

Fortitude in the face of crisis: Unraveling the nexus of grit, motivation, and self-esteem among health workers in COVID-19 treatment and diagnostic centres in Nigeria

Psychological effect of COVID-19 among health workers

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Abstract

Objective: Few studies have been conducted to assess the psychological status of healthcare workers during the COVID-19 pandemic in Nigeria. This study aims to assess the grit, motivation, and self-esteem of health workers in the COVID-19 treatment centres and the relationship between grittiness, low self-esteem, and motivation.

Method: A cross-sectional study was performed via an online survey on 113 consenting and consecutively enrolled health workers in 56 public and private COVID-19 management centres in Nigeria. The grit questionnaire instrument developed by Duckworth, Hellriegel and Slocum's motivation instrument and Rosenberg-validated self-esteem scale was adopted.

Results: The demographic characteristics showed their average age was 39.876 years (M = 39.876, SD = 9.0289), with a median age of 38 years (Mdn = 38). Nurses (27.19%), health attendants (16.67%), medical laboratory scientists (14.04), medical doctors (12.28%) and others participated in the study, Grittiness is positively and weakly correlated with self-esteem ($r = 0.24675$, $p = 0.00842$). There is a significant correlation between grittiness and motivation ($p < 0.05$). Also, there is no statistically significant correlation between motivation and self-esteem ($p > 0.05$). Motivation is negatively and weakly correlated with grittiness ($r = -0.33316$, $p = 0.00031$).

Conclusion: The findings suggest that grittiness plays a significant role in influencing self-esteem. Additionally, gender was a significant predictor, indicating that males may have lower self-esteem compared to females. However, motivation did not show a significant association with self-esteem. Encouraging the development of grit and resilience among health workers may contribute to improved self-esteem and overall well-being.

Keywords: COVID-19, Self-esteem, Motivation, Grit, Health workers, COVID-19 treatment centre

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Plain English Summary

The COVID-19 pandemic affected millions of people, especially when hospitals got busier and safety measures were enforced. However, there hasn't been much research on how the psychological status of healthcare workers in Nigeria. So, we conducted a study to understand how healthcare workers in COVID-19 treatment centres felt. A total of 113 healthcare workers comprising Nurses (27.19%), health attendants (16.67%), medical laboratory scientists (14.04), medical doctors (12.28%) and others from different COVID-19 treatment centres in Nigeria were enrolled with informed consent. Gritness, Self-esteem and Motivational scales with reliability scores of 0.78 -0.81 were adopted to determine the levels of grit and motivation among the health workers. The relationship among these psychological factors was also analyzed. On average, these healthcare workers were around 39 years old. Being determined (gritty) was linked to feeling good, motivation which was connected to determination, but not to how good they felt about themselves. Men tend to have lower self-esteem compared to women. In conclusion, our study suggests that grittiness and self-esteem play a big role in how healthcare workers feel about themselves. Encouraging determination and resilience among them could help improve their self-esteem and overall well-being, which is important for providing better care, especially during tough times like the COVID-19 pandemic.

Introduction

Millions of people have been affected by the novel coronavirus (COVID-19) pandemic, especially during spikes in hospital admissions and cases when physical segregation was required or encouraged to stop the virus's spread. A side effect of the physical separation intended to stop the COVID-19 virus from spreading is a decline in social interaction with friends, family, and coworkers. Therefore, physical separation has the unintended effect of worsening mental health, as evidenced by an increase in depressive and anxiety symptoms (1). The COVID-19 pandemic had a worldwide impact, posing unprecedented challenges. Disaster management was unprecedented in healthcare systems around the world, and the speed with which changes had to be implemented was overwhelming. The recent COVID-19 pandemic has generated more interest in the topic of fostering grit, motivation, and Self-esteem among healthcare workers (2). Grit is defined as a long-term goal-oriented passion that drives individuals to work through challenges, including failure and adversity, over time (3). Grit is commonly regarded as a higher-order construct with two components: persistence of effort and consistency of interest. These two aspects refer to the proclivity to work hard for extended periods despite setbacks and without frequently changing goals and interests (4). Motivation has been defined as the driving force that propels people to initiate and achieve their goals, as well as to meet a need or uphold a value (5).

