



JOB STRESS AND HUMAN RESOURCES DEVELOPMENT

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ABSTRACT

Human resource development has been one of the core areas of human resource management and organisational studies due to its contribution to organisational sustainability and personal development. Most researchers generally subscribe to the view that anything that affects employees negatively, ultimately constrains productivity and organizational competitiveness. This study focused on examining the effect of job stress on staff development; specifically in the area of employee health, cognitive capacities, wellbeing and capabilities. The study employed a descriptive research design as well as a linear regression method in its examination of how job stress impact on the development of human resources. A sample of 223 was drawn from the target population, using the convenient sampling method. Data collection was done through a survey questionnaire. Empirical results suggested that job stress has negative effect on all the explanatory variables; with employees' health registering the highest impact. The results suggested that, if human resource development is perceived as one of the core elements responsible for organizational productivity, then it is cogent that firms and organizations pursue policies geared towards minimizing job stress among employees.

Key words: Job Stress; Human Resource Development, Health; Cognitive Capacities; Wellbeing; Capabilities.

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INTRODUCTION

Human resource development continues to attract significant interest among both organizational leadership and researchers due to its integral role in organizational development, sustainability, growth etc. via productivity; and ultimately, contributions to economic development. Human resource development in this study is defined as the general health, capabilities, cognitive capacity and wellbeing of employees (Swanson, 2001; Swanson and Hilton, 2008: and Lee, 2014). Khan, Khan and Khalid, (2012) suggest that the success or failure of any development project depends on the quality of human resources. The cardinal goal of human resource development is to enhance development and growth of key economic elements responsible for the growth of nations, organisational sustainability and competitiveness. Teixeira (2002) posits that human beings have productive capabilities that are considered as assets that can be tapped into the production of goods and services for national development. Armstrong, (2010) asserts that anything that diminishes the stock of these assets will end up diminishing organisations expected realisable values.

Like any other organisation, the quality of human resources in universities is critical for effective administration of the various activities and programs of the institution. Universities all over the world are major drivers of economic competitiveness in an increasingly knowledge-driven global economy. Universities contribute to both social and economic development through the development of human capital, building of knowledge-bases through knowledge development and research, dissemination of knowledge and maintenance of knowledge (Peretomode and Chukwuma, 2015). Government and civil society have some expectations in universities to train and educate the general population. The growth in demand for higher education coupled with changing skills and evolving trend in technology requires that human resources at the university level are also well developed so that they can meet

their responsibilities (Odionye, 2014). In spite of the efforts made to improve the quality of human resources in the universities, Archibond, Bassey and Effiom (2010), D'Souza, Upandhyaya and Kumar (2000), Gillespie, Walsh, Winefield, Dua and Stough (2001), Mate (2014), Owusu and Tawiah (2014), Rossi, Perrewé and Sauter (2006) and Singh, (2008) discovered that job stress is a major challenge affecting the development of human resources in public universities.

Though job stress has been identified as a major challenge to the development of human resources, Hargrove, Becker and Hargrove (2015) believe that when there is optimal amount of job stress, the development of human resources can be improved. The authors suggest that job stress enhances creativity and innovation by compelling people to think and put in maximum effort when learning. It acts as a cognitive enhancer and a motivator, which improves some aspects of intelligence and mental prowess which helps in professional capacities and development. The authors believe that some levels of job stress is positive to human resource development as it boosts commitment, increases engagement and improves general wellbeing of people.

Nonetheless, Luthans (2010) asserts that unceasingly high levels of job stress could affect people's health and impede their development. Long term job stress may lead to psychological problems which will eventually result in psychiatric disorders resulting in long absence from work. People under stress find it difficult to maintain a healthy balance between work and non-work situations (Cox, Griffiths, Barlow, Randall, Thomson & Rial-Gonzalez, 2000). Job stress may affect the immune system, impairing people's ability to learn and this can affect their development. Studies, such as Cox and Leiter (2000), Dewe and Cooper (2012) and Nayak (2008) have revealed that when stressful situations go unmanaged, the body is kept in a constant state of stimulation which results in physiological and psychological disorders and illness. Tennant (2001) maintains that chronic job

stress results in physical, emotional, mental and behavioural changes which may produce tiredness, slow reactions, difficulty in decision making, forgetfulness and anxiety, depression, heart attacks, stroke, substance abuse, alcohol intake, hypertension and immune system disturbances that increase susceptibility to infections, thus hindering people's personal development.

