthermore, Nairobi being the Headquarters houses the Department's central registry where all records necessary for this study are easily accessible.

### **1.7.2: Limitations**

*(i).Epistemological:* The study acknowledged the possibility of intrusion of personal values likely to compromise its objectivity. In order to mitigate this negative impact, the study used secondary data from records and primary data from questionnaires and participant observation schedules.

*(ii).Extroversion:* The study acknowledged that emotion is a personality factor which manifests itself as a trait and as ability measured through self-report interview. Trait personality tests have been found as shown in reviewed literature to be significantly influenced by an individual's innate or in-born character. In order to mitigate this negative impact of extroversion, the study only asked interviewees questions on 'ability personality' because the same has been found by past research studies as not being significantly influenced by extroversion, and therefore reliable. This lacks clarity and undermines the scientific rigor of the study.

## CHAPTER TWO

### LITERATURE REVIEW

#### **2.1: Introduction**

The study reviewed works of various scholars on the subject of emotional intelligence, cognitive intelligence and how these impact on job performance in organizations. The reviewed articles are categorized as (1) emotional intelligence and job performance,(2) cognitive intelligence and (3) job performance. These three categories are further broken down for convenience of readership into various sub-headings under each category.

#### **2.2: Emotional Intelligence and Job Performance**

##### **2.2.1: Emotional intelligence as a personality factor**

Studies done at Harvard, Yale and New Hampshire in USA by Goleman (1995) sought to understand the working of the human mind, its functions and primary motivators including an analysis of the relationship between thoughts, emotions and desires. He described emotion as a personality factor or psychological attribute of human behaviour that many strong and effective leaders exhibit. Further, he conceptualized emotion as an intelligence whose attributes are:(1) self-awareness or ability to understand one's own moods, emotions, drives, and their effect on others); (2) self-regulation or the ability to control or redirect disruptive impulses or moods, that is to think before acting; (3) motivation or a passion for work that goes beyond money or status and a propensity to pursue goals with energy and persistence; and (4) empathy or ability to understand the feelings and viewpoints of subordinates and to take those into account when making decisions, and social skills or friendliness with a purpose.

However, Goleman's findings do not differentiate emotional intelligence into discrete personality factors i.e. a trait or inborn emotional intelligence and ability or acquired emotional intelligence. This study takes the view that failure by the study to dissect emotional intelligence(a compound personality factor) and to analyse it singularly both creates an epistemological gap. Further, the Department has many of her staff trained in technical and generic skills yet the problem of underperformance still persists. This necessitated a further study on this subject.

##### **2.2.2: Emotional intelligence and organization's productivity**

Hill (2008) in a study done in Washington, USA sought to understand why organizations run by emotionally intelligent leaders are successful. The study found leaders' self-awareness and

self-regulation help to elicit the trust and confidence of subordinates. The study further found the following: (1) strong motivation exhibited as passion for work can be infectious and helps to persuade other workers to join together in pursuit of a common cause, goal or organizational mission; (2) strong empathy and social skills can help leaders earn the loyalty of subordinates; (3) empathetic and socially adept individuals tend to be skilled at remedying disputes between managers and are able to find common ground and purpose among diverse constituencies and move people in desired direction compared to leaders who lack these skills. The study summarized virtues of emotional intelligence prescribed for leaders but failed to describe the leader's personality (trait or ability) by which a prescription works.

Salovey & Grewal (2005) in a study done at Yale University sought to understand why and how emotionally intelligent people succeed in various tasks. The study found that people with abilities to monitor one's own and others' feelings, discriminate among them, and use this information to guide one's thinking and action by perceiving, using, understanding, and managing emotion in the self and in others perform well in various tasks. Emotionally intelligent people were found to possess ability to monitor their own individual feelings and emotions, other's emotions and feelings, discriminate among them, and use this information to guide one's thinking and actions. Emotions were found to be effectively managed by: (i) accurately communicating feelings to get emotions and understanding from others, (ii) showing emotional support and understanding to others' feelings, (iii) taking more responsibility for your feelings, (iv) showing respect for other people's feelings, (v) feeling energized not angry, (vi) validating other people's feelings or showing empathy, understanding and acceptance of others' feelings, (vii) not by advising, commanding, criticizing, judging or lecturing to others.

Mayer & Bracket (2003) say that the first tests of emotional intelligence consisted of self-report scales which asked people to rate themselves on a number of characteristics (e.g. displaying patience, having good relationships, tolerating stress well) that the authors of such tests believed represented emotional intelligence. The study further reported that scores on self-report tests of emotional intelligence such as these were highly correlated with standard personality constructs such as extroversion and neuroticism thus raising difficult questions as to whether people are sufficiently aware of their own emotional abilities to report upon them accurately, and whether people answer questions truthfully instead of reporting in a socially desirable manner. The study considered the possibility of self-report tests being prone to personality constructs because they do

not discriminate between trait personality intelligence and ability personality intelligence hence the need to apply self-report scales based on 'ability personality' emotional intelligence only.

Motowidlo et al (1994, 1008, 2002) found that job performance not attained through cognitive intelligence may be attained through emotional intelligence via multiple complementary mechanisms. A mechanism for identifying and understanding emotions of individuals in most jobs was established by the study. Organization members interact with supervisors, co-workers, support staff and outsiders such as customers who publicly display their emotions. Such emotions were found to be displayed through facial, vocal and bodily signals that provide important information about their goals, attitudes, and intention. This emotion-laden information in turn is converted into high task performance by individuals with high emotional intelligence but low cognitive intelligence. The studies also found that an employee who accurately detects colleagues' emotions may facilitate coordination and interpersonal functioning which may in turn enhance task performance. The above findings (Hill, 2008; Salovey & Grewal, 2005; Motowidlo & others, 1997) help in understanding the role played by emotional intelligence in bringing about organizational performance and the mechanism through which emotional intelligence brings about organizational performance.

This study reviewed an article by Linda on critical thinking and emotional intelligence (Linda, 1996). She says that emotional intelligence entails bringing cognitive intelligence to bear upon emotions in determining emotional or feeling responses to those situations wherein a person successfully or unsuccessfully applies sound judgment and reasoning. The study in its reviewed articles found that emotions or feelings are either in-born (trait) or acquired or both; and, that behaviour is a complex manifestation of emotion and cognition. In my opinion, emotional intelligence entails balancing both emotions and cognition inherent in a person to bear upon one another in order to perform a task at hand depending on prevailing circumstance. The focus of study should therefore be on emotional and cognitive intelligence inherent in a person.

Cote & Miners (2006) in a study carried out at the University of Toronto Canada sought to understand the mechanism through which emotionally intelligent individuals with low cognitive intelligence achieve high levels of task performance and organization citizenship behaviour in jobs. The study found that emotionally intelligent people achieve high levels of task performance by managing their emotions in ways that enhance their motivation and the quality of their decisions. The study found that managers who understand that anger tends to lead people to

understand the degree of risk in situations may suppress anger before making an important financial decision, and in turn exhibit good task performance. Organization members who understand that motivation is often enhanced by positive emotions and successfully boosts positive emotions may exert more effort to engage in organization citizenship behaviour. Further, Cote & Miners (1999, 2001, 2004, and 2006) found that there was either no relationship or an inconsistent relationship between emotional intelligence and job performance on some tasks. This contradicts his other findings summarized above on the same subject.

The above findings by Cote & Miners provided reasons for staffing organizations with emotionally intelligent people and a framework for assessing job performance, but in same vein casting doubts on wholesome prescription of emotional intelligence as overriding criterion for organizational staffing in a bid to post high performance levels. Past studies also do not explain how emotional and cognitive intelligence inherent in staff of an organization interact to bring about organization citizen behaviour which impacts on organizational performance.

Belcher, J. G. Jr., (1987) and Rafael & Sutton (1987) in separate studies done in Houston Texas found, that some organizations are more productive than others, and that high organizational performance or productivity (associated with production, timelines, equipment, waste, safety and quality) were found to be run by a leadership that exhibited high degree of emotional intelligence. The two studies also found that best run companies gain competitive edge (productivity plus) by focusing on job performance improvement measures. The two studies however are silent on “job performance improvement measures” which best run companies focus on. This study therefore find herein a knowledge gap which needs to be filled. In my opinion, today’s focus of job selection teams is about staffing organizations with appropriate skills and competencies in order to improve on organizational performance (or productivity).

Petrides, K.V & Furnham, A., (2000, 2001) in studies done in London, United Kingdom, sought to understand how trait emotional intelligence impacts on job performance. The study described ‘trait emotional intelligence’ as a constellation of behavioural dispositions and self-perceptions defined as the ability to recognize, process and utilize emotions as information that pertain to the realm of personality. The study measured ‘trait emotional intelligence’ using self-report questionnaires and differentiated it from ‘ability emotional intelligence’ defined as the actual ability to recognize, process and utilize emotional information, measured by performance tests. In another related study done in the United Kingdom, Petrides, Fredrickson & Furnham

(2004) investigated how emotional and cognitive intelligence impact on job performance. The study found that the association between emotional intelligence and job performance becomes more positive as cognitive intelligence decreases. The study also differentiated 'trait emotional intelligence' from 'ability emotional intelligence'. These findings inform study interrogations on how to capture and measure staff 'ability emotional intelligence' through performance tests.

The above scholarly findings recognize the full spectrum of emotional intelligence and the central role it plays in an organization's productivity. Accordingly, Belcher, J.G. Jr. (1987) recommended to Fast Company (automobile firm in USA) that business schools should develop their curricular to include generic (or people's) skills training. The study takes the view that failure by above studies to fully interrogate the primacy of emotional intelligence as a trait personality factor left knowledge gap that has seen human resource managers fail to properly select a leadership and proletariat with trait emotional intelligence that are readily trainable in the acquisition of ability emotional intelligence for enhanced task performance. In order to satisfactorily explain the problem of underperformance in the Department, this study sought to understand how, other factors held constant, emotional intelligence impacts on job performance.

### **2.3:Cognitive intelligence and Job Performance**

In this category are reviewed study articles by various scholars on cognitive intelligence and organization citizenship behaviour and the relationship between cognitive intelligence and organizational productivity.

#### **2.3.1:Cognitive intelligence and organization citizenship behaviour**

Cote & Miners (2006) in a study carried out at the University of Toronto Canada sought to understand the mechanism through which intellectual or cognitive intelligence enhances task performance in an organization. The study found that cognitive intelligence enhances task performance through knowledge of facts, procedures, and rules relevant to the technical core of the job. Further, the study found that intellectual or cognitive intelligence is positively related to dimensions of task performance and organization citizenship behaviour (OCB) in most jobs. The study recommended that employment selection decisions should be based on information systematically obtained about job candidates, and such candidate information has documented usefulness for predicting which candidates are most likely to meet the objectives of the selection process to improve organizational effectiveness and efficiency.



The study helps in understanding how organizations perform or underperform depending on their inherent human capital capacity. OCB is in itself influenced by an organization's culture which varies from one organization to another and from one society to another depending on existing norms. The study takes the view that it would be erroneous to assume that a behavioural characteristic of a personality factor in one social or cultural setting will hold in another socio-cultural setting. There is therefore a need to carry out such a study locally in order to understand the local problem of underperformance.

### **2.3.2: Cognitive intelligence and organization's productivity**

Motowidlo & Van Scotter (1994), Schmidt & Hunter (1998), and Chain & Smitt (2002) in studies done at Nkust Business school in USA investigated the relationship between cognitive intelligence, organization citizenship behaviour and task performance. The study found that cognitive intelligence is positively related to dimension of task and task performance and organization citizenship behaviour in most jobs. However, these studies do not say how cognitive intelligence working in tandem with emotional intelligence impact on job performance and organization citizenship behaviour in manner that would explain why an organization that is fairly endowed with technical skills cannot perform well.

Organization citizenship behaviour (citizenship performance) according to Coole (2003) implies personal support, organization support and conscientious initiative. He says personal support entails helping others by offering suggestions, teaching them useful knowledge or skills, directly performing some of their tasks, and providing emotional support for their personal problems; cooperating with others by accepting suggestions, informing them of events they should know about, and putting team objectives ahead of personal interests; and showing consideration, courtesy, and tact on relations with others as well as motivating and showing confidence in them. On organization support, he says that it is representing the organization favourably by defending and promoting it, as well as expressing satisfaction and showing loyalty by staying with the organization despite temporary hardships; supporting organization's mission and objectives, complying with organizational rules and procedures, and suggesting improvements. Lastly, he says that conscientious initiative entails persisting with extra effort despite difficult conditions; taking the initiative to do all that is necessary to accomplish objectives even if not normally apart of own duties, and finding additional productive work to perform when own duties are completed; and developing own knowledge and skills by taking advantage of opportunities within the organization

and outside the organization using own time and resources. This study found the above narrative both informative and relevant to service organization performance and adapted it

KIPPRA (2012) in a study done in Kenya sought to know and understand the problems affecting firm productivity in manufacturing and services sectors. The study identified skills development as major obstacle to manufacturing and services firm's productivity. The report describes skills availability to include competencies attained through formal education and training on the job and experience, and categorizes skills as technical and generic. The report says technical skills attained through long term education and/or training are specific and involved knowledge depth whereas generic skills concern people's skills, character, personal qualities and interpersonal relations obtained through experience and, or, short term training such as communication skills, problem solving, critical thinking, leadership, and information skills. The study reported a general finding on the role played by technical and generic skills in organization's productivity which does not help in understanding why the Government Chemist Department whose senior staff members have been trained in technical and generic skills is still underperforming. It is for this reason that this study sought to find out the interplay between various staff emotional and cognitive intelligence levels and how they impacted on job performance in the Department.

#### **2.4:Theoretical Framework**

The theory of choice for this study is Contemporary Institutional Theory. Scott, W. R. (1995) define institutions to comprise (substantive area of operation (field), a system of legitimate rules, a group of persons with legitimate interest in the interpretation and application of the rules, and a group of actors pursuing their goals within the substantive area." He further defines institutions to "consist of cognitive, normative and regulative structures and activities that provide stability and meaning to social behaviour, and transported by various carriers – culture, structures, and routines – and operate at multiple levels of jurisdictions." On institutions' Rule systems, he says "rules are based on values (cultural, social, and economic); knowledge (institutional facts); needs for coordination (solving social dilemmas). He adds saying "persons have knowledge and values usually in the form of a world view shaping their perceptions of facts and interpretation of rules." Lastly on Rule enforcement, he adds monitoring and enforcement as secondary party enforcement (victim), third party enforcement (State), and, conflict resolution mechanisms."

The three pillars of contemporary institutional theory shown in Fig. 2.4 below are similar to regulative, normative and cognitive-cultural pillars of the public institutional theory (Hallet&Ventresca,2006), and both form a continuum.