Self-esteem refers to the contentment individuals have with their characteristics, emotions, thoughts, and a sense of positive regard towards oneself that develops as one meets self-relevant goals (6). Self-esteem varies among individuals, with some individuals exhibiting a favourable view of oneself, while other individuals may exhibit negative or uncertain views of the self, and the ability to sustain healthy self-esteem has

been attributed to life achievements and better relationships (6, 7). Orth et al. also believe that with an increase in age, individuals are more likely to have increased relationship and job satisfaction as well as increased and stable salaries and as well aim for higher positions, contributing to the rise in self-esteem throughout adulthood (7). Self-esteem constitutes an essential part of grit. For healthcare professionals, choosing a field appropriate to one's self-conception is particularly important in terms of coping with the difficulties when they encounter such. It has been argued that healthcare professionals' ability to act effectively and appropriately is closely correlated with their self-esteem and motivation (8).

Resilience and motivation are variables of grit, and motivation has been defined as the driving force behind which people strive to initiate and achieve their goals and fulfil a need or uphold a value. Therefore, motivation plays a significant role in the development of resilience (5). The American Psychological Association in 2012 defined individual resilience as the process of adapting well in the face of adversity, trauma, tragedy, or threats. It also includes coping with significant stress caused by problematic and toxic personnel or workplace relationships, serious health problems, and work or financial stressors (9). Resilience involves the capacity to bounce back from challenging situations but, it also provides the opportunity for personal growth. Resilience is not necessarily a personal trait but involves behaviours, thoughts, and actions that an individual can learn and develop over time. Adeniyi et al. conducted a survey between April and June 2020 among 112 doctors (specialists, medical officers, and resident doctors) employed at a tertiary hospital in a Nigerian city during a meeting on pandemic preparedness. Only 35% of the doctors who responded to the survey indicated that they would be willing to work in COVID-19 treatment facilities because they

believed they lacked sufficient training, resources, and commensurate pay (10).

In India, high self-esteem was reported among health workers who delivered their professional duties in caring for COVID-19 patients despite their stigmatization experience (11). In addition, a positive correlation between resilience and self-esteem among health workers from COVID-19 hospitals in Bosnia was also reported (12). A report from Nigeria identified high self-esteem among nursing students who provided quality care to patients with assertiveness in Southeast Nigeria (13). However, During the COVID-19 pandemic in Nigeria, information on self-esteem, grittiness and motivation of health workers required to deliver their professional duties in caring for COVID-19 patients is lacking.

This study aims to assess the grit, motivation and self-esteem of health workers in COVID-19 treatment and diagnostic centres. Specifically, the study sought to examine how the interplay of these psychological variables of the health workers in COVID-19 intervention, to understand the impact of grit on the self-esteem of health workers in COVID-19 treatment centres in Nigeria, explore the relationship between socio-demographic factors and self-esteem of health workers in COVID-19 centres in Nigeria and examine the relationship between grittiness, low self-esteem and motivation among health workers in COVID-19 treatment centres in Nigeria.

Methods

This is a cross-sectional study performed via an online survey (<https://bit.ly/nimrcovid19research>) which ran from 23rd June 2020 during the first wave of COVID-19 in Nigeria, the first wave in Nigeria is February 27 through November 30, 2020, as reported (14), and our data collection span till 15th of March 2021 (the second wave). Nigeria stands as the fifth most affected African country and the seventy-seventh globally, with a total of 162,593 reported cases of COVID-19 and 2,048 deaths attributed to the virus. COVID-19 has been confirmed in all 36 States as well as the Federal Capital Territory during this second wave (15). In Nigeria, the index case was documented on February 27, 2020. Subsequently, over 68,000 cases of COVID-19 cases have been confirmed, resulting in 1173 fatalities as of November 30, 2020 (14). We therefore assess the grit, motivation and self-esteem of health workers in the COVID-19 treatment and diagnostic centers.

