

The Impact of Physical Activity and Fatigue on Psychological Wellbeing of Employees in the
Construction Sector of Uganda. A Case Study of NSSF Pension Towers Nakasero Hill.

By

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A research dissertation submitted to the Department of Industrial and Organizational Psychology
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Declaration

I, Akello Naume Etoko, hereby declare that this is my original work, and has never been submitted to another institution for any academic reward. All literature is accredited to their copyrighted authors where needed.

Signature.....

Date.....22nd - Nov - 2022

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Registration number

Acknowledgement

Special gratitude to the university for the opportunity to carry out this research. And to the research participants for availing me with data, time and effort in order to make this research a success. To my research supervisor, Dr. Baluku for his complete assistance and guidance that made this research a success. I'd also like to thank my family for their financial, moral and spiritual support. It is forever indebted. To my friends, for encouraging me to complete this research.

Dedication.

To my family, for their unending love and support.

Approval

This dissertation on the impact of physical activity and fatigue on the psychological wellbeing among employees in construction sites in Kampala, Uganda has been developed by Akello

Naume Etoko under direct supervision of

Signature 

Date..... 22. 11. 2022

Dr. Martin Baluku.

Supervisor

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Abstract

This study explored the effects that physical activity and fatigue have on the psychological wellbeing of construction site employees. In the aftermath of a global pandemic, changes in the economy and rise to humane ideologies with particular emphasis on mental health care, it is crucial to note that the happiness of workers in the workplace needs to be investigated.

Using questionnaires, reviewing literary evidence and incorporating correspondences with carefully sought methodologies, we determined the ways of life of several participants and using various analytical tools, came up to a conclusive remark.

A negative non- significant relationship exists between physical activity and psychological wellbeing

Chapter One

Introduction

Introduction

This chapter presents a background to the study, statement of the problems as well as list the objectives and /or purposes of this study. It also includes the research question, scope and justification of the study as well as the significance of the study.

Background.

According to the world health organization, an estimate of 15% of working age adults have a mental disorder at any one point in life. Depression and anxiety is estimated to cost the us economy us 1trillion each year driven by predominantly by lost productivity. The WHO (World Health Organization) guidelines on mental health at work provides evidence based recommendations to promote, protect mental health, as well as enable those living with mental health conditions to thrive in places of work. These recommendations cover a wide range of sections, from organizational policies, to manager and worker training, individual interventions. These all include the proper work practices, work regulations regarding schedules and rest as well as hands on approaches such as exercises, physical activities and rest to battle work determined fatigue.

With the many changes in the work environment, we notice many emergent factors relate to work life, such as stress, growth, acquisition of knowledge, new policies and technology, fatigue among others. These factors all have a hand in wellbeing. Our wellness, or content, or disposition to happiness is a subjective phenomenon. Despite the fact that we all have a general agreement that wellness is the presence of good /positivity, and reduction of bad /negativity, many authors, scholars have defined wellbeing in several terms.

Women and men in the working world have many goals and objectives to fulfill. As Abraham Maslow pioneered the science of happiness through the hierarchy of needs, we focus on the happy individuals and their psychological trajectory. He combines the insights of earlier psychologists such as Skinner and Sigmund Freud who focused on the edge of unhappiness. Maslow insisted that the urge for self-actualization and growth was a deep rooted innate nature of all human beings. Maslow, 1973, *The Farther Reaches of Human Nature*, p31 talks about mental health notes mental illness as falling away from human nature, that although could be caused by some physical or biological factors, he noted social, political, familial factors as more sounding causes.

Subjective wellbeing is the personal perception and experience of positive and negative emotional evaluations of perceptions of one's life. It's defined as a cognitive and affective evaluations of one's life (Diener, Lucas, and Oishi 2002). There are theories of wellbeing that are divided into three, hedonism, desire theories and objective list theories. Hedonism theory argues that pleasure, or the absence of pain is the most important principle in determining the morality of a potential of a course of action. Hedonism is as such as a type of consequences. However, hedonism is in many forms. Normative hedonism argues that pleasure should be people's primary motivation. Motivational hedonism says pleasure or pain drives people to do what they do. However, egotistical hedonism requires one to put their own pleasure in making choices. All these are valid arguments in hedonism. Desire theories holds that a fulfillment of a desire contributes to one's happiness regardless of the amount of pleasure felt. Finally, objective list theories of wellbeing hold a plurality of basic objective goods that directly benefit people. Such as loving, relationships, meaningful knowledge.

Famous psychologist carol ryff analyzed psychological wellbeing and created a scale to measure the level of wellbeing. She named 6 aspects of autonomy, environmental mastery, personal growth, positive relations with others, purpose in life and self-acceptance. (Ryff et al, 2007.)

This research will illustrate how physical activity will influence some dimensions of wellbeing. Or how wellbeing that is how autonomy s affected by physical activity, or how fatigue impacts on environments mastery. In Uganda, psychological wellbeing is not a deeply discussed topic. Our perceptions of happiness depend on several differences such as social status, background, economic independence among others. Mental health is important, as we've seen a rise in the rate of suicides attributed to depression, substance abuse due to extreme depression and anxiety during the past 5 years.

Physical activity is however, a promoted notion. From government policies and recommendations, to organizational practices as well as individual interventions, we see a rise in the rates of physical activity. However, it is not common among majority of adults. Most of the adults who engage in regular physical activity are either as prescribed by the doctors as part of treatment, sports personnel, or engage in exercises in irregular schedules.

With the different levels of physical activity and types of physical activity that employees encounter in their work places, we examine how it influences certain naspects of wellbeing, its relationship with fatigue and how best to improve psychological wellbeing in the workplaces.

Statement of the Problem

Psychological wellbeing has been discussed in the past, with the many factors that can influence it such as security, substance use, but little effort has been registered in trying to ascertain how physical activity levels affect the levels of well-being among men and women in

Uganda. This implies that in spite of the various effects that physical activity has in one's life, we must assess its importance on psychological wellbeing, as well as demonstrate the importance of physical activity on lowering the levels of fatigue to improve wellbeing.

Purpose of the Research

To examine the impact of physical activity and fatigue on psychological wellbeing of construction employees. The purpose of this research is to examine the relationship between the variables and in so doing, apply scientific procedures.

Objectives:

- To illustrate the components of psychological wellbeing, its importance and how psychological wellbeing is essential to every person.
- To examine the levels of psychological wellbeing of employees in the construction sector.
- To establish the relationship between physical activity and fatigue among the employees
- To examine the impact of physical activity on wellbeing.