Job stress has been found to be prevalent among university staff (Gillespie, et al., 2001); (Archibong, Bassey, and Effiom, 2010). Mate, (2014) for instance believes that increased students intake without the corresponding intake of staff can intensify the work load on staff which can also result in job related stress. From the point of view of (Owusu and Tawiah, 2014) job stress is prominent among the administrative staff of public universities in Ghana due to the nature of their job; which includes attending meetings, monitoring, research and publication and extension services etc. This study thus seeks to examine the effect of job stress on the development of human resources in terms of general health, capabilities, cognitive capacity and wellbeing of staff at the University of Cape Coast, Ghana.

LITERATURE REVIEW

Singh and Singh, (2012) show that job stress occurs when employees attempt to cope with their responsibilities, duties and other forms of pressures related with their jobs but encounter difficulties, apprehensions and uncertainties to manage them. Akhtar (2012) describes job stress as the harmful physical and emotional responses that arise when the demands of a job do not match the worker's abilities, resources and needs. Job stress is estimated to be the largest occupational health problem, which affect human resources. The effects of job stress on the general health of people have been documented by a number of researchers. For instance, Luthans, (2010) affirms that excessive job stress is associated with the development of coronary heart diseases, certain type of cancer, and a host of other ailments including stomach ulcers,

skin rashes, migraine, asthma and increased susceptibility of infections, etc. All of which have the potential to negatively impact staff performance and productivity.

Sapra and Naati, (2013) and Hargrove, Becker and Hargrove (2015) however, present an argument which seeks to highlight some benefits of job stress on the development of human resources. These researchers expound that the challenges presented by stressful working conditions should be regarded as positive since it can lead to improved learning, increased initiative, creativity and innovation and increased performance which also contribute to better development. The authors recommend that for human resources to develop, organisations should present some amount of stressful and challenging job situations that can bring out the best in people to learn new approaches in doing things. Notwithstanding this, The American Institute of Stress (2011) affirms that prolonged exposure to job stress is associated with psychological conditions such as depression as well as physical effects like heart diseases, back pain and headaches. Butt (2009) further posits that work related stress can cause employees' health and absence problems which may also reduce individual and organisational performance. Nikon (2005) suggests that job stress has serious health repercussion and increases individual's risk and vulnerability to psycho-physiological illness.

As established by Hakanena, Schaufelib, and Aholaa, (2008) the effects of job stress on cognitive capacity include interference with a person's capacity to encode information. The authors aver that job stress can have negative effect on memory functions and cognitive functioning of the brain which are necessary for people to learn and achieve development. Cognitive capacity relates to the development of knowledge and understanding. These are what people gain by learning for a work role, and what they get from experiences over time while in the role. Knowledge and understanding may be manifested in simple forms, such as making sense of a message or may require the use of

analytical and higher-order neurological abilities, demonstrated in certain activities such as problem-solving, decision making and creativity.

Armstrong (2010) recognizes that cognitive capacity is important for employees as it assist in logic and reasoning, as well as memory and recall which are mandatory for successfully resolving workplace issues. Hakanena, Schaufelib, and Aholaa, (2008) establish that during stressful situations the body reacts by secreting stress hormones into the bloodstream. This reactions cause acute and chronic disorders which can have long term damage in certain parts of the brain. Jones and Bright, (2004) observe that job stress can affect the motor activity and behaviour of people in an observable ways. In learning situations for instance, stress can cause individuals to start an activity without completing and repetitive behaviour, where individuals unnecessarily check or learn the same thing over and over again. This behaviour can result in difficulties in maintaining concentration.

Gibb (2007) emphasises that developing human resources should ensure the enhancement of human capabilities. Capabilities are the practical skills or competence that people and organisation need to achieve the required performance. Capabilities are the freedom and ability to transform resources into valuable activities. To perform the standards expected in employment, individuals and organisations require more than certain levels of knowledge and understanding; they require capabilities. They are either inherent in a person or developed through practice. Capabilities are the sensible abilities involved in a work role. In order to effectively perform a job task, employees require better understanding and knowledge as well as capabilities. A study conducted by (Yeboah, Ansong, Antwi, Yiranbon, Anyan, & Gyebil, 2014) discovered that job stress adversely affects peoples' capabilities in terms of their ability to perform a job role successfully and for evaluating or even considering alternative.