**Fig. 2.4: The three Pillars of Institutions: Regulative, Normative and Cognitive**

ELEMENTS OF ORGANIZATION CULTURE	REGULATIVE	NORMATIVE	COGNITIVE
Basis of compliance	Expedience	Social obligation	Taken for granted
Mechanism	Coercive	Normative	Mimetic
Logic	Instrumentality	Appropriateness	Orthodoxy
Indicators	Rules, Laws, Sanctions	Certification Accreditation	Prevalence Isomorphism
Basis of legitimacy	Legally sanctioned	Morally governed	Culture, Knowledge

(Scott, 1995), adapted

The Government Chemist Department, in the words of Hallet & Ventresca (2006), has multifaceted durable structures with symbolic elements, social activities and material resources and whose operational existence is founded on rules, norms and cultural-cognitive systems. It is governed by a system of legitimate rules – constitution of Kenya 2010 (public service values and principles, consumer rights, labour laws, code of regulations. The Department has staff performing institutional tasks and who have legitimate interest in the interpretation and application of the rules. Lastly, the Government and citizens (customers) are other actors who keenly pursue their goals within the Department.

In view of the above, there are expectations: staff (employees) expectations, Government (employer) expectations, and citizen (customer) expectations. Staff expects to be professionally trained for requisite skills and competencies emotionally and cognitively, facilitated to perform assigned tasks, commensurately compensated for work done and motivated for enhanced job performance. The Government (through supervision, monitoring and enforcement) expects staff compliance in service delivery as per service rules. Lastly, citizens ‘as the taxpayers and service consumers, expect services that are efficient, effective (desired), acceptable (quality) and prompt.

The basis of compliance and legitimacy, mechanism, logic, and indicators is made evident in the research aid (e.g. staff performance appraisal system) and structured research tools (self-report questionnaires and participant observation schedules). There was a need for this study to enquire about the people’s skills and technical skills inherent among Department’s staff and their

modus operandi (e.g. teamwork or individual, logic of appropriateness or instrumentality) in order to understanding the problem of underperformance at the Department. Also, there is a need for this study to examine the role of the Government in the performance of the Department.

Whereas contemporary institutional theory appeared adequate as standalone framework for interrogating the study variables, this study found that this theory lacks a framework to enable it interrogate the nuances of culture at the Department including job performance as a variable. Guided by a general assumption that staff with low emotional intelligence levels perform poorly in most if not all jobs, it was therefore necessary for this study to conceptualize a supplementary framework in order to fully interrogate all the variables.

## **2.5: Models of emotional and cognitive intelligence**

This study examined two models of emotional and cognitive intelligence, namely, a four branch theory model and a compensatory theory model. These two models were successfully used (Cote & Miners, 2006; Salovey & Grewal, 2003; and Petrides & Furnham, 2001, 2003) in past studies to investigate impact of emotional and cognitive intelligence on performance.

(1).The four branch theory model focuses on emotional intelligence. The model conceptualized by Goleman in 1995,emotional intelligence is a set of 5 abilities pertaining to emotions: (a) Self-awareness – knowing one’s emotions, strengths, weaknesses, drives, values, and goals and recognize their impact on others while using gut feelings to guide decisions; (b) Self- regulation – managing or redirecting one’s disruptive emotions and impulses and adapting changing circumstances; (c) Social skill – managing other’s emotions to move people in the desired direction; (d) Empathy – recognizing, understanding, and considering other people’s feelings especially when making decisions; (e) Motivation – motivating oneself and being driven to achieve for the sake of achievement. This model is only useful in assessing only emotional intelligence which is one of the three variables which the study needs to fully interrogate hence the need for the study to use additional model(s).

(2). The compensatory model was successfully used by Petrides & Furnham (2003) to investigate the impact of emotional intelligence on job performance with cognitive intelligence as a moderator (association between emotional intelligence and job performance became more positive as cognitive intelligence decreased). In the model, cognitive intelligence represents specialization of general intelligence in the domain of cognition in ways that reflect experience and learning about cognitive processes such as memory ability. This model is thus useful in assessing cognitive factors

(educational qualifications, staff training, on job experience etcetera) which inform memory ability hence inherent cognitive intelligence. This study therefore found this model useful and adapted it.

This study found both (first and second) models useful in interrogating the independent variables (emotional intelligence and cognitive intelligence) only but not the dependent variable (job performance). This study therefore firstly adapted (adopted with customization) the Four branch theory model because of its simplicity, and Compensatory model because of its moderating role. In order to cross-link the independent variables and also link the two independent variables to the dependent variable (job performance) a conceptual framework became necessary.

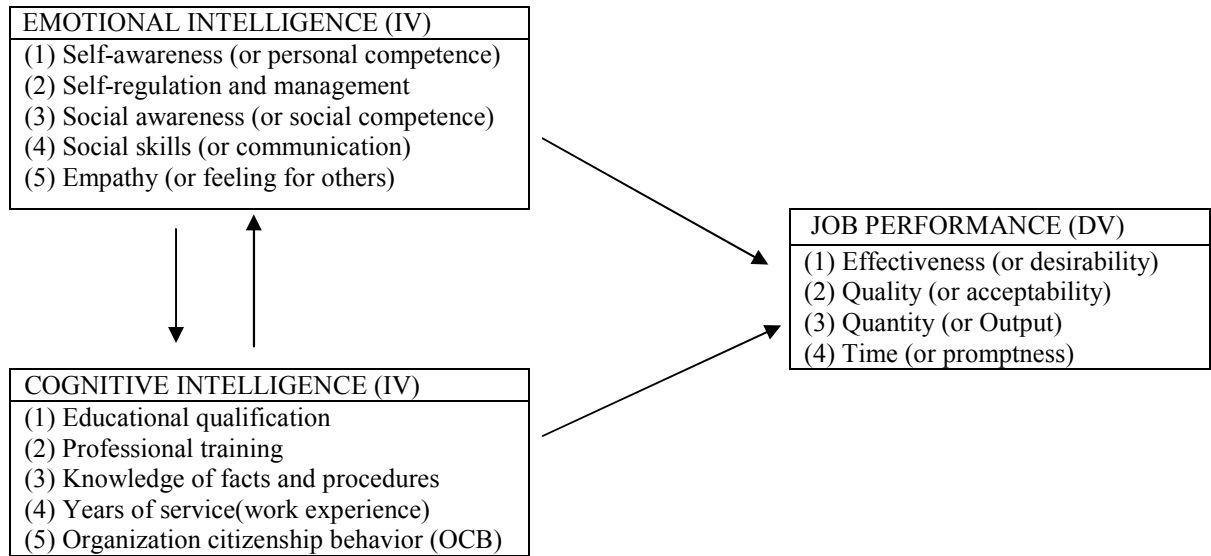
## **2.6: Conceptual Framework**

This concept was born out of a need to supplement the contemporary institutional theory which is the main framework of this study. Measurement of job performance using self-report and participant observation measurements in the study's view will be greatly improved if the socio-cultural aspects at the Department are conceptualized in a framework and interrogated alongside other aspects of the study captured in the theoretical framework.

Emotional intelligence was treated as five-item personality factor: (1) self-awareness (or personal competence); (2) self-regulation and management; (3) social awareness or social competence; (4) social skills (or communication); (5) empathy (or feeling for others). Cognitive Intelligence was treated as five-item cognition factor: (1) educational qualification ;(2) professional training; (3) years of service on the job (work experience); (4) knowledge of organization's facts and work procedures; (5) organization citizenship behaviour (OCB). Job Performance was treated as a four-item factor: (1) effectiveness (or desirability); (2) quality (or acceptability); (3) quantity (or output); and (4) time (or promptness). Taking into account the theoretical components of independent and dependent variables, this study generated a framework that illustrated the relationship between independent and dependent variables as presented in the diagram below (Fig. 2.6.1). Both emotional intelligence and cognitive intelligence are independent variables of the study and impacting on job performance as the dependent variable.

This relationship is illustratively shown in Fig. 2.5.1 overleaf.

**Fig.2.5.1: Relationship between study variables (a researcher's illustration)**



## 2.6: Research Hypotheses

The study sought to test the hypotheses “the association between emotional intelligence and job performance becomes positive as cognitive intelligence decreases” and “the association between organizational citizenship behaviour and job performance becomes more positive as cognitive intelligence decreases.” In order to test the hypotheses, the study sought to find out if:

1. Staff with low EI and high CI perform poorly on the job at anytime and anywhere;
2. Staff with high EI and high CI perform highly on the job at anytime and anywhere.

## CHAPTER THREE

### METHODOLOGY

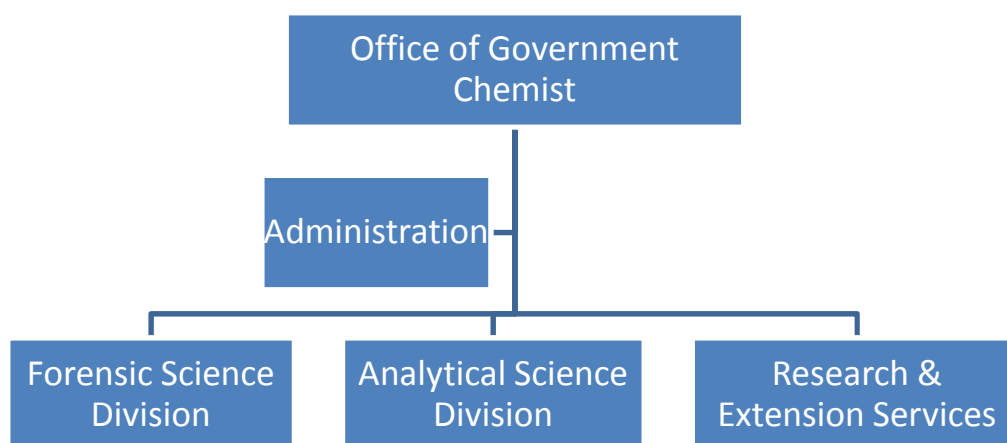
#### 3.1: Introduction

This section presents the following elements in data collection processes: research site, population, sampling techniques, research design or approaches to data collection, data collection and analysis.

#### 3.2: Research Site

The study was done at Government Chemist's Department, Nairobi City County, Kenya. The Department, founded in January 1912, is a Government laboratory based agency providing forensic and analytical science services to other Government departments and agencies, NGOs, private sector and the general public. The Department (organogram shown in Fig. 3.2 below) has its headquarters in Nairobi with Regional branches in Mombasa and Kisumu. Nairobi Station was chosen as the research site because: (1) All categories of staff which the study targets to interrogate are found here; (2) Operating procedures in the Department were expected to be optimal and exemplary since it serves as the referral centre; and, (3) Department's official records are kept at the Headquarters (main registry) and are accessible for the study.

**Fig. 3.2: Organization structure (Organogram) of Government Chemist Department**



Forensic science division comprises five Sections (Toxicology, Serology, Criminalistics, DNA and Narcotics or Bhangi); Analytical science division comprises three Sections (Instruments, Foods, Water & Wastewater); Administration Section (Registry, Accounts, etc.); and Procurement Section. Administratively, Procurement Section and Administration Section are grouped together.

### **3.3:Population**

The demographic profile of the Department is rich in diversity. The Department has a staff population of 120 of whom 74 (or 75 %) are stationed in Nairobi and the remaining 46 (or 25 %) are stationed in Mombasa and Nairobi. The staff stationed in Nairobi comprises of various professions (analysts, technologists, chemists, biotechnologists, biochemists, food scientists, clerks, typists, administrators, drivers, cleaners, etc.); junior and senior serving officers (from Job Group “C” – Job Group “R”); various education qualifications (Primary school certificate holders, Secondary certificate holders, Ordinary Diploma and Advanced Diploma certificate holders, Undergraduate and Graduate degree holders); holders of other certificates from public and private institutions (Strategic Leadership Development Programme, Senior Management Course, Computer, Counselling, forensic science, etc.); both gender (male, female); various longevities in Civil Service (1 – 35 years job experience); and wide age bracket or life experience (20’s to 50’s). Whereas Sections are strata of the Department, the above sub-grouping are its sub-strata.

It is evident from the above that practically every informational data which the study needs to comprehensively interrogate impact of emotional and cognitive intelligence on job performance is found in the Nairobi Station thus making it the Department’s site of choice for the study. There is a general perception that the female gender is more emotional than the male gender: the study needed to know if this perceived emotional feeling and emotional intelligence are one and same and whether the female gender performs better than her male counterpart of same qualifications. It is also generally assumed that highly educated or trained people are intelligent and perform tasks better than those who are less educated or trained. Lastly, it is also generally held as true that staff who serve on the job for a long time perform better than the ‘greenhorns’ because of the experience amassed over time on the job. This study needed a population with a wide spectrum in order to fully interrogate the impact of emotional and cognitive intelligence on job performance.

In summary, the salient features of the population frame at Nairobi headquarters are as follows:- (i) Education qualifications: University undergraduate and postgraduate degree holders (70%); Ordinary and Advanced Science Diploma holders (20%); and secondary school certificate holders and below (10%); (ii) Staff training: Senior Management Course (70%), Strategic Leadership Development Programme (15%); and, short term professional trainings (over 90%); (iii) Diverse professions; (iv) Gender parity in composition; (v) Wide job experience; (vi) Wide age bracket or life experience; and, (vii) Wide spectrum of Civil Service cadres (J/G “C” – “R”).



Consequently, the study converted the population frame to become target population. Supervisors participated in the study as participant observers because as community members of Government Chemist Department holding senior positions (Job Group “P – Job Group “Q”) and having worked at the Department for more than ten years, they are well informed about the organization structure, culture, employees, staff and Department’s performances upon which they observed and reported.

### **3.4: Research Design**

This is exploratory-cum-descriptive case study requiring holistic and in-depth investigation of the three study variables using multiple sources of data. The study used a mixed qualitative and quantitative research design to collect primary and secondary data using interviews, observation and documents. The study adopted ethnographic approach to data collection for purposes of emic and etic view of the nuanced behaviour of the Department’s culture. The qualitative approach used observational and documentary methods in the natural settings at Nairobi Station of Government Chemist Department in an effort to understand the problem of underperformance. The quantitative approach used primary sources (interviews and observations) and secondary sources (documents) to collect descriptive data. Designed data collection protocols were self-report questionnaires and participant observation schedules. Self-report questionnaires were structured in a manner that allowed respondents to directly inform the study on the three variables (emotional intelligence, cognitive intelligence, and job performance). Participant observation schedules were structured in a manner that allowed Supervisors to observe and record down information relevant to the study.