Research Question

- I. How does physical activity affect psychological wellbeing?
- II. What impact does fatigue have on PWB?
- III. How can physical activity improve the levels of PWB?

Scope

Geographical scope

This study was conducted in the areas of Kampala city, Nakasero hill in Uganda. A construction site was chosen and a sample of 20 participants were randomly chosen from each site. It focused on majorly the construction workers, staff of the site. Our study focused on the

levels of physical activity, the levels of fatigue and assessed the degree of wellbeing of the participants. This study was scheduled from October to November 2022

Justification of Study

Mental health is a fundamental aspect of a human being. It relates to growth, development and greatly influences one's quality of life and productivity at work. With the increasing competitiveness in the work environment, numerous interventions to improve wellbeing and happiness, it is crucial to understand the impact that work fatigue has on the psychological wellbeing of individuals, groups and societies. Only then can informed, and revised policies be inducted into the work practices in order to improve the rate of productivity and general content in workplace. Mental health is no longer applicable to only adults, every person that interacts with the work environment, employees, their families and employers need to evaluate this dimension of their lives.

Physical activity is a forever important of a healthy lifestyle. Incorporating it in our daily lives plays a noticeable role in improving physical health as well as mental health of all persons. In the work setting, fatigue is an effect that work has on individuals. Therefore, we aim to reduce fatigue, increase physical activity, all in an attempt to substantiate the outcomes that these two factors may have on the levels of psychological well-being. This research will analyse the impact of fatigue on wellbeing, how to improve fatigue at the workplace and the importance of physical activity on increasing the levels of psychological wellbeing.

Significance of the Study

The findings of this study portrayed the levels of wellbeing of construction industry employees, which can then be used to develop a hypothesis in regards to fatigue and physical activity in the workplace

The completion of this research availed the researcher with approval to acquire a bachelor's degree in industrial and organizational psychology

The findings of the research data gathered can be used by other researchers, managers or interested parties to assess the psychological wellbeing of their employees

This research can instigate curiosity into other aspects of research such as other causes of work related fatigue, and how they can be levelled , managed and issues arising be addressed.

Psychological wellbeing, an intangible component of human resource in the workplace contributes highly to productivity, self-awareness and innovativeness. Any factor that poses as a hindrance to this aspect neglects vital aspects of happiness. It is therefore important to try and assess the relevance of physical activity and fatigue management in trying to improve wellbeing among construction sector workers.

Conceptual framework

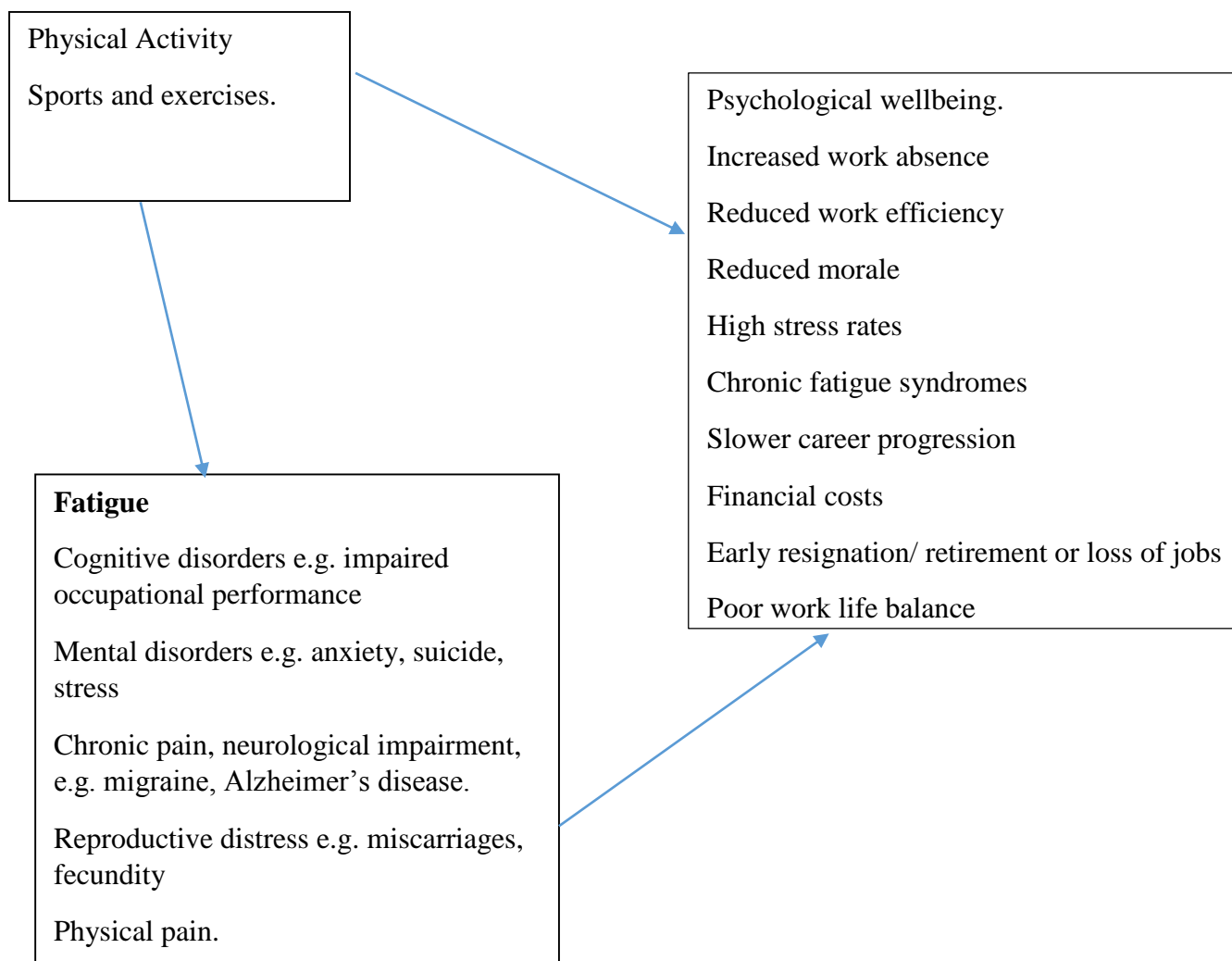


Figure 1: Conceptual paradigm showing the effect of physical activity and fatigue as revealed above.