Additionally, job stress is believed to affect employees' wellbeing. Tariq and Padda, (2014) define wellbeing as the state of being happy and healthy. Some scholars have defined happiness as psychological well-being or subjective wellbeing which is the best situation and most valuable reward to employees (Zhang and Tan, 2012); and (Wright, 2005). Grant, Christianson and Price, (2007) classify wellbeing into three categories: psychological, physical and social. According to these scholars, psychological wellbeing includes satisfaction, self-respect, and personal growth, purpose in life, environmental mastery and autonomy. The physical aspect of wellbeing involves nourishment, shelter, health care and mobility, while the social wellbeing concerns with the participation in the community, being acceptance in public, social actualization, social contribution, social coherence and social integration.

Work has a beneficial impact on all the various aspects of people's wellbeing. It gives the opportunities to meet people and make friends, and a means of increasing one's self-worth and of being valued by others. There is an increasing recognition that wellbeing of employees contributes to their development and has a direct impact on organisation's performance and productivity levels (Wright, 2005). In certain situations, however, work can contribute to stress and subsequently increase the problem of anxiety and depression which negatively affect wellbeing (Juniper, White and Bellamy, 2009). Zhang and Tan, (2012) observe that job stress and the work environment have significant influence on employees' wellbeing. They suggest that employee relationships with support and attachment between colleagues will help to promote employee social wellbeing. Grant, Christianson and Price, (2007) recommend that organisations should develop their human resources by improving on their employee wellbeing as it leads to happiness and productivity of workers.

METHODOLOGY

The study made use of descriptive research design and linear regression analysis in its examination of the extent to which job stress influence human resource development. Target population comprised of staff of the University of Cape Coast, Ghana. A sample size of 223 was drawn from the target population, using the convenient sampling approach. However, 171 questionnaires were completed and returned, representing 77% response rate.

The questionnaire mainly comprised of Job Stress Inventory items, which composed of 60 items with a 6-point interval. The Job Stress Inventory questionnaire is a psychometrically validated stress questionnaire developed on a broad theoretical base with normative data. It is empirically based, standardised and lends itself to a variety of workplace applications. It can be used in a broad spectrum of organisations and for a wide range of job levels. The instrument can be customised to support use in a wide variety of group survey and research application.

A principal component analysis (PCA) was conducted using orthogonal varimax rotation to find out if these different explanatory variables (health, cognitive capacities, capabilities and wellbeing) could account for the development of human resources. In other words, the PCA was done to assess whether these four variables could measure the development of human resources. The total variance explained was 67.23%, indicating that these variables explained or accounted for the development of human resources; suggesting that other variables, which explained about 33% of human resource development, were not captured in this study.

The Kaiser – Meyer – Olkin (KMO) statistics was computed with a value of 0.842 which was statistically significant and above the generally

accepted value of 0.6. The Barlette's Test of Spherity Values was also significant at a $p = .000$. These thus, suggest that, using the PCA was appropriate for this operation. A Cronbach's Alpha reliability coefficient of 0.816 was realized from the reliability test. The relationship between job stress and the study variables was tested with a Pearson product moment correlation co-efficient.

The study used the simple linear regression method to determine the effect of job stress on the variables described in the study. The methods employed in the study were subjected to ethical review by the Institutional Review Board (IRB) of the University. Ethical clearance was sought and approval given before data collection began. Issues relating to the ethical conduct of research such as informed consent, confidentiality, privacy and anonymity were upheld in this study.

RESULTS AND DISCUSSION

First, the study examined the descriptive statistics of the dependent and the independent variables. With respect to job stress, the mean score was 51.46 (median = 51, skewness = -0.067) with a standard deviation of 11.745. The mean health score was 13.3 (skewness = -0.444, median = 14) with a standard deviation of 4.6. As evident on Table 1, the mean wellbeing score was 15.42 (skewness = -0.322, median = 16) with a standard deviation of 4.8. The distribution of cognitive capacities was negatively skewed (skewness = -0.624) with majority of the respondent having a cognitive capacities score of more than 26.6 (mean).