### **3.5: Sampling techniques**

The study used a combination of purposive and random sampling techniques to select study participants. In order to achieve desired representative sample for the study participants in the target population was drawn from all Sections or strata in the Department because the study needed to capture informational data in all operational areas at the Department (purposive sampling). This exercise realized study participants drawn from ten (10) strata/categories herein called Sections. In furtherance of representative sampling, participants in the study were also drawn from sub-strata or sub-groupings earlier described (education qualification, professional training, gender, age, etc.) This purposive sampling of the population frame or target population ensured that there was inclusivity across the board as each grouping and sub-grouping was represented in the study.

The study also used random sampling technique in drawing participants into the study. Self-report questionnaires were administered to staff who were at their workstations (Laboratories, registry, stores, etc.) during the two material days of the interview. All legible staff who were not at their duty stations were deemed to have been selected out of the study by nature. In retrospect, this randomization technique of randomly sampling ensured that the study was not biased. Supervisors in-charge of various Sections made own observations on respondents working under them and also from official records available in their respective Sections and at the Department's registry and entered them in participant observation schedules. The same Supervisors are part of the Department's management team and do appraise staff of the Department working under them. Supervisors in Government institutions, according to Civil Service code of regulations, are part of management team and regarded as agents of employer (Government). Informational data provided by Supervisors in their official capacities whether it is on staff job performance skills or on the Department's performance rating is deemed to be reliable.

### **3.6:Data Collection**

Data collection exercise was carried out on two days from Wednesday 20<sup>th</sup> November, 2014 to Thursday 21<sup>st</sup> November, 2014. The choice of the dates was purposive: the season, month, and days of the week coincided with period when majority of staff are present at their workstations (study had this prior information which it had gathered from the Department). The appropriateness of the interview dates is manifested in the high participant response rate (86 %) as shown in Table 4.2b herein-after. Self-report questionnaires were administered by the researcher to employees who were study respondents on Wednesday 20<sup>th</sup> November, 2014 whereas participant observation schedules were administered by the researcher to Supervisors serving in senior positions in the grade of Assistant Government Chemist Job Group "P" and above on Thursday 21<sup>st</sup> November, 2014. Self-report questionnaires sought information provided by respondents on each of the study variable, both independent and dependent. Participant observation schedules were used to appraise staff on performance of tasks, citizenship performance (behaviour of staff towards the Department and behaviour of employer/agents of employer towards individual employees), nuances of culture, material requirements, staff strength, backlog, time keeping/time taken by staff to serve customers, effectiveness and quality of customer services, Department performance rating, et cetera.

The term “study participants” is used to imply supervisors and employees at Government Chemist Department who took part in the study; and, “study respondents” is used to imply employees at Government Chemist Department who took part in the study.

### **3.6.1: Data collection from target population and participant response rate**

A sample size of 43 members of staff out of population frame of 74 members of staff who serve on permanent and pensionable terms at Government Chemist Department, Nairobi Station (Headquarters) participated in the study. This sample size represents 58 % of the population frame also referred to as the target population. Study participants were drawn from all Sections of the Department. The study targeted 50 members of staff at the headquarters out of a total of 74, of whom 43 successfully took part in the exercise. This represented a response rate of 86 %. Out of the 43 study participants, 35 were respondent employees serving in middle and lower cadres (Job Group ‘D’ to ‘P’) while the remaining 7 were Supervisors serving in senior positions as Heads of Sections and Deputy Heads of Section (Job Group ‘Q’ and P’ respectively). A high response rate was achieved because the researcher administered data collection protocols (questionnaires, and participant observation schedules) to participants passionately explaining to each one of them the importance of the exercise. The researcher also went around collecting the said protocols at the close of each interview day. The target population was chosen proportionately according to the number of staff in the Department’s various strata and sub-strata for the purpose of achieving a sample size that is representative of a larger population of which it is a part.

### **3.6.2: Data collection based on gender differentiation**

The study recognized that there are two genders at Government Chemist Department and being gender sensitive purposely drew its respondents from the two groups. In total, there were 35 (14 male and 21 female) respondents drawn from all 10 Sections of the Department. Further, the study picked individual respondents from the dichotomized gender randomly to ensure that there was no bias (refer to 3.6 above). This strategy realized male and female proportional representation of 40 and 60 percentage points respectively. There is a general perception the female gender is more emotional than male gender: this study sought to find empirical evidence or lack of it showing “being emotional is same/not same as being emotionally intelligent”. The study found it necessary to interview male and female employees in near equal numbers not out of chauvinism but to know if gender is a factor in staff generic skills and job performance when other factors held constant.

### **3.6.3: Data collection based on educational qualifications**

The study picked a total of 35 respondents through stratified random sampling according to the highest educational qualification (Doctorate, Masters, Bachelors, Diploma, and Secondary). It is generally assumed by commoners that Education is synonymous with intellectualism: higher educational standards imply higher intellectual or cognitive intelligence (of persons). Simply put, employees with highest academic qualifications are expected to perform better on the job than employees with lesser academic qualifications. The study therefore ensured all levels of academic qualifications as personified in the Department are fairly represented in the exercise.

### **3.6.4: Data collection based on job performance**

The study through stratification and randomization picked 35 respondents from among staff (employees) who have worked in the Department between 1 (youngest) and 35 years (oldest). It is generally held by human resource managers and commoners alike that the longer individuals stay on job in organizations the more experienced they become hence enhanced staff performance leading to increased organizational performance (or productivity). For this is partly the reason why staff retirement in Kenya public service was raised from the age of 55 years to 60 years, and the acceptance of the general public for recycled and retired octogenarians who are still in active public service. The study found it necessary to target staff with diverse on-job (or work) experience in order to understand recycling of octogenarians in public service.

### **3.6.5: Data collection on staff performance assessment by Supervisors**

The study used Supervisors who hold senior management positions superintending over the various Sections at the Department to fill participant observation schedules. Each schedule was categorized thus: (1) Background information (organization culture i.e. mode of communication, diversity, time keeping, gender socialization, hierarchical relationship), citizen service charter, Department strategic plan, annual operational plan and section work plan. (2) General perceptions in the Department (supervisors attitude toward work, employees attitude toward work, staff deployment and motivation by Head of Department, employees reaction to staff deployment; supervisors' feelings towards employees and employees feelings towards supervisors, Head of Department; role differentiation (management role, role of street level bureaucrats, and customers/citizens role in service delivery. (3) Staff strength and role performance (administrators: senior management and line managers; technical staff: analysts and technologists; support staff:

clerical, secretarial, cleaners, etc. (4) Mode of working/culture (support staff, laboratory/technical staff, administration/ management staff. (5) Availability of tools of work (Lab manuals, chemicals, reference materials, personal protective equipment, standard operating procedures, precision instruments, internet and ICT services.(6) Generic and technical skills and competencies: leadership, management, forensic, analytical, computer, office management; experiential learning, customer care and corporate responsibility. (7) Total quality management (proficiency testing, benchmarking best practices, and intra-laboratory testing). (8) Job performance (service effectiveness or desirability, service quality or acceptability, service quantity or output, and service timelines. Other areas interrogated included Supervisor-employee relations, Department strategic plan and positioning, pending/backlog of cases in Sections, quality of services provided, promptness by staff in meeting work timelines, acceptability of Department's services, customer satisfaction through customer feedback and Department's performance rating using Annual staff performance appraisal reports for Financial Year 2012/2013 and Financial Year 2013/2014.

Each Supervisor made and entered independent observations in the participant observation schedule provided at the beginning of the exercise. All information in eight categories on each schedule was provided from observations made and documents accessed by individual supervisor. Information on staff general intelligence; performance effectiveness, quality and promptness; and the Department's overall performance rating were also appropriately sourced and recorded.

### **3.6.6: Data collection on staff emotional intelligence versus job performance**

The respondents or employees levels of emotional intelligence were each measured as individual scores and later aggregated as group score before comparatively matching with their job performance scores. Results were tallied and cross-tabulated.

### **3.6.7: Data collection on staff cognitive intelligence versus job performance**

This study treated cognitive intelligence as a composite variable (OCBO+OCBI). OCBO was measured independently as a standalone variable and compared with the respondents' levels of educational qualifications, overall cognitive intelligence, and job performance scores. These two related factors (OCBO and OCBI) were separated and independently measured as standalones and compared with respondents' various levels of educational qualifications and job performance scores.

### 3.6.8: Data collection on Department's (organizational) performance rating by supervisors

The study acknowledges Performance Appraisal System as the contractual performance management tool used by the Government as an employer in assessing the performance of staff who work in the Kenyan Civil Service. This tool measures the levels of achievement of agreed performance targets between the employer and the employee at beginning of the appraisal period. The Appraisal period coincides with the Government's fiscal year i.e. from 1<sup>st</sup> July of preceding year to 30<sup>th</sup> June of current year. Staff performance appraisal reports are filled by employees and appraised by supervisors on behalf of the Government. Copies of staff performance appraisal reports are kept in the Department as official records.

This study examined employees' ability to perform Departmental tasks by administering to them performance tests (Self-report questionnaires) and archiving their past job performances from the Department's Section laboratory offices and main registry office (participant observation schedules). The performance appraisal system (GP 247 A, Revised 2008) uses the following rating to indicate the level of performance by an Appraisee, a criterion upon which staff and Department's performances is based (i.e. underperformance).

All performance targets consistently exceeded	excellent	101 %
All performance targets fully met	Good	100 %
Some performance targets fully met	Fair	80 – 99 %
Performance targets partially met	Poor	70 – 79 %
Performance targets not met	Very Poor	Below 70 %

Source: Republic of Kenya (GP A, Revised 2008)

### 3.6.9: Measurement of emotional intelligence: protocols

The study respondents were tested on the following emotion-related performance issues: team planning and motivation, managing emotions (uncontrolled temper tantrums, sulking and withdrawal), anger, bossy, self-regulation, empathy, communication, mood prediction, social awareness (handling individual and/or group tasks), volunteering for additional responsibilities, offering to help others accomplish work, using emotional appeal. Self-report questionnaires with item-scales adapted from Mayer-Salovey- Caruso Emotional Intelligence Test method were used as a primary protocol.

### **3.6.10: Measurement of cognitive intelligence: protocols**

The study respondents were tested on their mental ability or efficacy, in area of cognition, to perform official tasks at the Department by way of: educational qualification, technical skills and competencies, knowledge of work culture, institutional facts and procedures, present on-job experience, knowledge of best lab practices, following standard operating procedures and avoiding unauthorized shortcuts. Self-report questionnaires and personal observation schedules with item-scale ratings (adapted from Mayer-Salovey-Caruso Emotional Intelligence Test method and Coole's Citizenship and Task Performance Ratings) were used as protocols.

### **3.6.11: Measurement of organization citizenship behaviour: protocols**

The study respondents and the Department as an organization were tested on the following aspects of organization citizenship behaviour directed towards organization and organization citizenship behaviour directed towards individual i.e. defending the Department (or organization) and showing concern for employees or work(organization productivity):dressing in proper attire, cooperate with others as a team, exercising personal discipline, paying attention to detail and avoiding making mistakes, meeting guidelines under any circumstance and acting as the best employee under your supervision. Self-report questionnaires and personal observation schedules with item-scale ratings (adapted from Mayer-Salovey-Caruso Emotional Intelligence Test method) and citizenship performance scale-items (adapted from Motowidlo& Van Scotter,1994).

### **3.6.12:Measurement of Job Performance**

The study respondents were tested on job performance factors (effectiveness in displaying job performance knowledge and skills, communication and taking charge when required, degree to which they set high standards and strive to achieve them, quickness in performing work, following standard operating procedures, work output, and promptness in meeting deadlines, etc.). In addition to gathering information from study respondents, supervisors assessed performance of the Department, and its leadership's ability to make informed and good decisions including staff ability to produce a high quality standard of work and produce large amount of work. Supervisors rated the Department's performance based on staff performance appraisal reports for financial year 2012/2013 and 2013/2014.Organizational citizenship behaviour was assessed using citizenship and task performance ratings item-scales (adapted from Coole, 2003) using self-report questionnaires and personal observation schedules as data collection protocols.

### **3.7: Data analysis technique**

Data collected during the study was systematically analysed. All primary and secondary data collected on staff emotional intelligence levels, staff cognitive intelligence levels and job performance levels was tallied and cross-tabulated. Qualitative data was subjected to content analysis, single and explicitly comparative case study analysis, and category analysis. Quantitative data was subjected to descriptive statistical analysis (Arithmetic Mean, Variance, Standard deviation, Standard error of the Mean and Confidence level). Both qualitative and quantitative data was thematically analysed using a statistical package for social sciences (SPSS).

The analysed data was presented as study findings using statistical tables, pie-charts and graphs.

The study had two sub-themes (impact of emotional intelligence on job performance, and impact of cognitive intelligence on job performance). The sub-themes were independently studied to test each hypothesis and answer the research question in order to achieve the main objective of study which was to examine impact of emotional and cognitive intelligence on job performance.



CHAPTER FOUR  
FINDINGS AND DISCUSSION

**4.1: Introduction**

This chapter presents findings of the study synthesized from respondents' and supervisors' raw data in tables, pie-chart and graphs; and discusses these findings in the context of the role of emotional and cognitive intelligence in society.

**4.2: Summary findings & discussion on population distribution and participant response rate**

**Table 4.2a: Target population distribution by Sections**

No.	Departmental Section	Number of staff at Nairobi Station
1	Administration	12
2	Foods & Drugs	10
3	Toxicology	10
4	Water & Wastewater	8
5	Serology	9
6	Criminalistics	8
7	Instruments	6
8	DNA	5
9	Narcotics	3
10	Procurement	3
<b>TOTAL</b>		<b>74</b>

Source: Departmental records (Registry)

**Table 4.2b: Participant distribution and response rate**

No.	Section	Number in targeted population	Rate of Response	
			Number	Percentage
1	Administration	5	5	100
2	Foods & Drugs	7	7	100
3	Toxicology	6	4	66.7
4	Water & Wastewater	6	6	100
5	Serology	6	3	50
6	DNA	4	4	100
7	Criminalistics	6	5	83.3
8	Procurement	3	3	100
9	Instruments	4	3	75
10	Narcotics	3	3	100
<b>TOTAL</b>		<b>50</b>	<b>43</b>	<b>86</b>

Source: Study questionnaires and participant observation schedules

Participants drawn from target population are employees and supervisors. The high proportion of study participants and high participant response rate imply this study was a representative study.