The main concern of this study was to measure the levels of physical activity, the fatigue resultant and their impact on the levels of or some aspects /dimensions of psychological wellbeing.

Chapter Two

Literature Review

Physical activity and Psychological wellbeing/Positive Mental Health

With numerous evidence linking physical activity to mental health components, (Ekkekakis, 2013) we can highlight that physical activity has positive effects on psychological wellbeing. In the report from 4 chief medical officers of UK on physical activity and health, the positive effects of Psychological wellbeing were attributed to physical activity. It was explicitly noted that feel good effects that physical activity brought about were important components of psychological wellbeing.

Rejeski and colleagues (1996) related physical activity to health related quality of life, and how these qualities affected or influenced the wellbeing of individuals that participated in physical activity. By measuring the global health related quality of life, physical function, emotional function, social function and cognitive function, it was assessed that in regards to improving the quality of life, in other terms wellbeing, the rate or levels of physical activity was found to influence highly on these perceptions. Affective effect of physical activity which is how people feel during and after physical activity is important. The motivation, participation and adherence can still be linked to aspects of psychological wellbeing. Positive affect is an important outcome. According to Nefferson and Mutrie (2012) “activity participation is an exceptionally effective strategy for facilitating psychological wellbeing within individuals and societies”.

Russell and Feldman (1999) named core affect as the most elementary consciously accessible affective feelings. Affect, emotion and mood are the three aspects of wellbeing. Biddle (2000), in support acquired from many studies physical activity is associated with

emotional mood/ affect. McDonald and holdgdon, on their meta-analysis of exercise and mood research, found a relationship between exercise and vigor and lack of negative mood. Aerobic fitness training using MAACL (multiple affect adjective checklist). This satisfies the aspect of wellbeing which aligns with positive mood and feel good affect.

Csikszentmihayi (1975) in his study concluded that motivation seemed highest when difficulty of task or challenge was matched by the personal abilities and skills of individual. This led to the flow of enjoyment and engagement in task. The study on why people invest huge time, energy in tasks appearing to give limited or undervalued rewards also called Autotelic tasks or self-goal tasks, is to appreciate this aspect of ourselves. Boredom caused by a result of repetition of same low challenge task relative to skills candy in retrospection, can cause anxiety, stress in cases where high challenges relative to skills.

Lee et Al (2012) in the study of reduction in the risk factors of 10 non communicable diseases by 30% for people who engage in regular activity at recommended levels. Physical activity can affect multiple health outcomes and conditions. It was also noted that 10% of burden of colon cancer, diabetes is caused by inactivity or lack of enough activity or rigor. With the ideology that with great health comes greater happiness, we attribute the reduced levels of activity with increased levels of health complications and thus reduced happiness.

In the 1990s department of health 1993 published health related documents in England placing emphasis on wellbeing in order to “add years to life by reducing premature mortality and improve life expectancy and adding life to years i.e. improving quality to life”. In 1899 William James is noted to have made remark over the muscular vigor being needed to furnish the background of sanity and cheerfulness to life as well as give moral elasticity to our dispositions in order to round off the wiry edge of our fretfulness.

Buckworth and Dishman (2002) ask if physical activity improves our mood. Mood is our perception results. And hereby affects how we act basing on those moods. Development of intrinsic motivation was found to be associated with physical activity (Deci and Ryan, 1985). High intrinsic motivation meant high effort, feelings of enjoyment, association, autonomy, in contrast to low levels of pressure, anxiety, negativity. Here we conclude that physical activity increases intrinsic motivation which in turn is associated with various elements of psychological wellbeing.

Hyoudo et al (2008) investigated the biological effects of running a long distance in attempting to measure the impact of exercise on stress hormones. Comparing the levels of blood hormones before and immediately after running, it was shown that increases in acth levels, cortisol, catecholamine, and testosterone hormones were noted. These are also known as anti-stress hormones.

Pierce, 1984 studied the impact that physical activity deprivation has on psychological wellbeing by engaging the benefits of regular exercisers who derived enjoyable experiences such as mood, social interaction and fulfilment and what deprivation would lead to. Pierce noted that increase in arousal levels surpassed negative effects such as sluggishness, lethargy and sympathetic arousal and increased endorphins through socialization, company and involvement. Szabol (1995) described the impact of interrupting regular exercisers as negative on psychological wellbeing through withdrawal symptoms and actions which included guilt, irritability, tension, depression and sedentary behaviors.

Veale (1987) sought clarity on exercise dependence and its impact on psychological wellbeing. Exercise dependence simply means giving exercises or a particular scheduled, regular patterned exercise priority over other activities. Despite argumentation and directions on the

possible consequences of exercise such as dysfunctional behaviors, Veale revealed that this is a positive addiction which when rightly implemented as part of therapy programs, treatment exercises, can create a big impact on improving psychological wellbeing.

Physical activity and Women's Psychological Wellbeing

Daley (2009) suggested that exercise could reduce Premenstrual syndrome by improving on the physical lifestyle of women while releasing endorphins on the women, reducing stress and fatigue. In a study by Slaving et Al (1988), exercise or physical activity during pregnancy made women feel in control hereby having a positive influence on their esteem and image. Further studies by Strange and Sullivan (1985) showed that pregnancy resulted in negative changes in body image for women by altering their shapes, sizes, resulting into numerous conditions that can be tantalizing to their self-image. Robledo-Colonia et Al ,2022 noted reduced depressive symptoms in women that engaged in physical activity post and pre pregnancy. Daley et Al (2009) suggested that exercise reduced symptoms of post-natal depression.

Dimensions of Psychological wellbeing affected by Physical activity

In relation to the mechanism of psychological wellbeing and physical activity, there is significant appreciation on the aspects of psychological wellbeing that are influenced or impacted on through physical activity.

Effects of exercise on neurotransmitters (endorphins) Becker and Dishman (2013). Exercises cause the body to release various endorphins necessary for the feel good effect. This can be through the aroused vigor, socialization during exercises, enjoyment of the exercise or perceived advantage of the exerciser. When one enjoys company of others while engaging in physical activity, they are exhibiting a good environment for positive affect. This in turn develops positive emotions important to wellbeing. (Chaouloff et Al 2013) commented that

changes in central serotonergic systems arise from exercise. This indicates that physical activity can be used to improve mood, boost happiness and create enjoyment. The feel better effect shall result from the various changes that physical activity will bring. Self with, changes in physical self, discovery of potential, engaging in challenging activities, mastering of new tasks, and the developed sense of personal control are all limelight contributors to psychological wellbeing. The social support, interactions will battle isolation, feelings of diminished social relationships and builds one's personal growth and self-acceptance.

