

American Journal of
Psychology
(AJP)



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Abstract

Purpose: The Corona Virus disease popularly known as COVID-19 was first diagnosed in humans in Wuhan, China in December 2019. The study sought to analyze the influence of psychosocial factors on role performance among COVID-19 frontline Healthcare Workers in Busia County, Kenya.

Methodology: Cross-sectional research design was employed and multi stage sampling adopted to get the sample size of 298 respondents from a population of 873 frontline healthcare workers in Busia County, Kenya. Data were collected using questionnaire and interview schedule. The collected data were analyzed with multivariate regression analysis while qualitative findings were transcribed under themes.

Findings: The variation explained by the psychosocial factors was 0.098 (9.8%). This did not change much after inclusion of confounders in the model with the final model (0.133). The study concluded that work-related psychosocial factors, especially emotional demands, work pace and role conflicts contributed to challenging work performance. Therefore psychosocial factors were a major predictor of role performance.

Recommendation: The study recommends need to use based psychosocial factors to help change frontline HCWs working practices in order to enable them realize full potential in role performance.

Key Words: *COVID-19, Frontline Healthcare Workers, Pandemic, Psychosocial factors & Role Performance*

INTRODUCTION

The Corona Virus disease popularly known as COVID-19 was first diagnosed in humans in Wuhan, China in December 2019. To date, the Covid-19 pandemic has raised questions on how human life is and should be organized (Tiago *et al*, 2021). In Kenya, the first confirmed case of COVID-19 was reported on 13th March, 2020 (MoH, 21, June 2020). The number have ever increased leading to occasional lockdown of the country.

The effects that COVID 19 has had on various sectors of life are enormous. The pandemic has affected how people live, interact and ultimately work. In particular, the work place has been tremendously affected and the growing prevalence of mental health disorders affecting job performance has accelerated and particularly among the frontline healthcare workers (Tomline *et al*, 2020). According to Huitt (2004), the relationship between job performance and self-concept is more a consequence of social aspects of the workplace than of ability. Self-concept is said to be more of cognition aspect (Franken, 1994; Huitt, 2004). However, Poon (2006) in a research examining the relationship among three self-concept – traits, entrepreneurial orientation and firm performance discovered that self-concept was positively related to the performance of the employees. This is because one's self-concept sets limits on one's behavioral possibilities in several other ways besides the social aspect. An individual with a high self-concept may be willing to accept challenging responsibilities while the contrary may be the case for an employee with low level of self-concept. Franken, (1994) also state that when people know themselves, they can maximize outcomes because they know what they can and cannot do. This is in agreement with the findings of Judge and Bono (2001), who presented a meta-analysis showing that components of a positive self-concept construct were among the best predictors of job performance. However, the fact that an employee accepts challenging responsibilities because of his/her level of self-concept may not necessarily translate into good job performance.

Studies have shown that work-family conflict (WFC) is a regular occurrence among employees in organizations such as hospitals (Durand; Burrell; Stetz & Castro, 2003; Centre for American Progress, 2010). This is because individuals identify themselves through social roles. For many people, work and family roles and self-relevant life roles are most important. As demands and expectations within the family and work domains are not always compatible, conflict between family and work life can arise (Fub *et al.*, 2008).

Job satisfaction is another determinant of role performance. Although a complex and multifaceted concept, job performance is associated with a person's achievement, either quantitative or qualitative (Buchanan, 2010). Job satisfaction can also be an important indicator of how employees feel about their jobs and a predictor of work behaviors (Hoppock, 2005). Putman (2002), in his study views job satisfaction and performance in a combination of three elements: task satisfaction, employment satisfaction and market satisfaction. Task satisfaction comes from performing the task required of the job. Employment satisfaction consists of elements such as personnel policies, benefits, career opportunities, work environment, style of management among others. Market satisfaction is comprised of forces external to the organization that affect the individual's job. The result of the study showed that task satisfaction is strongly influenced by a person's aptitude.

In contrast, a study by Garcez (2006), found out that self-esteem moderate's job satisfaction-job performance relationship. However, Dot (2007); Agile (2009); Buchanan (2010) claimed that a cause and effect relationship does not exist between job satisfaction and job performance. However, there appears to be a remote relationship between job satisfaction and job performance. It is said that the relationship between the two variables are determined by some moderating factors such as personality trait, self-esteem, mood, attitude among others (Garcez, 2006). In a bid to resolve this controversy, Judge; Thoresen; Bono; Patton (2001) through a meta-analysis of data from 312 samples involving 54,417 individuals arrived at two key findings. First, job satisfaction and performance are moderately related. Second, the relationship between job satisfaction and performance is much more complex than originally thought.