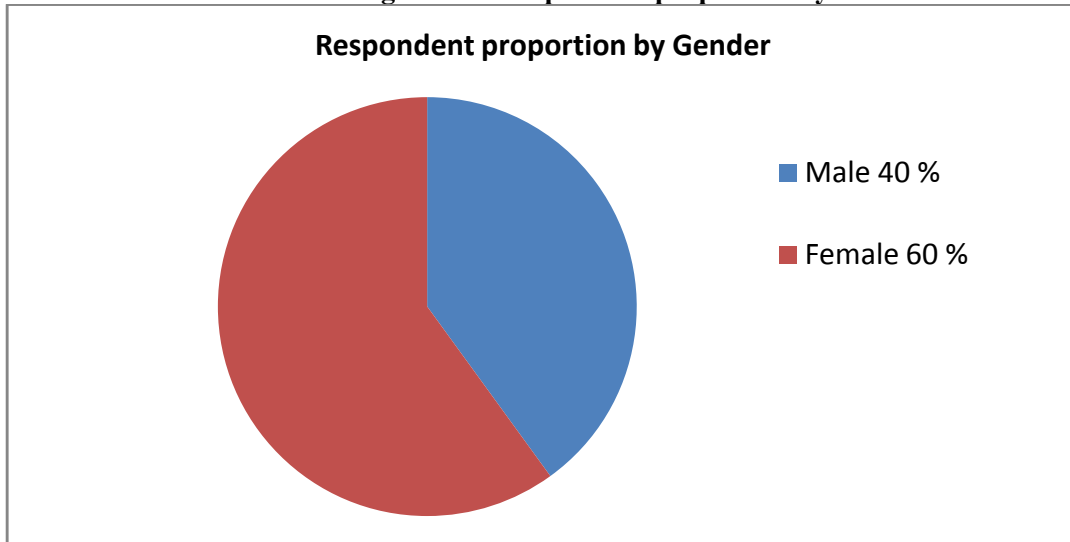
### 4.3: Summary findings & discussion on Gender participation and proportion

**Table 4.3: Respondent participation and distribution by Gender**

No.	Department's Sections	Total number of Interviewees	Number of Respondents		Distribution Percentages	
			Male	Female	Male	Female
1	Administration	5	3	2	60	40
2	Foods & Drugs	5	2	3	40	60
3	Toxicology	4	3	1	75	25
4	Water & Wastewater	4	1	3	25	75
5	Serology	3	1	2	33.3	66.7
6	DNA	3	1	2	33.3	66.7
7	Criminalistics	4	1	3	25	75
8	Procurement	3	1	2	33.3	66.7
9	Instruments	2	1	1	50	50
10	Narcotics	2	0	2	0	100
<b>TOTAL</b>		<b>35</b>	<b>14</b>	<b>21</b>	<b>40</b>	<b>60</b>

Source: Study questionnaires and participant observation schedules

**Figure 4.3: Respondent proportion by Gender**



Source: Study questionnaires and participant observation schedules

Data summarized in Table 4.3 and Figure 3.3 upon cross-checking with data summarized in Table 4.6 on respondents distribution and test scores (raw data) show that staff emotional intelligence and cognitive intelligence are not a preserve of either gender at the Department. All staff working at the Department should be accorded training opportunities in both generic and technical skills.

#### 4.4: Summary findings & discussion on respondents' highest education qualifications

**Table 4.4: Respondents' highest education qualification at the Department**

No.	Section	Doctorate	Masters	Bachelor	Diploma	Secondary	TOTAL
1	Administration	0	0	0	1	4	5
2	Foods & Drugs	0	1	2	2	0	5
3	Toxicology	0	0	2	2	0	4
4	Water & Wastewater	0	0	2	2	0	4
5	Serology	0	0	1	2	0	3
6	DNA	1	0	1	1	0	3
7	Criminalistics	0	0	3	1	0	4
8	Procurement	0	0	3	0	0	3
9	Instruments	0	0	1	1	0	2
10	Narcotics	0	0	1	1	0	2
	<b>TOTAL</b>	<b>1</b>	<b>1</b>	<b>16</b>	<b>13</b>	<b>4</b>	<b>35</b>

Source: Departmental official records and study questionnaires

Data summarized in Table 4.4 above upon cross-checking with data summarized in Table 4.8a, Table 4.9a, Table 4.9b, Table 4.10.1a, Table 4.10.1b on Respondents emotional intelligence scores and attendant data, Respondents education qualifications versus emotional intelligence scores, Respondents cognitive intelligence scores and attendant data, Respondents education qualification and cognitive intelligence aggregate scores, Respondents job performance and attendant data, and Respondents job performance aggregate and percentage scores respectively show that education qualification is positively associated with emotional intelligence, cognitive intelligence and job performance levels at Government Chemist Department. The most noticeable positive association was between education qualification and cognitive intelligence. The Government as the employer through the Department's leadership should encourage serving staff to develop academically.

#### 4.5: Summary findings & discussion on Respondents' job experience

**Table 4.5: Respondent's distribution and job experience(source: study questionnaires)**

No	Department's Section	1 – 3 yrs.	4 – 6 yrs.	7 – 9 yrs.	10 – 12 yrs.	13 – 15 yrs.	over 16yrs.	No. respondents
1	Administration	0	0	1	0	1	3	5
2	Foods & Drugs	2	0	0	0	1	2	5
3	Toxicology	3	0	0	0	0	1	4
4	Water & Wastewater	1	0	1	0	1	1	4
5	Serology	2	0	0	0	0	1	3
6	DNA	0	0	0	0	1	2	3
7	Criminalistics	0	0	0	0	2	1	3
8	Procurement	2	0	0	1	0	0	3
9	Instruments	2	0	0	0	0	1	3
10	Narcotics	1	0	0	0	0	1	2
	<b>TOTAL</b>	<b>13</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>7</b>	<b>12</b>	<b>35</b>

#### 4.6: Summary findings on Respondents' distribution, test scores and preferred Section

**Table 4.6: Respondent's distribution and test scores (raw data);**source - study questionnaires

No.	Current Section	Job Group	CI Scores Out of 28	EI Scores Out of 48	JP Scores Out of 36	Preferred Section
1	Administration	J	19	35	26	(undisclosed)
2	Administration	H	20	29	23	(undisclosed)
3	Administration	G	18	32	25	Administration
4	Administration	H	15	33	24	None
5	Administration	H	20	28	26	(undisclosed)
6	Foods & Drugs	L	22	27	33	(undisclosed)
7	Foods & Drugs	M	23	30	25	(undisclosed)
8	Foods & Drugs	N	25	35	30	(undisclosed)
9	Foods & Drugs	H	22	37	25	Foods & Drugs
10	Foods & Drugs	H	27	32	22	Serology
11	Toxicology	H	23	34	28	Narcotics (Bhangi)
12	Toxicology	K	24	35	30	Criminalistics
13	Toxicology	K	21	43	31	Criminalistics
14	Toxicology	L	25	34	28	Criminalistics
15	Water & Wastewater	H	22	36	27	Serology
16	Water & Wastewater	N	23	36	31	Criminalistics
17	Water & Wastewater	N	24	29	28	Water & Wastewater
18	Water & Wastewater	M	23	42	27	Foods & Drugs
19	Serology	H	26	28	30	Serology
20	Serology	H	21	27	27	Foods & Drugs
21	Serology	N	20	26	25	(undisclosed)
22	DNA	P	20	34	26	DNA
23	DNA	N	20	27	26	DNA
24	DNA	M	18	34	35	DNA
25	Criminalisics	N	21	26	36	(undisclosed)
26	Criminalisics	M	22	35	24	DNA
27	Criminalisics	L	20	39	35	Criminalistics
28	Criminalisics	N	22	37	26	Criminalistics
29	Procurement	Temporary	24	36	23	Procurement
30	Procurement	Temporary	19	25	26	Procurement
31	Procurement	K	19	27	20	Procurement
32	Instruments	K	21	31	25	(undisclosed)
33	Instruments	H	20	28	26	(undisclosed)
34	Narcotics (Bhangi)	M	23	28	29	Narcotics (Bhangi)
35	Narcotics (Bhangi)	K	23	33	23	Any

Data in Table 4.5 upon cross-checking with data in Table 4.5 and Table 4.12c on Respondents distribution and test scores (raw data) and Relationship between organization citizenship behaviour & job performance respectively posit a culture of inconsiderate deployment of staff where of 66 % of respondents interviewed prefer to work in other stations. This finding suggests that deployment officer at the Department does not consider feelings of majority staff in making official decisions.

#### 4.7: Summary findings & discussion on Supervisors general assessment of the Department

**Table 4.7: Supervisor’s general assessment of the Department**

N o	Categories Assessed	I	II	III	IV	V	VI	VI I	VII I	Assessment	
										Aggregate score	%
1	Background information/ (36)	27	34	28	31	30	30	23	30	203/288	<b>70.5</b>
2	General perceptions in Department/ (44)	31	29	25	35	40	31	30	33	254/352	<b>72.2</b>
3	Staff strength and role performance/ (8)	6	6	6	7	4	4	6	-	39/56	<b>69.6</b>
4	Mode of working/(12)	11	12	11	11	9	10	12	8	84/96	<b>87.5</b>
5	Availability of laboratory tools of work/ (28)	22	28	24	28	20	20	24	20	186/224	<b>83</b>
6	Staff skills/competencies development/ (28)	18	20	24	21	16	20	21	17	157/224	<b>70</b>
7	Total quality management/ (12)	9	9	9	8	9	10	11	8	73/96	<b>76</b>
8	General intelligence/ (36)	24	30	26	22	25	29	29	21	206/288	<b>71.5</b>
9	Department’s overall performance rating/ (10)	5	8	7	6	8	7	8	-	49/70	<b>70</b>

Source: Study participant observation schedules

*Footnote: I, III, IV, V, VII are Supervisors (J/G “Q”). II, VI, VIII are Supervisors (J/G “P”)*

Data summarized in Table 4.7 shows that the Department is not optimally staff and this helps to explain the backlog or pending cases which is one of the consumers complaints. Logistical support systems (i.e. laboratory infrastructure and mode of working) at the Department are not a hindrance to organization performance (productivity). Upon cross-checking with data summarized in Table 4.8a, Table 4.9, Table 4.10.1, Table 4.10.2, Table 4.11 and Table 4.12 on Respondents emotional intelligence scores & attendant data, Respondents job performance scores, job performance scores by supervisors, A summary of emotional intelligence and job performance Mean scores, and Relationship between organization citizenship behaviour & job performance respectively suggest that the problem of underperformance at Government Chemist Department is in part contributed by staff emotional intelligence, cognitive intelligence, and organization citizenship behaviour.

#### 4.8: Summary findings on respondents' emotional intelligence scores and attendant data

**Table 4.8a: Respondents' emotional intelligence scores & attendant data at Government Chemist Department**

No.	Current Station	J/G	Gender	Education	Experience	EI Scores	EI Score (%)
1	Administration	J	Female	Diploma	15 years	35/48	72.9
2	Administration	H	Female	KCSE	8 years	29/48	60.4
3	Administration	G	Female	KCSE	Over 16 years	32/48	66.7
4	Administration	H	Male	KCSE	Over 16 years	33/48	68.8
5	Administration	H	Male	KCSE	Over 16 years	28/48	58.3
6	Foods & Drugs	L	Female	Masters	Over 16 years	27/48	56.3
7	Foods & Drugs	M	Male	Bachelors	15 years	30/48	62.5
8	Foods & Drugs	N	Female	Bachelors	15 years	35/48	72.9
9	Foods & Drugs	H	Female	Diploma (HND)	2 ½ years	37/48	77.1
10	Foods & Drugs	H	Female	Diploma	2 ½ years	32/48	66.7
11	Toxicology	H	Male	Diploma	2 ½ years	34/48	70.8
12	Toxicology	K	Male	Bachelors	2 ½ years	35/48	72.9
13	Toxicology	K	Female	Bachelors	2 ½ years	43/48	89.6
14	Toxicology	L	Male	Diploma	Over 16 years	34/48	70.8
15	Water & Wastewater	H	Female	Diploma	14 years	36/48	76
16	Water & Wastewater	N	Female	Bachelors	15 years	36/48	76
17	Water & Wastewater	N	Male	Bachelors	Over 16 years	29/48	60.4
18	Water & Wastewater	M	Female	Diploma (HND)	Over 16 years	42/48	87.5
19	Serology	H	Male	Diploma	2 ½ years	28/48	58.3
20	Serology	H	Female	Diploma	2 ½ years	27/48	56.3
21	Serology	N	Female	Bachelors	Over 16 years	26/48	54.1
22	DNA	P	Male	Doctorate	15 years	34/48	70.8
23	DNA	N	Female	Bachelors	Over 16 years	27/48	56.3
24	DNA	M	Female	Diploma	Over 16 years	34/48	70.8
25	Criminalistics	N	Female	Bachelors	15 years	26/48	54.1
26	Criminalistics	M	Male	Bachelors	15 years	35/48	72.9
27	Criminalistics	L	Female	Diploma	Over 16 years	39/48	81.3
28	Criminalistics	N	Female	Bachelors	15 years	37/48	77.1
29	Procurement	Temporary	Female	Bachelors	2 years	36/48	76
30	Procurement	Temporary	Female	Bachelors	< 1 year	25/48	52.1
31	Procurement	K	Male	Bachelors	10 years	27/48	56.3
32	Instruments	K	Female	Bachelors	2 ½ years	31/48	64.6
33	Instruments	H	Male	Diploma	2 ½ years	28/48	58.3
34	Narcotics (Bhangi)	M	Female	Diploma	Over 16 years	28/48	58.3
35	Narcotics (Bhangi)	K	Female	Bachelors	2 ½ year	33/48	68.8
<b>TOTAL</b>							<b>68.9</b>

**Table 4.8b: Respondents' educational qualification versus emotional intelligence scores at the Department**

No	Staff level of educational qualification	Mean EI aggregate scores /48	Mean EI scores (%)
1	Doctorate	34	70.8
2	Masters	27	56.3
3	Bachelors	32	66.7
4	Diploma	33.4	69.6
5	Secondary	30.5	63.6
MEAN EMOTIONAL INTELLIGENCE SCORE			68.9

Source: Study questionnaires

Staff emotional intelligence levels fairly match with staff educational levels (Table 4.8a and 4.8b).