Depression is linked to physical health problems. Negative emotions with regards to or in relation to other factors (such as personality, socio economic status, background) may have negative impact on wellbeing. Trigo et Al ,2005 on coronary heart diseases being associated with anxiety, depression and sadness especially in elderly. Hasler et Al, 2005 on adult weight increase and obesity resulting from childhood depression and trauma. These studies mainly revealed that some cardiovascular diseases can be caused as a result of insufficient physical activity. This is why the use of exercises as part of treatment for clinically defined depression is recommended (Biddle 2001).

Self-esteem is a key indicator of psychological wellbeing (fox,2000). In the skill development hypothesis (Sonstroem,1997a, 1997b) concluded that self-esteem can be developed or changed through experiences, development in skills, mastery of tasks, success, that can be an outcome of involvement in physical activity.

McCauley and Blissmer (2000) summarized evidence on self-efficacy and participation in physical activity. (McAuley et Al, 2003a,2003b). This was based on the study that showed a positive change in self-efficacy after a treadmill exercise. (Ewart et Al,1983). The self-efficacy proved to have positive levels after an exercise session that however did not last too long after.

This study proved that regular scheduled or planned exercises have a great benefit on positive levels of self-efficacy.

Fatigue and Psychological Wellbeing

Nakata,2010 concluded that insufficient sleep was more likely to result into depressed employees in contrast to those who had sufficient sleep.

Goodwin and Marusic,2008 noted that sleep deprivation or sleep debt was associated with an increased risk of suicidal ideation or suicidal attempts. The fatigue experienced from sleep deprivation often led to hallucinations, poor judgement and extreme anxiety.

Lim and Dinges, 2010 in a study of sleep deprivation noted that fatigue resulted into decrease in decision making ability, problem solving abilities and psychomotor skills. Vigilance, processing speed and working memory also decreased. These led to decreased wellbeing resulting from low levels of environmental mastery, autonomy and personal growth. The employees that experienced these effects as a result of sleep deprivation fatigue reported to feel less I'm control of their lives and registered low levels of happiness

Hypothesis

1. Ho, if there is a significant impact of physical activity on psychological wellbeing
2. H1, if there is a relationship between physical activity and fatigue in the workplace
3. H3, if physical activity can reduce the levels of fatigue in the workplace.

Chapter Three

Methodology

Introduction.

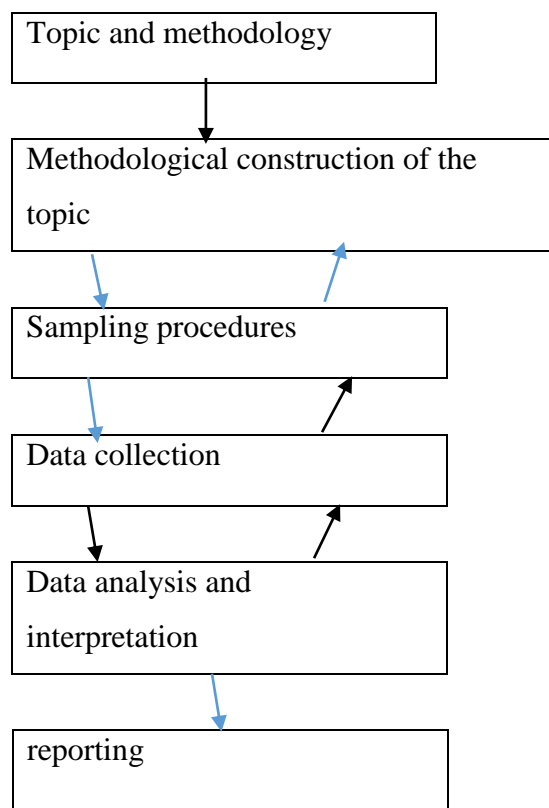
This chapter includes the methods used in data collection, sampling techniques chosen as well as population sample, variables examined and discusses how data was analyzed.

Research Design

A descriptive cross sectional study was adopted to carry out this research. It was conducted to describe the impact of physical activity and fatigue on wellbeing. It was used to examine the levels of fatigue in the workplaces. This research took place with many people over a specific period of time.

Both the qualitative and quantitative approach were used for detailed data collection

An illustration of the flexible qualitative design used



Study Population

The population comprised of 150 construction workers ranging from casual laborers, masons, handymen and office bearers. They were of legal ages of 18 to 50. Both male and female participants were used.

Sample Size and Selection

The sample size comprised of 40 male and female participants, from various departments of the construction sector. Stratified sampling was the method of sampling used to select participation.

Research Tools and Measurement.

Self-administered questionnaires were used by participants to report on the questions asked.

Psychological wellbeing was assessed in the six dimensions adopted from Ryff's scales of psychological wellbeing. These dimensions are, autonomy, self acceptance, positive relations with others, environmental mastery, purpose in life and personal growth.

Physical activity levels and fatigue levels were assessed or measured using the questionnaire guidelines indicated at the appendices. The responses were graded

Procedure

This study started with the researcher choosing their preferred research topic, and gathering formal documents of introduction from the school of psychology to enable them access various resources necessary for the research. Definition of a research problem, reviewing of literature in regards to the concepts and theories followed. Previous research findings were analysed. Next the hypotheses were formulated. And a simple research design was formulated. Establishment of rapport with the site administrators as well as participants, to whom

questionnaires were administered as part of the data collection process was followed by intensive research of literature and published works in reference to the research topic. There was collection of data , it's analysis and hypotheses testing. An interpretation and report writing concluded the research process.

Data Management

The questionnaires gathered were checked for completeness and validity. Then using the spss i.e. statistical package for social scientists, it was entered and managed. Upon entry, the results were then checked as we analyse the completeness of the process, the entered data is marked or labeled to avoid repetition.

Responses were coded for analysis.

Data Analysis

Pearson product moment correlation PPMCC was used to test the relationship between variables, inferential statistics will be used to test the hypotheses that focuses on the relationship between physical activity, fatigue and psychological wellbeing.

Ethical Considerations.

According to Bryman and Bell (2007)[1] the following ten points represent the most important principles related to ethical considerations in dissertations:

- Research participants should not be subjected to harm in any ways whatsoever. All participants were free of any harm during the data collection process. And all data collected can not expose them to any such mannerisms.
- Respect for the dignity of research participants should be prioritized. The questionnaires did not include any violating questions, suggestions or violated the rights of any participant.