Job stress has effect on job performance of healthcare workers. There are both positive and negative stress experiences with different behavioral outcomes. Just as stress differ as a function of the individual; it also differs as a function of one's type of occupation. Some occupations are of course, inherently more stressful than others (Kreitner & Kinicki, 2004). Lindstrom (2005); Park (2007) also identified four work environments that can trigger stress: high-strain jobs, active jobs, low-strain (relaxed) jobs and passive jobs. They claimed that workers with high strain jobs were more likely than those with lower strain jobs to report reduced work activities due to a long term health problem. Study by Palmer; Cooper and Thomas (2004); Hansen (2008) posited that job stress can lead to lose in productivity is critical to maximizing one's job performance. Thus there is the possibility that healthcare workers experiencing job stress may likely suffer low job performance. This study endeavored to analyze the influence of psychosocial factors on role performance of COVID 19 frontline healthcare workers in Busia County, Kenya.

Materials and Method

Participants

The study participants consisted of frontline healthcare workers including doctors, clinical officers, nurses, administrative cadre among others sampled from level four public healthcare hospitals in Busia County. The County public and sanitation chief officer approved the study and participants provided informed consent prior to completing the online survey.

Materials

The survey contained a battery of measures, totaling 23 questions with a Likert scale ranging from 5= Always, 4= Often, 3 =Sometimes, 2= Seldom, 1=Never. Questions varied from if the worker make decisions about their work, the work environment, opportunity for skills development and quantity/quality of work assigned.

Role performance was assessed using role conflict and role ambiguity scale developed by Rizzo, House and Lirtzman (1970). Each of twenty-nine items was rated on a scale ranging from 1 to 7. A score of 1 indicated the healthcare worker perceived that the statement was not reflective of one's job. A score of 7 indicated strong agreement that the item reflected the healthcare worker's occupation. The role ambiguity items were reverse scored because these items were worded positively for clarity. Thus, higher scores on the role questionnaire were indicative of higher levels of role conflict and role ambiguity. A summary of the research variables is given in table 1.

Demographic Information.

Demographic information collected included age, gender, marital status, and religious affiliation, highest level of education, type of work unit, work specialization and employment status.

Procedure

A cross-sectional research design with survey method was employed to gather information on the influence of psychosocial factors on role performance among covid-19 frontline healthcare workers. Data collection was conducted with the help of trained research assistants. A random sample of 5 county hospitals was selected from a sample frame comprising (approximately 86) from public health facilities in Busia County. Within each hospital a proportional sample size of frontline healthcare workers were selected to participate in the study. Data were collected using a questionnaire developed on three constructs relating to COVID-19 pandemic. Researchers administered questionnaire through Open Data Kit (ODK) using mobile phone platform to reduce contact with print questionnaire during the COVID-19 period. Interview schedule was constructed based on the study variables. The questionnaire was administered in English, the official language of instruction in Kenyan public health facilities. The questionnaire was completed in approximately 30 minutes in a work environment setting. Completed questionnaires were electronically checked for errors prior to data entry. The use of ODK reduced data collection errors by close to 100%. Research procedures were approved by the Institutional Ethical Review Committee of Masinde Muliro University of Science and Technology. The permit to conduct the study in Busia County was granted by National Commission for Science Technology and Innovation (NACOSTI) in Kenya. The participants were verbally briefed on their rights as participants in the study and signed informed consent for as a guarantee of anonymity and willingness to participate. Only Frontline Healthcare workers present at the time of data collection were included in the study.

Data analysis

Data analysis involved treating Likert-type scale data as interval measures. Cronbach's α scale was employed to test internal reliability consistency for each the variables. Multiple regression analysis with the help of statistical analysis system (SAS) was conducted to investigate the association between socio-demographic characteristics and psychosocial factors on role performance. Descriptive statistics, including means (M) and standard deviations (SD), were also used to summarize the data. Each categorical variable was dummy-coded and tested against a reference group with 95% confidence level and P-value set at less than 0.05 considered statistically significant.

Contribution to the literature

This study provides a systematic review on the predictive nature of psychosocial factors on role performance of frontline healthcare workers during COVID-19 pandemic. In addition it reveals a considerable coverage of the psychosocial factors in addressing role performance. Thus, the need to reflect towards addressing the link between psychosocial factors and role performance among healthcare workers during COVID-19 pandemic.