#### 4.9: Summary findings on respondents' cognitive intelligence scores and attendant data

**Table 4.9a: Respondents cognitive intelligence scores and attendant data at the Department** Source: questionnaires

No.	Current Station	J/G	Education	Training	Experience	CI Score/28	CI Scores, %
1	Administration	J	Diploma	Admin.-others	15 years	19	67.9
2	Administration	H	KCSE	Certificate	8 years	20	71.4
3	Administration	G	KCSE	HRM, G&C	Over 16 years	18	64.3
4	Administration	H	KCSE	Certificate	Over 16 years	15	53.6
5	Administration	H	KCSE	Certificate	Over 16 years	20	71.4
6	Foods & Drugs	L	Masters	SMC, t-others	Over 16 years	22	78.6
7	Foods & Drugs	M	Bachelors	SMC, t-others	15 years	23	82.1
8	Foods & Drugs	N	Bachelors	SMC, t-others	15 years	25	89.3
9	Foods & Drugs	H	Diploma (HND)	Technical-others	2 ½ years	22	78.6
10	Foods & Drugs	H	Diploma	Technical-others	2 ½ years	27	96.4
11	Toxicology	H	Diploma	Technical-others	2 ½ years	23	82.1
12	Toxicology	K	Bachelors	Technical-others	2 ½ years	24	85.7
13	Toxicology	K	Bachelors	Technical-others	2 ½ years	21	75
14	Toxicology	L	Diploma	Technical-others	Over 16 years	25	89.3
15	Water & Wastewater	H	Diploma	SMC, t-others	14 years	22	78.6
16	Water & Wastewater	N	Bachelors	SMC, t-others	15 years	23	82.1
17	Water & Wastewater	N	Bachelors	SMC, t-others	Over 16 years	24	85.7
18	Water & Wastewater	M	Diploma (HND)	SMC, t-others	Over 16 years	23	82.1
19	Serology	H	Diploma	Technical-others	2 ½ years	26	92.9
20	Serology	H	Diploma	Technical-others	2 ½ years	21	75
21	Serology	N	Bachelors	SMC, t-others	Over 16 years	20	71.4
22	DNA	P	Doctorate	SMC, t-others	15 years	20	71.4
23	DNA	N	Bachelors	SMC, t-others	Over 16 years	20	71.4
24	DNA	M	Diploma	SMC, t-others	Over 16 years	18	64.3
25	Criminalistics	N	Bachelors	SMC, t-others	15 years	21	75
26	Criminalistics	M	Bachelors	SMC, t-others	15 years	22	78.6
27	Criminalistics	L	Diploma	Technical-others	Over 16 years	20	71.4
28	Criminalistics	N	Bachelors	SMC, t-others	15 years	22	78.6
29	Procurement	Temporary	Bachelors	None	2 years	24	85.7
30	Procurement	Temporary	Bachelors	None	< 1 year	19	67.9
31	Procurement	K	Bachelors	Admin.-others	10 years	19	67.9
32	Instruments	K	Bachelors	Technical-others	2 ½ years	21	75
33	Instruments	H	Diploma	Technical-others	2 ½ years	20	71.4
34	Narcotics (Bhangi)	M	Diploma	SMC, t-others	Over 16 years	23	82.1
35	Narcotics (Bhangi)	K	Bachelors	Technical-others	2 ½ year	23	82.1
TOTAL							74.61

Table 4.9b shows there is positive relationship between cognitive intelligence and education levels.

**Table 4.9b: Respondents' education qualification and cognitive intelligence aggregate scores**

No	Staff level of educational qualification	Aggregate Mean Scores/28	Mean Scores, %
1	Doctorate	20	71.43
2	Masters	22	78.57
3	Bachelors	21.88	78.14
4	Diploma	22.33	79.75
5	Secondary	18.25	65.18
<b>MEAN SCORE</b>			<b>74.61</b>

Source: Study questionnaires

#### 4.10: Summary findings on job performance scores

**Table 4.10.1a: Respondents' job performance scores and attendant data (Source: study questionnaires)**

No.	Current Station	Education qualification	Training	Experience	JP Score/36	JP Score (%)
1	Administration	Diploma	Admin.-others	15 years	26	72
2	Administration	KCSE	Certificate	8 years	23	63.9
3	Administration	KCSE	HRM, G&C	Over 16 years	25	69.4
4	Administration	KCSE	Certificate	Over 16 years	24	66.7
5	Administration	KCSE	Certificate	Over 16 years	26	72
6	Foods & Drugs	Masters	SMC, t-others	Over 16 years	33	(91.7)
7	Foods & Drugs	Bachelors	SMC, t-others	15 years	25	69.4
8	Foods & Drugs	Bachelors	SMC, t-others	15 years	30	83.3
9	Foods & Drugs	Diploma (HND)	Technical-others	2 ½ years	25	69.4
10	Foods & Drugs	Diploma	Technical-others	2 ½ years	22	61.1
11	Toxicology	Diploma	Technical-others	2 ½ years	28	77.8
12	Toxicology	Bachelors	Technical-others	2 ½ years	30	83.3
13	Toxicology	Bachelors	Technical-others	2 ½ years	31	31.4
14	Toxicology	Diploma	Technical-others	Over 16 years	28	77.8
15	Water & Wastewater	Diploma	SMC, t-others	14 years	27	75
16	Water & Wastewater	Bachelors	SMC, t-others	15 years	31	31.4
17	Water & Wastewater	Bachelors	SMC, t-others	Over 16 years	28	77.8
18	Water & Wastewater	Diploma (HND)	SMC, t-others	Over 16 years	27	75
19	Serology	Diploma	Technical-others	2 ½ years	30	83.3
20	Serology	Diploma	Technical-others	2 ½ years	27	75
21	Serology	Bachelors	SMC, t-others	Over 16 years	25	69.4
22	DNA	Doctorate	SMC, t-others	15 years	26	(72)
23	DNA	Bachelors	SMC, t-others	Over 16 years	26	72
24	DNA	Diploma	SMC, t-others	Over 16 years	35	97.2
25	Criminalistics	Bachelors	SMC, t-others	15 years	36	100
26	Criminalistics	Bachelors	SMC, t-others	15 years	24	66.7
27	Criminalistics	Diploma	Technical-others	Over 16 years	35	97.2
28	Criminalistics	Bachelors	SMC, t-others	15 years	26	72
29	Procurement	Bachelors	None	2 years	23	63.9
30	Procurement	Bachelors	None	< 1 year	26	72
31	Procurement	Bachelors	Admin.-others	10 years	20	55.6
32	Instruments	Bachelors	Technical-others	2 ½ years	25	69.4
33	Instruments	Diploma	Technical-others	2 ½ years	26	72
34	Narcotics (Bhangi)	Diploma	SMC, t-others	Over 16 years	29	80.6
35	Narcotics (Bhangi)	Bachelors	Technical-others	2 ½ year	23	63.9
<b>TOTOAL</b>						<b>71.7</b>

Staff with higher education levels generally performed better than their counterparts with lower education levels (cf. Table 4.10b). Similar findings also hold for training and years of experience.



**Table 4.10.1: Respondents' job performance aggregate and percentage scores**

No.	Respondents' highest educational qualification	Respondents' job performance scores	
		Aggregate Scores/36	Percentage Scores, %
1	Doctorate	26	(*72)
2	Masters	33	(*91.7)
3	Bachelors	26.89	67.6
4	Diploma	28.17	78
5	Secondary	24.5	68
<b>TOTAL</b>			<b>71.7 %</b>

Source: Study questionnaires

**Table 4.10.2: Summary of job performance scores (by supervisors)**

Job performance variables	Staff job performance scores (by supervisors)							
	S-I	S-II	S-III	S-IV	S-V	S-VI	S-VII	MEAN
Effectiveness	50	75	-	50	50	75	75	62.5
Quality	62.5	75	75	62.5	62.5	75	75	69.64
Quantity	50	75	50	50	75	25	50	53.57
Time/promptness	75	75	75	50	75	75	75	71.43
<b>MEAN</b>	<b>50</b>	<b>80</b>	<b>70</b>	<b>60</b>	<b>80</b>	<b>70</b>	<b>80</b>	<b>70</b>

Source: Study participant observation schedules

**Table 4.10.3: Job Performance (employees + supervisors) Mean scores(%)**

Respondents' JP Mean scores (%)	Supervisors' (Department's)JP Mean scores(%)
<b>71.7</b>	<b>70</b>

Source: Study questionnaires and participant observation schedules

#### 4.11: Summary findings on staff emotional intelligence and job performance

**Table 4.11: A summary of staff emotional intelligence and job performance Mean scores**

Respondents' EI Mean scores	Respondents' JP Mean scores	Supervisors' JP Mean scores
<b>68.9 %</b>	<b>71.7 %</b>	<b>70</b>

Source: Study questionnaires and participant observation schedules

#### 4.12: Summary findings on respondents' CI, OCB, JP and measures of central tendency

The study computed measures of central tendency based on organization citizenship behaviour directed towards organization scores using the formulae listed below. The results are summarized Table 4.12c and Table 4.12d overleaf.

(i). Standard Deviation =  $\sqrt{\text{Variance}}$ ;

(ii). Standard Error =  $\frac{\text{Standard Deviation}}{\sqrt{N}}$ ; and,

(iii). Confidence Interval = (Arithmetic) Mean  $\pm$  (Standard Deviation)(Standard Error).

**Table 4.12a: Relationship between respondents’ cognitive intelligence and job performance levels**

Respondents’ cognitive intelligence Mean scores	Respondents’ job performance Mean scores
74.6 %	71.7 %

Source: Study questionnaires and participant observation schedules

The above result shows that staff job performance levels at the Department positively relate to staff cognitive intelligence levels. This finding suggests that promotion of staff technical skills at the Department is likely to translate into enhanced job performance. The members of staff at the Department keen to develop their personal career should be encouraged to do because in boosting the Department’s technical skills inventory, it will have a positive multiplier effect that is in the good of the civil service image and customer satisfaction.

**Table 4.12b: Relationship between respondents’ education qualifications, CI, OCBO and JP**

No	Respondent’ level of educational qualification	CI Score (%)	OCBO score (%)	JP score (%)
1	Doctorate	71.43	75	72.2
2	Masters	78.57	75	91.7
3	Bachelors	78.14	68.8	74.9
4	Diploma	79.75	79.3	78.3
5	Secondary	65.18	62.5	68.1

Source: Study questionnaires

**Table 4.12c: Relationship between organization citizenship behaviour & job performance**

Respondents’ highest academic qualifications	OCBO score	OCBI score	Job performance score
Doctorate	75 %	-	72.2 %
Masters	(75 %)	50 %	(91.7 %)
Bachelors	68.8 %	59.4 %	74.9 %
Diploma	79.3 %	56.2 %	78.3 %
Secondary	62.5 %	56.3 %	68.1 %
<b>ARITHMETIC MEAN</b>	<b>71.4</b>	<b>44.4</b>	<b>73.4</b>

Source: Study questionnaires

**Table 4.12d: Measures of central tendency and confidence level based on OCBO**

Standard Deviation	Variance	Standard Error	Confidence Interval	Confidence Level
6.083	37	3.021	53 – 77.5	95 %

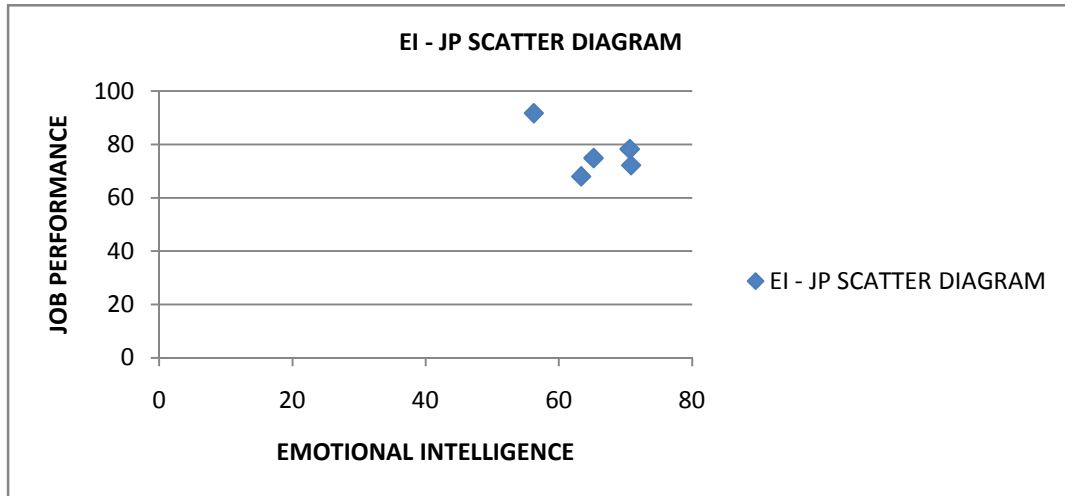
Source: Study questionnaires

#### 4.13: Testing research hypotheses

The two study hypotheses were graphically tested to find out if there is any relationship between staff levels of emotional intelligence and job performance and staff levels of cognitive intelligence and job performance. Further, organization citizenship behaviour directed towards organization (OCBO) was given a special treatment because its study findings showed notable divergence from the other subsets of cognitive intelligence.

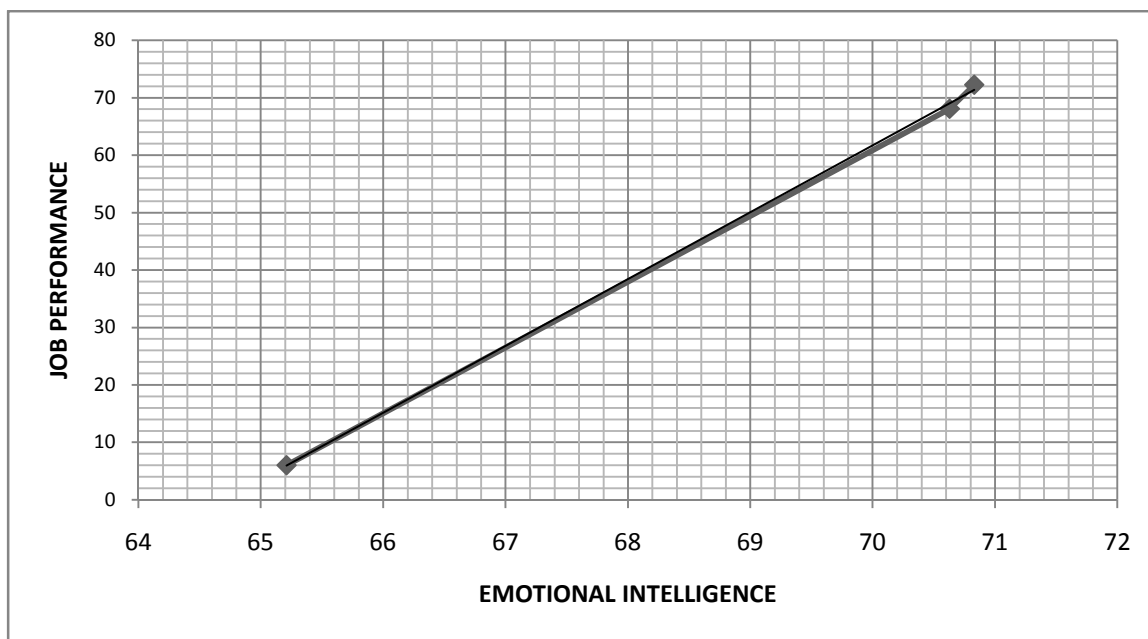
Data interpretation was aided by scatter diagrams, standard deviation, standard error and confidence interval in testing reliability and confidence level of respondents' test scores. A graph of the relationship between emotional intelligence and job performance, cognitive intelligence and job performance, and organization citizenship behaviour directed towards organization are shown in Figure 4.13a<sub>1</sub>, 4.11a<sub>2</sub>, 13b<sub>1</sub>, 4.13b<sub>2</sub>, 4.13c<sub>1</sub> and 4.13c<sub>2</sub>.