- Full consent should be obtained from the participants prior to the study. All the participants gave informed consent and were fully aware of the nature of their involvement.
- The protection of the privacy of research participants has to be ensured. All participants were encouraged to eliminate any such questions that they found to be trespassing onto their personal information. No names or addresses or any other information that violates the participants privacy was revealed or indicated in this study.
- Adequate level of confidentiality of the research data should be ensured.
- Anonymity of individuals and organizations participating in the research has to be ensured.
- Any deception or exaggeration about the aims and objectives of the research must be avoided.
- Affiliations in any forms, sources of funding, as well as any possible conflicts of interests have to be declared.
- Any type of communication in relation to the research should be done with honesty and transparency.
- Any type of misleading information, as well as representation of primary data findings in a biased way must be avoided.

Chapter Four

Results and Interpretation

Introduction

This chapter presents the result findings of the study

Demographic Characteristics

Respondents were requested to reveal their age, gender, years spent on job, years spent on current organization, highest level of education and the findings are revealed in Table 1 below

Table 1: Demographic Characteristics of Respondents

Item	Frequency	Valid Percent
Age		
20-29	49	56.3
30-39	32	36.8
40-49	6	6.9
Total	87	100.0
Gender		
Male	40	46.0
Female	47	54.0
Total	87	100.0
Years spent on job		
0-4	52	60.5
5-9	24	27.9
10-14	4	4.7
15-19	4	4.7
20-24	2	2.3
Total	86	100.0
Years spent in organization		
0-4	73	84.9
5-9	10	11.6
10-14	3	3.5
Total	86	100.0
Level of Education		
Certificate	1	1.2
Diploma	40	46.5
bachelor's	40	46.5
PGDE	2	2.3
MASTER'S	3	3.5
Total	86	100.0
Position in organization		
top level management	2	2.3
middle level management	13	14.9
lower level management	43	49.4
frontline supervisory job	12	13.8
has no supervisory tasks	17	19.5
Total	87	100.0

Results in Table revealed that majority of respondents were between the age of 20 -29 who had a frequency of 49 and percentage of 56.3. This was followed by respondents who were between the age of 30 – 39 who accounted for 36.8% followed by respondents between the age of 40 – 49 who accounted for 6.9% with a frequency of 6 respondents.

It was further revealed that female students were the majority with a frequency of 47 and percentage of 54.0%. the males accounted for 46.0% of respondents.

The results revealed that majority of respondents had spent 0 – 4 years on the job and these 52 respondents accounted for 60.5%. These were followed by those who had spent 5 – 9 years who accounted for 27.9%. Respondents who had spent 10 – 14 and those that had spent 15 – 19 years accounted for 4.7 and 4.7 respectively. The least had spent 20 -24 years and accounted for only 2.3% of the total sample population

The study findings revealed that 73 respondents accounting for 84.9% had spent 0 -4 years in NSSF Pension Towers. This was followed by those who had spent between 5 – 9years who accounted for 11.6%. The study revealed further revealed that those who spent between 10 – 14 years were 3.5%.

The study revealed that the most of the respondent had a bachelor's degree. those who had a diploma and those who had a degree all accounted a cumulative percentage of 93%. Diploma holders held a percentage of 46.5 and a frequency of 40. While those who had a degree also held a frequency of 40 and stood at 46.5%. These were followed by those who had a masters accounting for 3.5%, those with a certificate and those with a Postgraduate Diploma accounted for 1.2% and 2.3% respectively.

Lastly the study revealed that majority of respondents were in lower level management with a frequency of 43 and a percentage of 49.4%, these were followed by respondents who had no supervisory tasks accounting for 19.5%. other positions which were held by respondents included top level management, middle level management, and frontline supervisory jobs where each they accounted for 2.3%, 14.9% and 13.8% respectively.

Hypothesis Testing

In order to test the hypotheses, Pearson correlation was used and the results are shown in Table 2 below

Correlations

Table 2: Pearson Correlation of the study Variables

		Physical activity	Fatigue	Psychological wellbeing
Physical activity	Pearson Correlation	1		
	Sig. (2-tailed)			
	N	87		
Fatigue	Pearson Correlation	.030	1	
	Sig. (2-tailed)	.783		
	N	87	87	
Psychological wellbeing	Pearson Correlation	-.034	-.145	1
	Sig. (2-tailed)	.754	.179	
	N	87	87	87

PEARSONS PRODUCT MOVEMENTT CORRELATION was the association best used due to its level of measurement which was interval ratio.

Physical activity and Fatigue

Results in Table 2 revealed that there is no significant relationship between fatigue and physical activity where $r = 0.030$ $p(0.783) > 0.05$. this therefore means that the correlation in the population is zero, or the power of the test was not large enough to detect a non zero correlation.

we can not therefore, reject or accept hypothesis 1(H_1) which states that there is a relationship between physical activity and fatigue.

Fatigue and psychological wellbeing

It was further revealed that there was a negative non-significant relationship between fatigue and psychological wellbeing where $r = -0.145$ and $p = 0.179$. Which shows that an increase in fatigue might lead to a decrease in psychological wellbeing, or a decrease in fatigue may lead to an increase in psychological wellbeing. We can not however, reject or accept our hypothesis 2 (H_2) which states that physical activity has an impact on the levels of psychological wellbeing.

Physical activity and psychological wellbeing

Also in Table 2 it was revealed that there was a negligible negative non-significant relationship between physical activity and psychological wellbeing ($r = -0.034$, $p (0.754) > 0.05$). This shows that there is no correlation between physical activity and psychological wellbeing as observed in our correlation coefficient. We can not therefore, reject nor accept H_0

The correlation examines the relationship between two variables. It examines three major aspects of relationships mainly:

- I. The presence or absence of a correlation which is whether or not there is a correlation between the variables in question.
- II. The direction of correlation which is, whether an existing correlation is positive or negative
- III. The strength of a correlation. that is whether an existing correlation is strong or weak.

Correlation however, does not imply causation.

Coefficient of Determination.

This describes the common variance that is the degree of variability shared by the two variables. This is calculated by squaring the coefficient of correlation. r^2 . This allows the researcher to make predictions about a variable if the degree of determination is known. For instance, an r of .030, can only explain .09% of the changes that can be explained by the independent variable physical activity on fatigue.

In a similar way, the coefficient of determination of fatigue, $r(-.145)$ which is r^2 is 0.02%. this is a low degree of determination of fatigue on wellbeing.