The median cognitive capacities score was 28 with a quartile deviation of 4.5. The distributions of health, wellbeing and capabilities were approximately normal. Table 1 illustrates the descriptive statistics of job stress and explanatory variables.

Table 1: Descriptive statistics of job stress and the independent variables

Source: Field survey, (2019)

Variable	Mean	Median	Skewness	Standard deviation	Quartile deviation
Job Stress	51.46	51	-0.067	11.745	-
Health	13.3	14	-0.444	4.6	-
Wellbeing	15.42	16	-0.322	4.8	-
Capabilities	21.26	22	-0.342	3.7	-
Cognitive capacities	26.6	28	-0.624	-	4.5

In order to determine the effect of job stress on the four components of human resource development (health, cognitive capacities, wellbeing and capabilities), a simple linear regression analysis was conducted and the coefficient tested. The model used the following statistical equation.

$$Y = \beta_0 + \beta X + \varepsilon$$

Y = dependent variable (in this case each component of HRD)

β_0 = the constant or the intercept

β = the regression coefficient

X = the independent variable (job stress)

Preliminary analysis was conducted to ensure no violation of normality (as discussed in the descriptive analysis) and linearity. The assumption of linearity was tested using the Pearson product moment correlation. As evident in Table 2, all the variables significantly inversely related with job stress with Pearson correlation coefficients of -0.292 or more and a p-value of 0.000. This indicated that increases in job stress levels are associated with reduction in cognitive capacities, capabilities, health and wellbeing of employees.

Table 2: Correlation between job stress and the study variables

		Cognitive capacities	Capabilities	Health	Wellbeing
Job Stress	r	-.292	-.335	-.548	-.478
	P-value	.000	.000	.000	.000
	N	171	171	171	171

Source: Field data, (2019)

The model summary of the effect of job stress on health showed that about 30 percent of the variations in health were attributed to variations in job stress levels. The explanatory power was significant as indicated by an F statistic of 72.523 with an associated p-value of 0.000. From the regression model (Health = 24.495 – 0.217 job stress level) it is thus evident that job related stress inversely affects health and an absence of job stress results in a health score of 24.495. Given a t - statistic of -8.516, a p-value of 0.000 and a

confidence bounds not overlapping zero (-0.267, -0.167) the effect of job stress on health was statistically significant (Table 3). This meant that increases in job stress levels reduces health status of employees. This result confirmed the finding of Nikon (2005) and Butt (2009) who espoused that job stress reduces staff's health and affects their job performance levels. Further, the result of this study corroborates with the discovery of (Luthans, 2010), whose study revealed a negative correlation between job stress and the health of staff.

Table 3: Effect of job stress on staffs' health

Model	Unstandardized Coefficients		Standardized Coefficients	T	p-value	95% Confidence Interval for B	
	B	Std. Error	Beta			Lower	Upper
(Constant)	24.495	1.344		18.223	.000	21.84	27.14
Job Stress	-.217	.025	-.548	-8.516	.000	-.267	-.167

a. Dependent Variable: Health; $r = 0.548$, $r^2 = 0.3003$

Another variable examined in relation with job stress was cognitive capacities of staff. Evidence from the study showed that job stress explains 8.5 percent of the variations in cognitive capacities. The explanatory power, even though small, was found to be significant ($F = 15.767$, $p\text{-value} = 0.000$). The regression model (Cognitive capacities = $35.686 - 0.177$ stress level) showed that where there is an absence of job stress, cognitive capacities will be 35.686 (Table 4). It was also evident that job related stress inversely affects cognitive capacities of staff. That is, increases in job stress levels reduce one's cognitive capacities. The effects of job stress on cognitive capacities was significant ($t = -3.97$, $p\text{-value} = 0.000$, confidence interval = $-0.265, -0.089$).

This finding confirms the result of (Wright, 2005), who reported that job stress negatively affect intellectual functioning in the form of decision making and problem solving. The finding also supported the observation of (Jones and Bright, 2004), who observed that job stress retarded people's ability to learn and affected their concentration. The result of the study by (Hakanena et al., 2006) reported that job stress has negative effect on memory functions and cognitive functioning of the brain, thus supporting the finding of this study. This result is presented on Table 4.