**Figure 4.13a<sub>1</sub>: EI – JP scatter diagram**



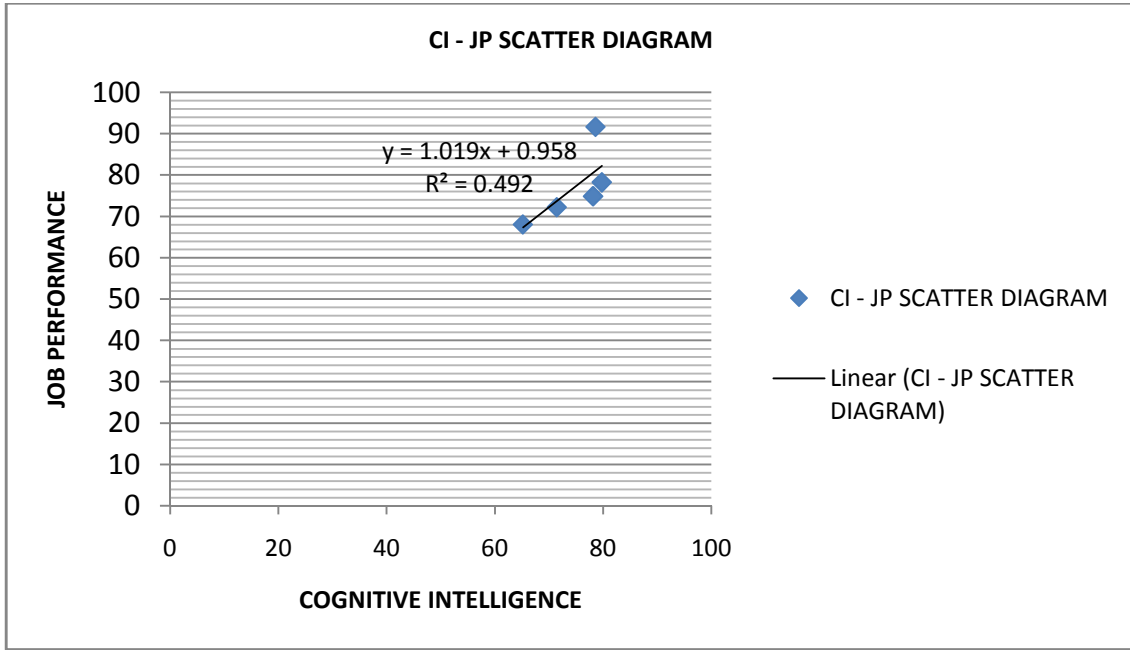
*NB. An EI score of 56.25 and a JP score of 91.67 shown on scatter diagram are outside the range of the other four scores and were therefore excluded from graphical representation shown in Figure 4.13a<sub>2</sub> below.*

**Figure 4.13a<sub>2</sub>: Relationship between emotional intelligence and job performance**



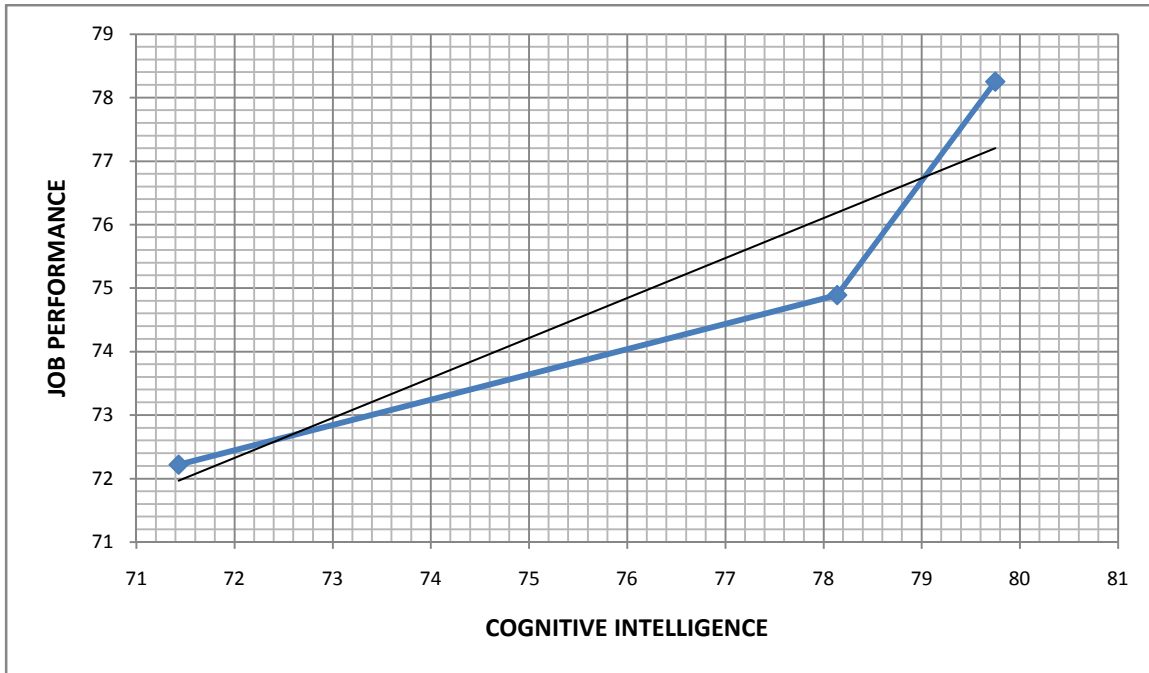
*NB. There exists a positive and linear relationship between emotional intelligence and job performance.*

**Figure 4.13b<sub>1</sub>: CI – JP scatter diagram**



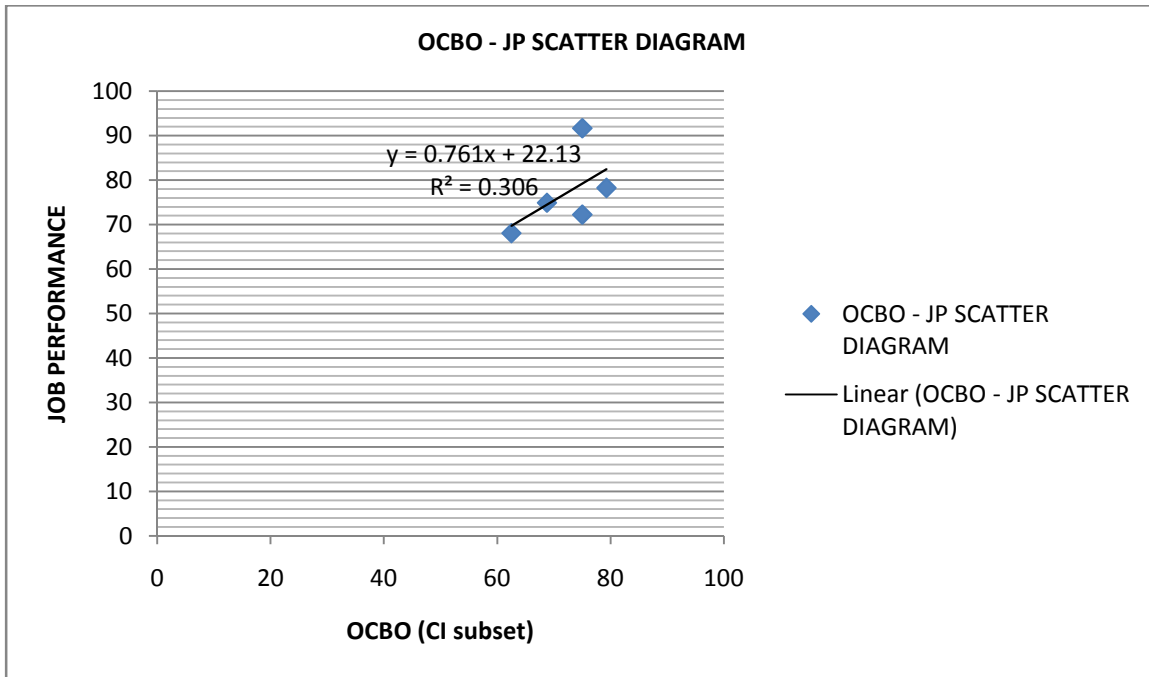
*NB. A CI score of 78.51 and a JP score of 91.67 are outside the range of the other four scores and were therefore excluded from graphical representation as shown in Figure 4.13b<sub>2</sub> below.*

**Figure 4.13b<sub>2</sub>: Relationship between cognitive intelligence and job performance**



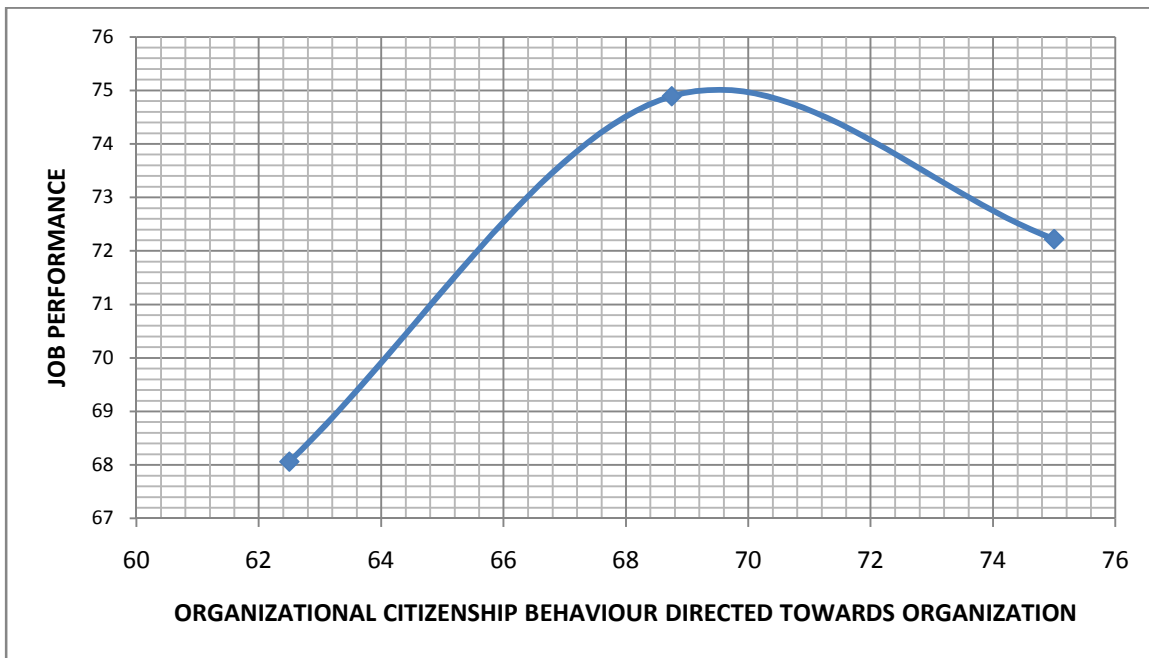
*NB. There is, generally, a positive relationship between cognitive intelligence and job performance.*

**Figure 4.13c<sub>1</sub>: OCBO – JP SCATTER DIAGRAM**



NB. An OCBO score of 56.25 and a JP score of 91.67 are outside the range of the other four score sand were therefore excluded from graphical representation as shown in Figure 4.13c<sub>2</sub> below.

**Figure 4.13c<sub>2</sub>: Relationship between OCBO and job performance**



There is a positive relationship between OCBO and job performance with a peak at 75 % job performance corresponding to 69 %OCBO; and a negative relationship between OCBO and job performance above 70 % OCBO

#### **4.14: The Role of Emotional and Cognitive Intelligence in Society**

The findings of this case study brings into the limelight the role emotional intelligence and cognitive intelligence play in society. Government Chemist Department is a service organization mandated to provide services to the public with the civility befitting a Civil Service organization.

Staff of Government Chemist Department form part of a larger society. The job description of staff entail day-to-day meetings with customers (pre and post samples/exhibits collection and/or receiving), analysis/examination of test samples/exhibits, interpretation of analytical/forensic data, report writing, issuance of reports to customer, give expert evidence before court of law, and advice Government agencies and general public on identification, composition, use and management of chemicals/poisons and other related matters. In order to perform the foregoing job description to customer satisfaction, staff of the Department need to be emotionally intelligent (possessing people's skills) and cognitively intelligent (possessing technical skills).

An emotionally and cognitively intelligent staff will enhance organizational performance by (Coole, 2003) meeting work deadlines under any circumstance, produce a high quality standard of work, act as the best employer under his/her supervision, make good decisions in the presence of obstacles, use resources in a cost-effective manner, consistently perform to meet work standards, pay attention to detail and avoid making mistakes, make informed decisions, display a mastery of work tasks, accurately analyse situations and determine the correct course of action, produce a large amount of work and perform at levels much higher than co-workers. Supporting such a performance is an organization citizenship behaviour that voluntarily do more than the job requires to help others/contribute to organization effectiveness, tackles difficult work assignment enthusiastically, exercises personal discipline and self-control, takes the initiative to solve work task, supports and encourages a co-worker with a problem, render proper business courtesy, defends the supervisor's decisions, pays close attention to important details, offers to help others accomplish their work, looks for challenging assignments, follows standard operating procedures and avoid unauthorized shortcuts, volunteer for additional responsibilities, displays proper office appearance and manner, persists in overcoming obstacles to complete a task, cooperates with others in the team, and complies with instructions even when supervisors are not present.

Study (Goleman, 1995; Motowidlo & Van Scotter, 1998; Petrides & Furnham, 2000, 2001; Chain & Smitt, 2002; Salovey & Grewal, 2005; Cote & Miners, 1999, 2001, 2004, 2006, 2010) posit that emotional and cognitive intelligence are strong predictors of job performance.

This study sought to interrogate past research findings concerning the existence or non-existence of a relationships between emotional intelligence, cognitive intelligence and job performance in a local (Kenyan) setting, not in the abstract but in real sense.

The study found that only 34 % of respondents prefer working at their present Sections while 66 % are prefer to be redeployed to other Sections. This finding appears to suggest that the decision to deploy majority of staff to their present Sections was unilateral and not explained to affected parties undermining the principle of good organization citizenship behaviour directed towards individuals which posted the lowest score rating at 44.4 % compared to organization citizenship behaviour directed towards organization which posted a high score rating of 71.4 %.