Chapter Five

Discussion, Conclusions and Recommendations

Introduction

This chapter finalizes the findings and results of the study by discussing the findings of our analysis, and relating it to the main purpose of the research.

Discussion

Hypothesis one.

This hypothesis instigated if there is a significant impact of physical activity on psychological wellbeing. As with our literature we tried to assess the effects of physical activity on the different dimensions of psychological wellbeing, results got from participants revealed the following details. There was a negative non-significant relationship between physical activity and psychological wellbeing. This means that we can not directly relate the levels of psychological wellbeing to the levels of physical activity of the employees. We therefore can neither reject nor accept this hypothesis. However, about 60% of participants reported high levels of tiredness in the questionnaires irrespective of their age. 82.8% of participants who were with limited supervisory tasks reported diminished levels of self appreciation when assessed on their emotional wellbeing. as relationship doesn't imply causation, we will discuss this further.

With placing emphasis on physical activity in the workplaces, we need to ascertain the levels, causes, practices that promote physical activity. we also need to examine the types of activities that improve on our exercise levels, establish the levels of work needed for an average employee. As a starter, the workplaces naturally impose a level of activity on its employees, these could be by the nature of the job, hours being worked, machinery or equipment used as well as the

energy levels necessary for work to be carried out. These tasks require movement of skeletal muscles and body parts. With analysis of our data using Pearson's , we find it conclusive that a negative non-significant relationship exists between physical activity and psychological wellbeing. This means that when one variable increases, another decreases. Unlike in our literature review, where we ascertain with evidence that physical activity does have an impact on psychological wellbeing, our results findings in chapter four suggests that there is no significant correlation between physical activity and psychological wellbeing. This means that the two variables do not impact on each other by causing an increase or decrease respectively. Buckworth and Dishman (2002) ask if physical activity improves our mood. Mood is our perception results. And hereby affects how we act basing on those moods. Development of intrinsic motivation was found to be associated with physical activity (Deci and Ryan, 1985). High intrinsic motivation meant high effort, feelings of enjoyment, association, autonomy, in contrast to low levels of pressure, anxiety, negativity. Here we conclude that physical activity increases intrinsic motivation which in turn is associated with various elements of psychological wellbeing. This is in contradiction to our findings. We can not relate the levels of physical activity to the levels of psychological wellbeing. This also concludes our research aim of examine the impact of physical activity on psychological wellbeing.

However, we also analyse that there are some levels of physical activity in our data as explained in chapter 4. The participants, Through their responses in the questionnaires reported different levels of physical activity and different types of physical activity from the nature of work to the mode of transportation used to access work environment.

Hypothesis Two

If there is a relationship between physical activity and fatigue in workplace. With the results of our data analysis using Pearson's correlation coefficient, there is no-significant relationship between physical activity and fatigue. Various aspects of physical activity and fatigue were assessed including intensity of activities, time spent at the job, and leisure activities. These were all to examine how much physical activity the employees were engaged in, hours of leisure taken. Affective effect of physical activity which is how people feel during and after physical activity is important. The motivation, participation and adherence can still be linked to aspects of psychological wellbeing. Positive affect is an important outcome. According to Nefferson and Mutrie (2012) "activity participation is an exceptionally effective strategy for facilitating psychological wellbeing within individuals and societies". 82.8% of participants reported a high feeling of increased rigor and vigor when engaging in activities requiring energy for a moderately long period of time. Our results findings in chapter 4 disagree with the literature review in this research study. Physical activity has a negative non-significant relationship with fatigue. A decrease in physical activity leads to an increase in wellbeing. This was a result attained after our correlation analysis. However, previous literature disapproves our results. The data interprets that as there is no significant relationship between physical activity and fatigue. It also fulfills our research aim of assessing the relationship between physical activity and fatigue in workplace.

This research has hereby related to the previous literature by demonstrating that there are existing levels of physical activity and fatigue in the workplaces. It also assesses the levels of wellbeing in the workplaces. It differs, however, in the results findings as there are negative non-significant relationships between physical activity and psychological wellbeing, and physical activity and fatigue, contrary to other research previously established (Biddle et Al 2001).

Other explanations that this research results could explain are that despite the lack of relationship between the variables, there is possible causation. Physical activity levels impact on the lifestyle of the employees thereby directly or indirectly influencing the dimensions of their wellbeing. We can not assume, however, basing on our results. Thus new extensive research ought to be carried out among construction employees to ascertain how physical activity impacts on psychological wellbeing.

Conclusions

The participants of this research were a diverse group of randomly selected individuals, with different abstract backgrounds and the results of this study are simply for the intended purposes as stated. This research is to be used for comparison purposes of the sample population only and can not be generalized to total population. This research however answers the following research questions

- How does physical activity affect psychological wellbeing? As discussed in chapter two of this research, we review previous publications and literature on the effect of physical activity on psychological wellbeing. We also assess these through questionnaires and interviews among the employees.
- What impact does fatigue have on PWB? There is no significant relationship between physical activity and psychological wellbeing

Recommendations

Due to the results of the data analysis as seen in chapter 4, more research is necessary to ascertain the impact that physical activity has on psychological wellbeing among construction employees.

Due to the nature of the industry that has developing technology and theories as well as different work policies, it is recommended that indepth study of fatigue in the construction sector is acried out. There is also need to assess the levels of psychological wellbeing among construction employees in Uganda. We can also use this study findings to find , create and construct new research objectives in assessing the levels of psychological wellbeing.

Some limitations of this study including the nature of the participants. They were a diverse workforce with different backgrounds which yielded different results that challenge comparison to other populations or the general construction population. We therefore recommend that the research is carried out among carefully selected individuals with similar work responsibilities and backgrounds to allow generalization of research findings.

The contrast of the research findings to the literature review recommends that more research is necessary among diverse population of employees to establish how physical activity and fatigue can affect psychological wellbeing.

References.