Table 4: Effect of job stress on cognitive capacity

Model	Unstandardized Coefficients		Standardized Coefficients	t	p-value	95% Confidence Interval for B	
	B	Std. Error	Beta			Lower	Upper
(Constant)	35.686	2.349		15.190	.000	31.04	40.32
Job Stress	-.177	.045	-.292	-3.970	.000	-.265	-.089

a. Dependent Variable: Cognitive capacity, $r = 0.292$, $r^2 = 0.085$

The next issue examined was how job stress affects the wellbeing of respondents. The regression model explained 22.8 percent of the variations in wellbeing and the overall effect was statistically significant ($F = 49.941$, $p\text{-value} = 0.000$). As depicted by the regression model (Wellbeing = $25.444 - 0.195$ job stress) in Table 5, a unit increase in job stress level reduces wellbeing by 0.195 given a constant of 25.444 and a unit decrease in job stress level will increase wellbeing by 0.195.

Generally, it was observed that job stress significantly inversely affect wellbeing ($t = -7.067$, $p\text{-value} = 0.000$, confidence level = $-249, -.140$). This discovery is similar to the finding of (Juniper, White and Bellamy, 2009) whose study reported a significantly negative effect of job stress on employee wellbeing. The result of this study also confirmed the survey by (Zhang and Tan, 2012) who found a negative effect of job stress on employees' wellbeing. The result of this is illustrated in Table 5.

Table 5: Effect of job stress on wellbeing

Model	Unstandardized Coefficients		Standardized Coefficients	t	p-value	95% Confidence Interval for B	
	B	Std. Error	Beta			Lower	Upper
(Constant)	25.444	1.455		17.493	.000	22.57	28.31
Job Stress	-.195	.028	-.478	-7.067	.000	-.249	-.140

a. Dependent Variable: Wellbeing, $r = 0.478$, $r^2 = 0.228$

The last variable that is believed to be affected by job stress is capabilities. Employee capabilities reflect individual's perception of his or her own knowledge, skills and experiences, abilities to achieve results, and room for potential growth. It is believed that developing human resources make them more capable of completing tasks successfully and competitively (Bontis and Serenko, 2007). The application of the capability concept has largely involved the creation of innovative learning experiences that help develop the individual in the workplace. Like the previous variables (health, wellbeing and cognitive capacities), the study explained capabilities using job stress. Data from the study showed that job stress explains about 11percent of the changes in capabilities. With an F-

statistic of 21.383 and a p-value of 0.000 the total variance explained was significant. The regression model (Capabilities = 26.736 – 0.163 job stress) shows that job stress inversely affect respondents' capabilities. That is, increase in job stress reduces employee capabilities and decrease in job stress enhances capabilities. With a t statistic of -4.624, a p-value of 0.000 and a confidence bounds that do not overlap zero (-0.152, -0.061) the effect of job stress on capabilities was significant (Table 6). This finding is in line with the results of Yeboah, Ansong, Antwi, Yiranbon, Anyan and Gyebil (2014) who discovered that job stress adversely affects peoples' capabilities in terms of their ability to perform a job role successfully and for evaluating or even considering alternative.

Table 6: Effect of job stress on capabilities

Model	Unstandardized Coefficients		Standardized Coefficients	t	p-value	95% Confidence Interval for B	
	B	Std. Error	Beta			Lower	Upper
(Constant)	26.736	1.214		22.028	.000	24.34	29.13
Job Stress	-.106	.023	-.335	-4.624	.000	-.152	-.061

a. Dependent Variable: Capabilities, $r = 0.335$, $r^2 = 0.112$

CONCLUSION

This study sought to analyse the effect of job stress on some components of human resource development: health, cognitive capacities, wellbeing and capabilities of employees. Although, some empirical literature posited a positive effect of job stress on these variables, which includes increase innovation and creativity, higher degree of learning and increase performance, this study

discovered a significantly negative effect of job stress on all the variables that were analysed (health, cognitive capacity, wellbeing and capabilities). This study's results suggest that in the presence of job stress, employees stand the risk of reduced health, cognitive capacity, wellbeing and their capabilities. It is recommended that, jobs which are inherently stressful should be redesigned to minimize some of the stressful elements in order

to increase the development of human resources. Successful implementation of job redesign geared towards stress reduction has the potential to positively influence job satisfaction, employee loyalty, general wellbeing, retention and ultimately increase productivity.

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