This study found respondents 'organization citizenship behaviour directed towards organization (OCBO)level of 71.4 % to match respondents' job performance and Department's performance score ratings of 71.7 % and 70 % respectively (cf. Table 4.12c and Table 4.10.3). This finding suggests that staff behaviour is proportionally related to the Department's performance.

The study ensured that employees who have worked in Department for short period (1-3 years) and therefore with less experience, and, employees who have worked for a longer period (over 16 years) therefore more experienced on the job are proportionately brought on board. The findings are discussed in-text (cf. Tables 4.8a, 4.8b, 4.9a, 4.9b, 4.10.1a, 4.10.1b).

Nuances of culture at the Department were scored as background information (70.5 %), general perceptions (72.2 %) and mode of working (87.5%); Availability of tools of work (83 %) and Staff skills/competencies (70 %), Total quality management (76 %), General intelligence (71.5 %). Department's performance was rated at (70 %). All sub-items (acceptability and desirability of Department's services, time consciousness, experiential learning', Internet/ICT services, role of street level bureaucrats posted low scores at 50 %.These findings show that there is a need to put more additional resources (physical, human and time) for enhanced job performance.

*Emotional intelligence and job performance:* This study found that there exist a positive and linear relationship between emotional intelligence and job performance.The respondents' mean 'emotional intelligence' score was 68.9 % against organization's 'general intelligence' score of 71.5 % and 'job performance' score of 70 % by supervisors. There was a high correlation between respondents' (employees) emotional intelligence and job performance scores meaning emotional intelligence directly and proportionately impacts on job performance.

The problem of underperformance at Government Chemist Department seemed to arise from the impact of moderate staff emotional intelligence levels on performance of various tasks. Performed tasks in the Department include provision of forensic science material evidence (e.g. application of science of poisons in homicide crime investigation, application of science of body fluids in murder and rape/defilement crime investigation, and application of science of chemicals in general criminalistics) in an adversarial criminal justice system, and provision of reference analytical science laboratory services for quality control purposes to both Government and the general public(private and corporate).

*Cognitive intelligence and job performance:* The study found that there exist a positive and linear relationship between cognitive intelligence and job performance. However, the study also found that there exist non-linear relationship between organization citizenship behavior directed to organization (OCBO) and job performance. Initially, OCBO is directly correlated with job performance but the positive relationship ceased when the Department's productivity (assessed as job performance) reached its apex at 75 % level whereat it leveled off and thereafter assumed an inverse relationship. Respondents' mean cognitive intelligence score was 74.61 % against supervisors' mean general intelligence, OCBO and OCBI scores of 71.5 %, 71.4 % and 44.4 % respectively corresponding to a 'job performance' score of 70 %. This means that cognitive intelligence per se has a positive impact on job performance. Retrospectively, the low OCBI mean score means that cognitive intelligence (not in-sync with EI) impacted inversely with regard to job performance thus eroding gains made by OCBO and emotional intelligence.

*The problem of underperformance:* The problem of underperformance at Government Chemist Department arose chiefly due to low organization citizenship behavior directed at individuals. Organization citizen behavior is a function of emotional intelligence and cognitive intelligence acting in vitro in an organization. All factors of organizational performance (efficiency, quality, output, effectiveness and timeliness or promptness) are dependent on workers' emotional and cognitive skills. High skills inventory begets high organizational performance or productivity. The management strategy of unilaterally deploying staff to Sections without explaining to them the rationale thereof, and, lack of intrinsic motivation promotes routine performance of tasks because of disaffection among aggrieved staff whose work output is at variance with the quality. There is need to train management staff at the Department on organization citizenship behavior.



*Confidence level:* Based on organization citizenship behavior directed to organization(OCBO) scores, the study findings had the following: Standard Deviation (S.D) = 5.083, Variance = 37, Standard Error (of the Mean) = 3.021, Confidence Interval = 53 – 77.5. The study posted a confidence level of 95 %which is acceptable in social science research. This means that the findings of this study are reliable and valid (clean bill of health), making the study successful.

*Recommendations for future studies:* This study recommends that organization citizenship behavior be studied as a standalone independent study variable when interrogating impact of emotional and cognitive intelligence on job performance, and data collection protocols (self-report questionnaires supplemented by participant observation schedules) should be on staff performance but not on staff ability to perform.

## CHAPTER FIVE

### SUMMARY, CONCLUSION AND RECOMMENDATIONS

#### **5.1: Introduction**

The study identified underperformance at the Government Chemist Department in its problem statement. In order to address this problem, the study was guided by past research findings relevant to the subject core of the matter in formulating its research topic “Impact of emotional and cognitive intelligence on job performance”. Arising from the research topic was the research question “What is the impact of emotional and cognitive intelligence on job performance?” which was successfully interrogated. In a mission to answer the research question by way of gathering research data and testing research hypotheses, the study formulated specific objectives to give it direction. This chapter therefore presents a summary of key research findings, conclusion and recommendations of a successful case study done in the year 2014, and which evaluated the impact of emotional and cognitive intelligence on job performance.

#### **5.2: Summary of key research findings**

Key research findings of the study are categorized as impact of emotional intelligence on job performance, impact of cognitive intelligence on job performance, impact of organization citizenship behaviour on job performance, and the problem of underperformance at Government Chemist Department. These categories of key research findings are as described here-below:

##### **5.2.1: Impact of emotional intelligence on job performance**

The first objective of the study was to measure staff emotional intelligence level at the Government Chemist Department in order to answer the first research question of the study which inquired into the level of emotional intelligence of the staff at the said Department. The study found staff emotional intelligence scores averaged 68.9 %, and directly but inconsistently related to educational qualifications and training. The study observed a general trend whereof staff emotional intelligence score ratings positively correlate with staff educational qualification but with a little disclaimer. For example, whereas holders of higher national diploma certificates (HND) posted higher emotional intelligence score ratings than their counterparts who are holders of ordinary national diploma certificates (OND), the study found that some holders of Secondary level certificates (KCSE) scored higher emotional intelligence score ratings than some holders of

diploma certificates. By interpretation, this means emotional intelligence is a two-factor variable (“trait” and “ability”) aptly defined by the study as feelings of the heart and mind respectively.

The third objective of the study was to determine the existence or non-existence of any association between emotional intelligence and job performance. The study found that emotional intelligence is positively correlated with job performance. Staff with high emotional intelligence score ratings tended to post corresponding high job performance scores compared with their counterparts with low emotional intelligence levels. Consequently, the study upholds its research hypotheses which stated that “staff with low emotional intelligence performs poorly on the job, and, staff with high emotional intelligence performs highly on the job.”

### **5.2.2: Impact of cognitive intelligence on job performance**

The second objective of the study was to measure staff cognitive intelligence level at the Government Chemist Department in order to answer the second research question of the study which inquired into the level of cognitive intelligence of the staff at the said Department. The study found that staff cognitive intelligence scores averaged 74.6 % and directly related to staff educational qualifications and professional training. Holders of higher educational qualifications, tended to score higher than their counterparts who are holders of lower education qualifications or/and who have never attended any professional training.

The third objective of the study was to determine the existence or non-existence of any association between cognitive intelligence and job performance. The study found that cognitive intelligence is positively correlated with job performance. Staff with high cognitive intelligence score ratings tended to post corresponding high job performance scores compared with their counterparts with low cognitive intelligence levels. Consequently, the study upholds its research hypotheses which stated that “staff with low cognitive intelligence performs poorly on the job, and, staff with high cognitive intelligence performs highly on the job.”

### **5.2.3: Impact of organization citizenship behavior on job performance**

The second objective of the study was to measure staff cognitive intelligence level at the Government Chemist Department in order to answer the second research question of the study which inquired into the level of cognitive intelligence of the staff at the said Department. This study while reviewing articles cited under literature review recognized that cognitive intelligence encompasses organization citizenship behavior (OCB) which impacts on job performance in two

unique ways. The study found organization citizenship behavior directed towards organization (OCBO) averaged a score of 71.4 % at the Department. The study, on the other hand, found that average organization citizenship behavior directed towards individual (OCBI) score was 44.4 %.

The third objective of the study which was to determine the existence or non-existence of any association between organization citizenship behavior and job performance found an inconsistent relationship between organization citizenship behavior and job performance. OCBO found to be enhanced by high educational qualification, years of service on the job and professional training also positively correlated with job performance. OCBI was found to hinder performance of Departmental tasks. The leaderships' concern for production was found to be more than his concern for employees. This is evidenced by poor deployment of staff, and poor staff motivation. The consequence of the foregoing is a routinized performance for work output with little regard to customer satisfaction and usefulness in terms of service effectiveness, quality and promptness.

This study found a positive relationship between OCB and job performance, observing the moderation of staff emotional intelligence levels anchored on the last assumption of the study i.e. “staff with high cognitive and low emotional intelligence performs poorly on the job”.

#### **5.2.4: The problem of underperformance at Government Chemist Department**

The problem of underperformance at Government Chemist Department was found to be wrought by a multiplicity of factors internal (average to above average emotional intelligence levels, below average to above average organization citizenship behavior and organizational culture attitude among employees and institutional leadership) and external (low staff strength, unfriendly work environment and unfair compensation regime visited on employees by the employer).

In a nutshell, this study found that lack of positive energy particularly by the leadership/ employer to be empathetic to employees in order to move them towards desired direction and strongly motivate staff to achieve the Department's mission which is to attain the highest degree of performance (or productivity) is main cause of underperformance. This is the bottom-line observation of Belcher, J.G, Jr., (1987) who recommended that organizations should be superintended over by emotionally intelligent leaders in order to have a productivity edge, and of Hill Jones(2008) who recommended that emotional intelligence training should not be a vogue but a necessity (ability emotional intelligence instead of performance emotional intelligence).

### 5.3: Conclusion

This study concludes from its findings and discussion as follows:

*Emotional intelligence and job performance.* The study found that staff emotional intelligence scores closely matched the Department's average performance rating and individual performance score on the job: staff with high emotional intelligence levels posted high job performance scores than their counterparts with low emotional intelligence levels. This finding gives credence to the study's theoretical assumptions "staff with low emotional intelligence performs poorly on the job, and staff with high emotional intelligence performs highly on the job."

*Cognitive intelligence and job performance.* The study found that staff cognitive intelligence scores fairly matched the Department's average performance rating and individual performance score on the job: staff with high cognitive intelligence levels posted high job performance scores than their counterparts with low cognitive intelligence levels. Again this finding gives credence to the study's theoretical assumptions "staff with low cognitive intelligence performs poorly on the job, and staff with high cognitive intelligence performs highly on the job."

*Organization citizenship behavior (sub-set of cognitive intelligence) and job performance.* The study found that organization citizenship behavior posted a mixed relational result when matched with job performance scores: organization citizenship behaviour directed towards organization(employees' behavior towards Department)positively matched with staff and Department's performances whereas organization citizenship behaviour directed towards individuals (employer behavior towards employees) a posted negative relationship when matched with job performance. This finding also gives credence to the study's theoretical assumption "staff with high cognitive and low emotional intelligence performs poorly on the job."

*Department's performance score rating and problem of underperformance.* The Department's mean performance scores are as follows: effectiveness 62.5 %; quantity 53.57 %; quality 69.64 %; and time/timelines 71.43 %.This data implies that the genesis of the problem of underperformance is in work output (quantity) and job effectiveness (meeting customer desires. which requires application of the logic of appropriateness instead of instrumentality in running public offices.

*Confidence level and success of the project.* This study achieved a confidence level of 95 % which is acceptable in social science research. All hypotheses were confirmed and objectives achieved.

#### **5.4: Recommendations**

1. The ongoing staff training in generic or people's skills(emotional intelligence) meant to enhance job performance only targets officers serving in senior management and leadership positions thus ignoring officers serving in lower cadres (street level bureaucrats)who not only implement policies but are grassroots and line officers who come into contact with Department's service consumers. *This study therefore recommends that the present Government policy on HRM&D be changed to allow officers serving in lower cadres to benefit from ongoing generic skills training programmes.*

2. The present skills inventory at the Department shows that levels of emotional intelligence and cognitive intelligence are at disproportionate proportions in favour of the latter. Also, organization citizenship behaviour which impacts on organizational performance is modest at the Department. *This study recommends that in order for the Department to achieve enhanced job performance for organizational growth, the ongoing generic and technical staff training programmes should be scaled up and expanded to include training of staff in area of organization citizenship behaviour.*

3. Funds for staff training allocated to the Department over the past years by the National Treasury is insufficient to meet the Department's training needs. The present modus operandi whereof staff without people's skills are on the frontline delivering services to customers was found to be main cause of the Department's unsatisfactory rating and customer complaints. In order to give public offices a human face, *this study recommends that the Government reviews its budgetary policies with a view to allocating more funds in critical areas of service delivery such as staff training in order to grow the economy. The Government should also formulate policies that favour promotion of public-private sector partnerships as a way of attracting more funds from the private sector.*

4. The approach, scope and content of staff development programmes meant to impart managerial and leadership skills and competencies is silent in the area of organization citizenship behaviour, as a necessity training and not training in vogue, which is critical in the management public offices.

5. Future studies on impact of emotional and cognitive intelligence on job performance should use "performance intelligence tests" which is field based instead of theoretical "ability intelligence tests". Such studies should also interrogate impact of social intelligence which fertilizes corruption in public offices in order to understand this systemic problem bedevilling young Nation-States.