- Amir sharafchanch, max hirshkowitz. Fatigue management: principles and practices for improving workplace safety
- Antonovsky A. (1987) unraveling the mystery of health. How people manage stress and stay well. San Francisco: Jossey- Bass
- C.Bass Taylor, James F Sallis, Richard Needle public health reports 100(2), 1985
- C.R. Kothari, research methodology, methods and technique, second revised edition.
- Clark A.E, Layard,R. A.E(2012) the causes of happiness and misery
- Gross R (2015) psychology: the science of mind and behavior. 7th edition. London hodder education.
- Henschel (1999) the research methodology framework
- Hirshkowitz M. Fatigue, sleepiness, and safety. Definitions, assessment and methodology. Sleep med clin. 2013
- Huoudo T et al 1982. The movement of hormones in blood during long distance running. Sports medical and scientific research report of japan sports association in 1982/ the second report concerning the prevention of accident by exercise, japan sports association, Tokyo
- Jahoda ,M (1958) current concepts of positive mental health. Basic books
- Lim j, dinges DF. A meta-analysis of the impact of short term sleep deprivation on cognitive variables. Psychol Bull 2010.
- Marks, N.F, Bumpass,L.L, & jun,H. 2004 family roles and wellbeing during the middle life course.
- Nakata A. work hours, sleep insufficiency, and prevalence of depression among full time employees. A community based cross sectional study. F clinical psychiatry 2011

Neugarten, B.L, havighurst, (1961). The measurement of life satisfaction, journal of gerontology.

Ryff, C.D (1989a) happiness is everything, or is it? Exploration on the meaning of pwb. Journal of personality and social psychology, 57

Stuart J.H. Biddle, Nanette mutrie and Trish gorely. Psychology of Physical Activity. Determinants, wellbeing and interventions.

Wishing M.P (2002) Empirical clarification of the nature of psychological wellbeing. South African journal of psychology, 32,33-44

Appendices

Appendix I: Questionnaire

Makerere University School of Psychology

A study on the Effects of Physical Activity and Fatigue on Work Outcomes

Dear Participant,

You are invited to participate in this study focuses on the effects of physical activity and fatigue on work outcomes of employees. Your participation will involve completing the survey questionnaire below. The questionnaire takes 10 - 20 minutes. Your responses will be kept anonymous and confidential. Work through the items below quickly. You should often go with your first instinctive response that comes to your mind when you read the item.

Fatigue

On a scale of 1-6 where 1= All of the time; 2=Most of the time; 3=A good bit of the time; 4=Some of the time; 5=A little of the time; 6=None of the time; indicate how you feel and how things have been with you during the past few weeks/ months. For each question, please give the one answer that is closest to the way you have been feeling.

<i>How much of the time during the past few weeks/ months...</i>		1	2	3	4	5	6
F1	... did you feel tired?						
F2	... did you feel worn out?						
F3	... did you feel satisfied with your sleep						
F4	... did you feel low energy levels						
F5	... did you feel like you						

Physical Activity

The questions in this section concern the time you spend doing different types of physical activity in a typical week. Please answer these questions even if you do not consider yourself to be a physically active person.

Think first about the time you spend doing work. Think of work as the things that you have to do such as paid or unpaid work, study/training, household chores, harvesting food/crops, fishing or hunting for food, seeking employment. In answering the following questions ‘vigorous-intensity activities’ are activities that require hard physical effort and cause large increases in breathing or heart rate, ‘moderate-intensity activities’ are activities that require moderate physical effort and cause small increases in breathing or heart rate.

SN	Question	Response
<i>Physical activity at work</i>		
P1	Does your work involve vigorous-intensity activity that causes large increases in breathing or heart rate like [e.g. carrying or lifting heavy loads, digging or construction work] for at least 10 minutes continuously?	Yes _____ No _____ If No, go to P4
P2	In a typical week, on how many days do you do vigorous-intensity activities as part of your work?	Number of days _____
P3	How much time do you spend doing vigorous-intensity activities at work on a typical day?	_____ Hours _____ minutes
P4	Does your work involve moderate-intensity activity, that causes small increases in breathing or heart rate such as brisk walking [or carrying light loads] for at least 10 minutes continuously?	Yes _____ No _____ If No, go to P7
P5	In a typical week, on how many days do you do moderate-intensity activities as part of your work?	Number of days _____
P6	How much time do you spend doing moderate-intensity activities at work on a typical day?	

		_____ Hours _____ minutes
<i>Physical activity during travel to and from places</i>		
P7	Do you walk or use a bicycle (pedal cycle) for at least 10 minutes continuously to get to and from places?	Yes _____ No _____ If No, go to P10
P8	In a typical week, on how many days do you walk or bicycle for at least 10 minutes continuously to get to and from places?	Number of days _____
P9	How much time do you spend walking or bicycling for travel on a typical day?	_____ Hours _____ minutes
<i>Recreational/ Leisure activities</i>		
P10	Do you do any vigorous-intensity sports, fitness or recreational (leisure) activities that cause large increases in breathing or heart rate like [running, football, or other game] for at least 10 minutes continuously?	Yes _____ No _____ If No, go to P13
P11	In a typical week, on how many days do you do vigorous-intensity sports, fitness or recreational (leisure) activities?	Number of days _____
P12	How much time do you spend doing vigorous-intensity sports fitness or recreational activities on a typical day?	_____ Hours _____ minutes
P13	Do you do any moderate-intensity sports, fitness or recreational (leisure) activities that cause a small increase in breathing or heart rate such as brisk walking, [cycling, swimming, volleyball, etc.] for at least 10 minutes continuously?	Yes _____ No _____ If No, go to P16

P14	In a typical week, on how many days do you do moderate-intensity sports, fitness or recreational (leisure) activities?	Number of days _____
P15	How much time do you spend doing moderate-intensity sports,fitness or recreational (leisure) activities on a typical day?	_____ Hours _____ minutes
Sedentary behavior		
P16	How much time do you usually spend sitting or reclining/ resting on a typical day? (me spent sitting at a desk, sitting with friends, traveling in car, bus, train, reading, playing cards or watching television, but do not include time spent sleeping)	_____ Hours _____ minutes
P17	How much time do you usually spend sleeping on a typical day?	_____ Hours _____ minutes

Mindfulness,

On a scale of 1-6 where 1= 'Strongly Disagree and 6 = 'Strongly Agree', indicate your level of agreement or disagreement with the following statements

1 2 3

4

5 6

MIN1 I'm good at finding words to describe my feelings

MIN2 I can easily put my beliefs, opinions, and expectations into words

MIN3 I watch my feelings without getting carried away by them

MIN4 I tell myself I shouldn't be feeling the way I'm feeling

MIN5 It's hard for me to find the words to describe what I'm thinking

MIN6 I pay attention to physical experiences, such as the wind in my hair or sun on my face