Results

Socio-demographic characteristics as predictor of Role performance

To find the extent to which socio-demographic characteristics predicted role performance, a multivariate logistic regression model was run. The results are presented in Table 1.

Table 1: Linear regression analysis on socio-demographic characteristics as predictor of role performance

Model	Parameter Estimate		<i>T</i>	95% CI	P value
	B	Std error			
Male	0.058	0.041	1.41	- 0.023 – 0.140	0.159
Age	- 0.007	0.002	- 3.48	- 0.011 - - 0.003	0.0006
Married	- 0.119	0.044	- 2.72	- 0.206 - - 0.033	0.007
Catholic	- 0.028	0.041	- 0.66	- 0.100 - - 0.055	0.055
College / University	- 0.100	0.081	- 1.21	- 0.258 – 0.061	0.225
Urban	- 0.080	0.041	- 1.93	- 0.162 – 0.001	0.054
Medical / Surgical; Paediatric; Maternity; Out-Patient	- 0.036	0.042	- 0.87	- 0.120 – 0.046	0.385
Years of service	- 0.006	0.002	- 2.73	- 0.011 - - 0.002	0.007
Doctors / Clinical Officer / Nurse / Midwife	- 0.074	0.042	- 1.79	- 0.156 – 0.007	0.074
Permanent	- 0.087	0.042	- 2.09	- 0.169 - - 0.005	0.038
Undergraduate / Graduate	0.020	0.050	0.40	- 0.078 – 0.118	0.692

Dependent variable: Role performance

Prior to conducting regression analysis as indicated in Table 2, certain statistical assumptions were met. The assumptions were related to the normality of the data, linearity of the relationship and equality of the variances.

Results from Table 1 show a strong causal relationship between age, marital status, years of service, and being a permanent employee and role performance. A negative coefficient suggests that as the independent variable increases, the dependent variable tends to decrease. Age negatively affected role performance. One unit increase in age resulted in 0.007 decrease in role performance ($p = 0.0006$). Equally, being married led to a decrease in role performance by 0.119 ($p = 0.007$). Available evidence also show that one unit increase in years of service was statistically significantly associated with a 0.006 unit decrease in role performance ($p = 0.007$). There was also evidence of lower role performance among permanently employed frontline

healthcare workers and those working in urban health facilities than those on contract or part-time employees ($p = 0.038$) or in rural settings ($p = 0.054$). Being a catholic faithful ($p = 0.055$) or doctor/clinical officer/nurse ($p = 0.074$) was marginally significantly associated with a decrease role performance.

The Influence of Psychosocial factors on Role performance

The study examined the influence of psychosocial factors on role performance on frontline healthcare workers. Multivariate analysis was employed. Table 2 shows the regression of demographic characteristics and psychosocial factors over role performance.

Table 2: Multivariate regression analysis of the relationship between psychosocial factors and role performance

Model	Parameter Estimate		<i>T</i>	95% CI	P value
	<i>B</i>	Std error			
Urban	-0.052	0.042	-1.24	-0.136 - 0.031	0.218
Male	0.078	0.041	1.89	-0.003 - 0.159	0.060
< 35 years	0.070	0.058	1.21	-0.043 - 0.184	0.226
Married	-0.077	0.049	-1.58	-0.173 - 0.019	0.116
Catholic	-0.014	0.040	-0.36	-0.093 - 0.064	0.719
College / University	-0.110	0.081	-1.36	-0.269 - 0.049	0.175
Medical / Surgical; Paediatric; Maternity; Out-Patient	-0.003	0.060	-0.06	-0.122 - 0.115	0.955
Duration of work: < 8 years	0.014	0.060	0.24	-0.103 - 0.132	0.811
Doctors / Clinical Officer / Nurse / Midwife	-0.072	0.060	-1.19	-0.190 - 0.047	0.235
Permanent	-0.018	0.051	-0.36	-0.118 - 0.081	0.717
Undergraduate / Graduate	0.050	0.048	1.04	-0.045 - 0.145	0.301
Psychosocial Factors	0.278	0.052	5.31	0.175 - 0.381	<0.0001

Dependent variable: Role performance

From Table 2, the original variation explained by the psychosocial factors was 0.098 (9.8%), which did not change much after inclusion of confounders in the model with the final model (0.133). Thus, 13.3% of the variability in role performance could be explained by the independent variables in the model ($R^2 = 0.133$). The coefficient for the final model after controlling for the socio-demographic variables was lower at 0.278 compared to the initial individual coefficient value of 0.291 indicating the impact of psychosocial factors is independently high on role performance but decreases after controlling for the confounders. The model predicted role performance of the frontline healthcare workers ($F = 4.8$, $p < 0.0001$) with the association being highly statistically significant ($\beta = 0.278$, 95% CI: 0.175 - 0.381, $p <$

0.0001). Male respondents experienced increased role performance than females after controlling for the confounders with a borderline p value of 0.060 ($\beta = 0.078$, 95% CI: -0.003 - 0.159, $p = 0.060$).