## REFERENCES

- Asingo, P.O., (2000). *Higher Education and human resource development in Kenya: the case of technical training in public universities*: Master's Thesis; University of Nairobi. Imprint [s.I]:[sn].2000, Edition 1811.
- Belcher, J. G. Jr., (1987). *Productivity: How Today's Best run Companies are Gaining the Competitive Edge*: Gulf Publishing Company: Houston, Texas
- Coole, D. R., (2003). *The effects of citizenship performance, task performance, and rating format on performance judgments; Graduate Theses and Dissertations*. University of South Florida, Scholar Commons. <http://scholarcommons.usf.edu/etd>  
Accessed on 16/10/2013
- Cote, S., & Miners, T.H.C., (2006). *Emotional intelligence, Cognitive intelligence, and Job Performance*. Administrative Science Quarterly: Pp. 1-28, March 2006. © Johnson Graduate School, Cornell University.  
Accessed on 16/10/2013
- Elder, L., (1996). *Critical Thinking Across The Disciplines*: Winter, Vol. XVI, No 2.  
Accessed on 12/10/2013
- Goleman, D., (1995). *Emotional Intelligence*: New York. Bantam Books
- Hallett, T & Ventresca, M. J., (2006). *Inhabited institutions: Social interactions and organizational forms in Gouldner's Patterns of Industrial Bureaucracy*.  
Theory and Society 35(2): 213-236. Accessed on 21.08.2015
- Hill, J. (2008). *Theory of Strategic Management with Cases*: International Edition, 10<sup>th</sup> edition
- KIPPRA (2010). *Kenya Economic Report 2010: Enhancing Sectorial Contribution Towards Reducing poverty, unemployment and inequality in Kenya*: KIPPRA, Nairobi
- Mayer, J. & Salovey, P., (1990, 1997). *Emotional Intelligence*:  
[www.sddu.leeds.ac.uk/uploaded/learning...](http://www.sddu.leeds.ac.uk/uploaded/learning...) Educational  
TA Papers Vol. I. Accessed on 16/10/2013
- Motowidlo & Van Scotter (1994); Schmidt & Hunter (1998); Chain & Smitt (2002). Cognitive intelligence, organizational citizenship behaviour, and task performance In Cote, S. & Miners, T.H.C., (2006). *Emotional intelligence, Cognitive intelligence, and Job Performance*. Administrative Science Quarterly, Pp. 1 – 28, March 2006.  
© Johnson Graduate School, Cornell University. Accessed on 16/10/2013
- Motowidlo, S.J., & Van Scotter, J. R., (1994). *Evidence that task performance should be distinguished from contextual performance*.  
Journal of Applied Psychology, 79; Pp. 475 – 480

- Nesrin, H, S. et al., (2009). *Coping and Stress Symptoms in the Context of Type A personality pattern. Turk Paikiyatri Dergisi*
- Petrides & Furnham, (2000, 2001). *Emotional Intelligence, Cognitive Intelligence and Job Performance*; Asq.: Sagespub.com/content/51/1/1.abstract.  
Accessed on 16/10/2013; Sage Publications, New York, USA.
- Republic of Kenya. *Constitution of Kenya 2010*: Government Printer, Nairobi
- Republic of Kenya. *Evaluation Report on Strategic Leadership Development Programme*:  
Office of Prime Minister, Ministry of State for Public Service, 2012, Nairobi
- Republic of Kenya. *Government Chemist's Department: Audit Report, 2012*  
Ministry of Health, Afya House, Nairobi
- Republic of Kenya. *Government Chemist Department: Information Bulletin*.  
Government Printer, Nairobi: 24<sup>th</sup> February 1986, GPK 472-150-3/86.
- Republic of Kenya. *Sessional Paper No. 10 of 1965: African Socialism and its Application in Economic Planning*, Government Printer, Nairobi
- Republic of Kenya. *Staff Performance Appraisal Report: GP 247 A (Revised 2008)*.
- Riggs, F.W, (2013). *Globalization and Public Administration*  
<http://www2.hawaii.edu/~fredr/aladin.htm#tri>. Accessed on 16/4/2013
- Salovey, P. & Grewal, D., (2005). *The Science of Emotional Intelligence: Current Directions in Psychological Science*. Vol. 14 No. 6 (Dec, 2005).  
pp. 281-285. Accessed on 15/10/2013
- Scott, W. R., (1995, 2001). *Institutions and organizations*: London, Sage.  
Lecture notes © Erling Berge. Accessed on 21.08.2015
- Xu Huang & Michael, H, B. (Eds.). (2012). *Handbook of Chinese Organizational Behaviour: Integrating Theory, Research and Practice*.  
Edward Elgar Publishing Limited.



APPENDIX A  
SELF-REPORT QUESTIONNAIRE

Dear participant

Instructions: Provide required information in PART I. indicate your answers in spaces provided.

**PART I: Personal Information**

Present Section -----	Preferred Section -----	Highest academic qualification -----	Cadre/Job Group -----
Number of years worked (i)1-3,(ii)4-6, (iii)7-9, (iv)10-13,(v)14-16, (vi)over 16-----	Profession/Career -----	Training Courses Attended (i) SLDP, (ii) SMC, (iii) Supervisory, (iv) Others, (v) None. -----	Gender (M/F) -----

Instructions: Carefully read the following statements and indicate your answers by ticking (y) against one of the choices provided on a scale of 1 – 4. Please indicate the correct answer.

**PART II: Cognitive Intelligence**

- (1) How likely would you make good and informed decisions in presence of obstacles?  
(i) Not likely at all (ii) Not likely (iii) Likely (iv) Extremely likely
  - (2) How likely would you produce high quality standards of work with minimum supervision?  
(i) Not likely at all (ii) Not likely (iii) Likely (iv) Extremely likely
  - (3). Indicate how often you defend Department when criticized by outsiders or competitors?  
(i) Very often (ii) Often (iii) Rarely (iv) Never
  - (4). Indicate how often your employer defends you during your low moments when criticized.  
(i) Very often (ii) Often (iii) Rarely (iv) Never
  - (5). How likely would you defend your supervisors decisions?  
(i) Not likely at all (ii) Not likely (iii) Likely (iv) Extremely likely
  - (6). Individual work performance at own pace helps to achieve high output (or performance).  
(i) Strongly agree (ii) agree (iii) Slightly agree (iv) I don't agree
  - (7). Proficiency testing and benchmarking best practices are for quality control or assurance.  
(i) Strongly agree (ii) agree (iii) Slightly agree (iv) I don't agree
-

Instruction: Carefully read the following statements and indicate your answers by ticking (y) one of the choices provided, on scale of 1 – 4, as the correct answer.

## **PART II: Emotional Intelligence**

(8). How likely would you while performing your job voluntarily do tasks assigned to others?

(i) Not likely at all    (ii) Not likely    (iii) Likely    (iv) Extremely likely

(9). How likely would you predict the right moods of your boss or colleague by observing?

(i) Not likely at all    (ii) Not likely    (iii) Likely    (iv) Extremely likely

(10). Are temper tantrums, sulking, withdrawal by colleagues likely to affect work performance?

(i) Not likely at all    (ii) Not likely    (iii) Likely    (iv) Extremely likely

(11). Persons who use emotions (feelings) as appeal to convince others are always successful.

(i) Strongly agree (ii) Agree (iii) Slightly agree (iv) I don't agree

(12). Bosses who are unable to grasp others' feelings are always unsuccessful in organizations.

(i) Strongly agree (ii) Agree (iii) Slightly agree (iv) I don't agree

(13). I often empathize with my boss and workmates when they are in foul mood and help them.

(i) Strongly agree (ii) Agree (iii) Slightly agree (iv) I don't agree

(14). I always seek to know service requirements and preferences of the Department's customers.

(i) Strongly agree (ii) Agree (iii) Slightly agree (iv) I don't agree

(15). Supervisors who are more concerned for production than for employees are poor managers.

(i) Strongly agree (ii) Agree (iii) Slightly agree (iv) I don't agree

(16). It is a good practice to step in and perform tasks assigned to absent work colleagues.

(i) Strongly agree (ii) Agree (iii) Slightly agree (iv) I don't agree

(17). It is a good practice to provide guidance to junior staff without showcasing authority.

(i) Strongly agree (ii) Agree (iii) Slightly agree (iv) I don't agree

(18). Motivation to perform well comes from feelings and not remuneration.

(i) Strongly agree (ii) Agree (iii) Slightly agree (iv) I don't agree

(19). How likely would you cooperate with others in the team?

(i) Not likely at all    (ii) Not likely    (iii) Likely    (iv) Extremely likely

Instruction: Carefully read the following questions and indicate your answers by ticking (y) one of the choices provided, on a scale of 1 – 4, as the correct answer.

**PART III: Job Performance**

(20). How many years of work experience have you served in your current job (or sector unit)?

(i) Over 10 years (ii) 7 – 9 years (iii) 4 – 6 years (iv) 1 – 3 years (v) Under 1 year

(21). In your assessment, how effective are you in displaying job performance knowledge skills?

(i) Very effective (ii) Effective (iii) Slightly effective (iv) Least effective

(22). In your assessment, how effective are you in verbal and written communication?

(i) Very effective (ii) Effective (iii) Slightly effective (iv) Least effective

(23). In your assessment, how effective are you in taking charge when required.

(i) Very effective (ii) Effective (iii) Slightly effective (iv) Least effective

(24). Indicate the degree to which you set high and strive to achieve or meet them.

(i) Very high (ii) High (iii) Fairly high (iv) Low

(25). Indicate your quickness in learning and adopting new ideas at work.

(i) Very high (ii) High (iii) Fairly high (iv) Low

(26). Indicate how often you validate your methods of test or your test results.

(i) Very often (ii) Often (iii) Rarely (iv) Never

(27). How likely would you offer to help others accomplish their work?

(i) Not likely at all (ii) Not likely (iii) Likely (iv) Extremely likely

(28). How likely would you handle various tasks assigned promptly even with an absent boss?

(i) Not likely at all (ii) Not likely (iii) Likely (iv) Extremely likely

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**Thank you for your cooperation.**

**Wcb/mpa-rp/uon/2014**

**APPENDIX B  
PARTICIPANT OBSERVATION SCHEDULE**

Dear supervisor

Instructions: Please provide particulars of your personal information as indicated in the boxes.

Position held/Sector unit -----	Profession/Career -----	Highest academic qualification -----	Cadre/Job Group -----
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Instructions: Please make and indicate correct observations in all the eight categories by ticking (y) against the most appropriate choice on scale of 1 – 4.

**29. Background Information**

Item	Scales (1 – 4)
1. Organization culture:	
(i). Mode of communication	(a) Official(b) Grapevine(c) Both(d) None
(ii). Diversity	(a) National(b) Regional (c) Local(d) None
(iii). Time consciousness	(a) Very high (b) High(c) Average(d) Low
(iv). Gender socialization	(a) Good (b) Fair(c) Poor(d) Very poor
(v). Hierarchical relationships	(a) Good(b) Fair (c) Poor (d) Very poor
2. Citizen service charter	(a) Displayed (b) Not displayed(c) Exists (d) Don't exist
3. Departmental strategic plan	(a) Exist (b) Don't exist(d) I don't know
4. Annual operational plan	(a) Exist (b) Don't exist (c) I don't know
5. Sectional work plans	(a) Exist (b) Don't exist (c) I don't know

**30. General perceptions in Department**

Particulars	Scales (1 – 4)
1 (a). Supervisors' attitude towards work	(a) Passionate(b) Not passionate(c) I don't know
1 (b). Employees' attitude towards work	(a) Passionate (b) Not passionate (c) Don't know
2 (a). Staff deployment by Head of Dept.	(a) Rational (b) Not rational(c) I don't know
2 (b). Employees' reaction to staff deployment	(a) Friendly (b) Unfriendly(c) Lukewarm
3 (a). Staff motivation by Head of Dept.	(a) Good (b) Average(c) Poor(d) Very poor

3 (b). Employees' take on staff motivation	(a) High (b) Average (c) Low(d) Very low
4 (a). Supervisors' feelings towards employees	(a) Caring (b) Lukewarm (c) Not caring
4 (b). Employees' feelings towards supervisors	(a) Caring (b) Lukewarm (c) Not caring
5. Head of Dept. and management staff roles	(a) Highly defined (b) Defined (c) Not defined
6. Role of street level bureaucrats in Dept.	(a) Highly appreciated (b) Appreciated (b) Not appreciated
7.Role of customers/citizens in service delivery	(a) Recipients(b) Participatory(c) I don't know

### 31. Staff strength and Role performance

Category of staff	Particulars	Comments (i. high/low; ii. defined/not defined)
1(a). Administrators	Senior Management	(i). Strength _____ (ii).Role _____
1(b). Administration	Line managers	(i). Strength _____ (ii). Role _____
2. Technical	Analysts/Technologists	(i). Strength _____ (ii). Role _____
3. Support/subordinate	Clerical, secretarial, cleaners, etc.	(i). Strength _____ (ii). Role _____

### 32. Mode of Working

Employees' modus operandi	Comments
1. Support staff	(a) Individual (b) Team (c) Both
2. Laboratory (or technical) staff	(a) Individual(b) Team (c) Both
3. Administrators (or Management staff)	(a) Individual (b) Team (c) Both

### 34. Availability of Laboratory tools of work

Type of tools of work	Scales (1 – 4)
1. Laboratory manuals	(a) Exist(b) Don't exist(c) I don't know
2. Laboratory supplies/chemicals	(a) Exist(b) Don't exist(c) I don't know
3. Laboratory reference materials	(a) Exist(b) Don't exist(c) I don't know
4. Laboratory protective gear	(a) Exist (b) Don't exist(c) I don't know
5. Standard operating procedures (SOPs)	(a) Exist(b) Don't exist(c) I don't know
6. Precision Instruments	(a) Exist (b) Don't exist(c) I don't know
7. Internet/ICT services	(a) Exist(b) Don't exist(c) I don't know

### 35. Staff skills and competencies development

Type of training	Scales (1 – 4)
1. Leadership competencies	(a) High (b) Average(c) Low(d) very low
2. Managerial skills	(a) High (b) Average (c) Low(d) very low
3. Technical skills	(a) High (b) Average (c) Low(d) very low
4. ICT/Computer skills	(a) High(b) Average (c) Low(d) very low
5. Office management skills	(a) High (b) Average (c) Low(d) very low
6. Experiential learning	(a) High (b) Average (c) Low(d) very low
7. Customer care/corporate responsibility	(a) High(b) Average (c) Low(d) very low

### 36.Total Quality Management

Particulars	Scales (1 – 4)
1. Proficiency testing	(a) Done routinely(b) Done rarely(c) Not done
2. Benchmarking best practices	(a) Done routinely (b) Done rarely(c) Not done
3. Intra-Laboratory quality control	(a) Done routinely (b) Done rarely(c) Not done

### 37. General Intelligence and Job Performance

Particulars	Comments
1. Supervisor-Employee industrial harmony	(a) Exists (b) Don't exist(c) I don't know
2. Organizational politics/succession wars	(a) Exists (b) Don't exist(c) I don't know
3. Monitoring and Evaluation of programs	(a) Exists(b) Don't exist(c) I don't know
4. Department's strategic plan and positioning	(a) Exists (b) Don't exist(c) I don't know
5. Pending cases/backlog in sector unit	(a) High (b) Low (c) Very low (d) None
6. Quality of services provided	(a) Very Good (b) Good (c) Poor (d) Very poor
7. Staff promptness in meeting work deadlines	(a) Very Prompt (b) Prompt (c) Not prompt
8. Acceptability rating of Department's services	(a) Very High (b) High (c) Moderate(d) Low
9. Desirability rating of Department's services	(a) Very High (b) High (c) Moderate (d) Low
10. From annual staff performance appraisal reports rate the Dept's performance on a scale of 1 – 10	_____

**Thank you for your cooperation.**

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