MIN7 I make judgments about whether my thoughts are good or bad

MIN8	I find it difficult to stay focused on what's happening in the present moment								
MIN9	When I have distressing thoughts or images, I don't let myself be carried away by them								
MIN10	Generally, I pay attention to sounds, such as clocks ticking, birds chirping, or cars								
	passing								
MIN11	When I feel something in my body, it's hard for me to find the right words to describe it								
MIN12	It seems I am "running on automatic" without much awareness of what I'm doing								
MIN13	When I have distressing thoughts or images, I feel calm soon after								

MIN14 I tell myself that I shouldn't be thinking the way I'm thinking

MIN15 I notice the smells and aromas of things

MIN16 Even when I'm feeling terribly upset, I can find a way to put it into words

MIN17 I rush through activities without being really attentive to them

MIN18 Usually when I have distressing thoughts or images I can just notice them without
reacting

MIN19 I think some of my emotions are bad or inappropriate and I shouldn't feel them

MIN20	I notice visual elements in art or nature, such as colors, shapes, textures, or patterns of light and shadow						
MIN21	When I have distressing thoughts or images, I just notice them and let them go						
MIN22	I do jobs or tasks automatically without being aware of what I'm doing						
MIN23	I find myself doing things without paying attention						
MIN24	I disapprove of myself when I have illogical ideas						

General Mental health

On a scale of 1-6 where 1= 'Never' and 6 = 'Very Often, Since the outbreak of COVID-19 pandemic, how often have you...

		1	2	3	4	5	6
MH1	been getting any pains in your head?						
MH2	been feeling perfectly well and in good health?						
MH3	been feeling in need of a good energizer?						
MH4	been feeling run down and out of sorts?						
MH5	felt that you are ill?						
MH6	been getting a feeling of tightness or pressure in your head?						
MH7	been having hot or cold spells?						
MH8	lost much over worry?						
MH9	had difficulty in staying asleep once you are off?						
MH10	felt constantly under strain?						
MH11	been getting edgy and bad-tempered?						
MH12	been getting scared or panicky for no good reason?						
MH13	found everything getting on top of you?						
MH14	been feeling nervous and strung-up all the time?						
MH15	been managing to keep yourself busy and occupied?						
MH16	been taking longer on things that you do?						
MH17	felt on the whole you were doing things well?						
MH18	been satisfied with the way you have carried out your task?						
MH19	felt that you are playing a useful part in things?						
MH20	felt capable of making decisions about things						
MH21	been able to enjoy your normal day-to-day activities						
MH22	been thinking of yourself as a worthless person?						
MH23	felt that life is entirely hopeless?						
MH24	felt that life isn't worth living?						
MH25	thought of the possibility that you might make away with yourself?						
MH26	found at times you couldn't do anything because your nerves were too bad?						
MH27	found yourself wishing you were dead and away from it all?						
MH28	found that the idea of taking your own life kept coming to your mind?						

Job Satisfaction

On a scale of 1-6 where 1= 'Strongly Disagree and 6 = 'Strongly Agree', indicate your level of agreement or disagreement with the following statements

		1	2	3	4	5	6
JS1	I feel fairly satisfied with my present job						
JS2	Most days I am enthusiastic about my work						
JS3	Each day at work seems like it will never end (R)						
JS4	I find real enjoyment in my work						
JS5	I consider my job to be rather unpleasant (R)						

Work Engagement

On a scale of 1-6 where 1= 'Strongly Disagree' and 6 = 'Strongly Agree', indicate your level of agreement or disagreement with the following statements

No	Statements	1	2	3	4	5	6
WE1	I focus hard on my work						
WE2	I concentrate on my work						
WE3	I pay a lot of attention to my work						
WE4	I share the same work values as my colleagues						
WE5	I share the same work goals as my colleagues						
WE6	I share the same work attitudes as my colleagues						
WE7	I feel positive about my work						
WE8	I feel energetic in my work						
WE9	I am enthusiastic in my work						

Work Performance

Task performance		1	2	3	4	5	6
<i>On a scale of 1-6 where 1= 'Seldom' and 6 = 'Always', indicate your level of engagement in the following</i>							
<i>In the past 3 months,</i>							
TP1	I managed to plan my work so that it was done on time						
TP2	My planning was optimal						
TP3	I kept in mind the results that I had to achieve in my work						
TP4	I was able to separate main issues from side issues at work						
TP5	I was able to perform my work well with minimal time and effort						
TP6	Collaboration with others was very productive						
Contextual performance		1	2	3	4	5	6
<i>On a scale of 1-6 where 1= 'Seldom' and 6 = 'Always', indicate your level of engagement in the following</i>							
<i>In the past 3 months,</i>							
CP1	I took on extra responsibilities						
CP2	I started new tasks myself, when my old ones were finished						
CP3	I took on challenging work tasks, when available						
CP4	I worked at keeping my job knowledge up-to-date						
CP5	I worked at keeping my job skills up-to-date						
CP6	I came up with creative solutions to new problems						
CP7	I kept looking for new challenges in my job						
CP8	I actively participated in work meetings						
Counterproductive work behaviors		1	2	3	4	5	6
<i>On a scale of 1-6 where 1= 'Never' and 6 = 'Always', indicate your level of engagement in the following</i>							
<i>In the past 3 months,</i>							
CWB1	I complained about unimportant matters at work						
CWB2	I made problems greater than they were at work						
CWB3	I focused on the negative aspects of a work situation, instead of on the positive aspects						
CWB4	I spoke with colleagues about the negative aspects of my work						
CWB5	I spoke with people from outside the organization about the negative aspects of my work						

Personal Information

1. Your age (in years): _____
2. Your gender: Male Female
3. Years spent in your job: _____
4. Years spent in this organization: _____
5. Industry sector: what's the main business of the company (tick only one that is most appropriate)
 - a. _____ Academic or educational i. _____ Tourism
 - b. _____ Health related j. _____ Engineering
 - c. _____ Business or trade k. _____ Development consultancy
 - d. _____ ICT l. _____ Government work
 - e. _____ Banking/ financial services m. _____ Politics
 - f. _____ Legal n. _____ Community/ social service
 - g. _____ Hotel or foods o. _____ NGO
 - h. _____ Transport p. _____ Other

Job title _____

6. Which of the following best describes your position in the organization? (tick the appropriate option)
 - a. _____ Owner of the company d. _____ Lower level management
 - b. _____ Top level management e. _____ Front-line supervisory job
 - c. _____ Middle level management f. _____ Has no supervisory tasks

Highest level of education/ qualification:

- Teaching Certificate Diploma Bachelor's Degree PGDE
- Master's Degree Ph.D.

The End

Thank you for participating