Discussion

The findings indicate a statistically significant association between psychosocial factors and role performance. The findings imply that psychosocial factors enhance role performance of Frontline HCWs. Participants in this study may have high level of self-concept which suggests that they hold positive opinions about themselves. This may be attributed to the positive thought patterns of the healthcare workers orientation that care provision is a calling. The findings are further reinforced by some key informants who stated that;

'We have experienced increased fear and anxiety due to some of use having had a positive result after testing. We lack of social support system like counselling, material support and isolation for those who are positive. We don't have any control of the work environment like before Covid-19. Moreover, stigma is very common among our staff found positive' (Health Facility, 4).

The finding are in consistent with those of Lindstrom (2005) & Park (2007), who found out that workers with high strain jobs were more likely than those with lower strain jobs to report reduced work activities. This confirms studies that as incompatibility between demands and expectations within the family and work domains rises, conflict between family and work life rises (Fub, *et al* 2008. On job satisfaction, Garcez (2006) posits that job satisfaction moderates role performance.

The findings further show that male frontline HCWs experienced increased role performance due to psychosocial factors as compared to their female counterparts. Distressful psychosocial factor lowers role performance among male than female HCWs meaning role performance to female HCWs is indifferent to psychosocial factors. These findings represent a departure from the result of Popoola and Ilugbo (2013), who found no significant difference in the influence of psychosocial factors on job performance of female teachers in Ilorin metropolis based on age. In another study, Fleura, Erika and Naim (2015) noted that the levels of stress experienced by teachers in Kosovo explicable through levels of education and place of residence. Nonetheless, there are complex relationships between several types of stressors and characteristics such as age, working experience, educational level, or place of residence to authoritatively link psychological factors to role performance in the workplace.

Frontline HCWs male's increase in role performance than females after controlling for the confounders with a borderline p value of 0.060 ($\beta = 0.078$, 95% CI: -0.003 - 0.159, $p = 0.060$) is probably because women have more elaborate support systems than men and so lack of emotional support regarding the work does not have much effect on them. Thus, when social support is lacking, males react by distancing themselves from patients, whereas women have other sources of support that buffer the lack of this type of support. This further implies that males, in particular are important mediators of relationship between work characteristics and role performance.

Conclusions

Psychosocial factors are key to frontline HCWs since they experience the challenge of balancing job distress and personal health protection. This study further finds work-place psychosocial factors to be responsive and imperative in improving role performance of frontline HCWs by inculcating more resiliencies. For instance those HCWs with high resilience, ability to cope with distress are likely to show uninterrupted role performance in the wake of COVID-19 situation.

The study concluded that work-related psychosocial factors, especially emotional demands, work pace and role conflicts contributed to challenging work performance.

Recommendations

There is an urgent need to use evidence based psychosocial factors such as continues medical education, material and social support to help change frontline HCWs working practices in order to enable them realize full potential *in* role performance during COVID-19 pandemic period.

Based on study findings education interventions with the aim of creating awareness on a variety of psychosocial factors among HCWs is essential and has the probability of cushioning against decline in role performance. On the other hand, there is need for healthcare authorities to plan and inculcate the necessary work-related psychosocial factors to frontline HCWs in order to leverage on role performance in the wake of COVID-19 pandemic

Limitations

This study includes small sample size and inadequate diversity of the sample characteristics, which may have reduced the generalizability of the findings. Additionally, respondents were from health facilities from same County, which may not be representative of frontline HCWs at Country level. The psychometric qualities of the constructs under study adopted test items development from a specific cultural orientation. That might have compromised reliability and validity. COVID-19 questions also need to be better established with reliability and validity analyses. It may be that this assessment of frontline HCWs' views much latter after the emergence of COVID-19 are unique and respondents' perspectives would differ if measured at other times. Future research should evaluate whether frontlines HCWs' response change across time as the pandemic unfolds. However, the findings were generally consistent with similar prior studies conducted.

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