One hundred and thirteen (113) consenting and consecutively enrolled healthcare workers who worked in different testing and treatment centres drawn from 56 Federal, State, and private health institutions in Nigeria participated in the survey.

This study was conducted among healthcare workers who were involved in COVID-19 testing and treatment of patients in 56 Federal, State, and private health institutions in Nigeria. They included medical laboratory scientists, medical doctors, nurses, pharmacists and others.

All questions in the questionnaire were directed towards providing answers to the research objectives. For this study, a well-structured 31-item questionnaire with closed-ended questions was adopted and presented with four major domains: The first domain is limited to demographic details. The second domain assessed the grit of health workers. The third domain focused on the motivation of health workers. The fourth domain assessed the self-esteem of health workers. Every person who filled out the form had the option to leave the study at any time.

We used the grit questionnaire instrument developed by Duckworth et al (16). It measures how people can move on even in the face of adversity or criticism or knowing that there is imminent danger in what they are embarking on. The responses include Very much like me, mostly like me, somewhat like, Not Much Like me, and Not like me at all. Hellriegel and Slocum's (17) motivation instrument was adopted to assess the kinds of needs that are important to an individual. The best response to any item is simply the one that best reflects the individual's feelings either as they have experienced them or as they anticipate that they would experience them in a work situation. The respondents to the twenty statements were expected to indicate the extent to which each statement is true and accurate to them, using the following keys- C=completely true, M= mostly true and accurate, P= partially true and accurate and S= slightly true and accurate. Finally, Rosenberg's (18) self-esteem scale was used to assess perceived self-worth, attitudes, satisfaction and self-respect using indicators from strongly agree to disagree. Before the adoption of these scales, a reliability test based on Cronbach Alpha was performed and found to range from 0.78 to 0.81.

Descriptive data analysis on socio-demographic characteristics, correlation, as well as, regression analyses were carried out on the data. Structural Equation Modeling was also carried out to investigate the association between self-esteem, grittiness, motivation and some socio-demographic variables.

Results

Socio-demographic Characteristics

The first part of this section examined how psychological variables played a major role in the lives of workers. The impact of self-esteem and grit among health workers was explored and their

significance to the various outcomes was analysed. This section provides valuable insights into the psychological factors that contribute to the well-being and performance of health workers. The subsequent section investigated the relationship between socio-demographic factors, self-esteem, and grittiness among health workers working in COVID-19 centres. The association between age, years of experience, gender, religious affiliation, self-esteem, and grittiness was explored. This analysis will help us understand how socio-demographic factors influence the psychological well-being of health workers in the context of their challenging work environment.

In the final section, the relationship between grittiness, low self-esteem, and motivation was also investigated. By examining these variables

together, we aim to gain a comprehensive understanding of how they interact and influence one another. This analysis will shed light on the complex dynamics between psychological variables and their impact on the motivation levels of health workers.

Demographic characteristics were examined in a sample of 113 individuals (Table 1). The average age was 39.876 years (M = 39.876, SD = 9.0289). The age range varied from a minimum of 24 years to a maximum of 58 years. Regarding years of experience, participants had an average of 13.513 years of experience (M = 13.513, SD = 8.5201). The range of years of experience spanned from 1 to 41 years. In terms of self-esteem, participants had an average score of 24.124 (M = 24.124, SD = 4.4202).

Table 1: Reports on Socio-demographic Information

Demographics	Frequency	% of Total
Male	61	53.982%
Female	52	46.018%
	Frequency	Mean
Age (as at last birthday)	113	39.876
Years of Experience	113	13.513
Self-esteem	113	24.124
Grittiness	113	40.708
Motivation	113	34.628

The role of the respondents shows that nurses (27.19%), health attendants (16.67%), medical laboratory scientists (14.04), and medical doctors (12.28%) dominated the study. Pharmacists (2.63%) and other health professional (21.46%)

were also present. Civil servants (5.26%) and data managers (Record Officer, Health Information Officer (7.02% each as represented in Figure 1.

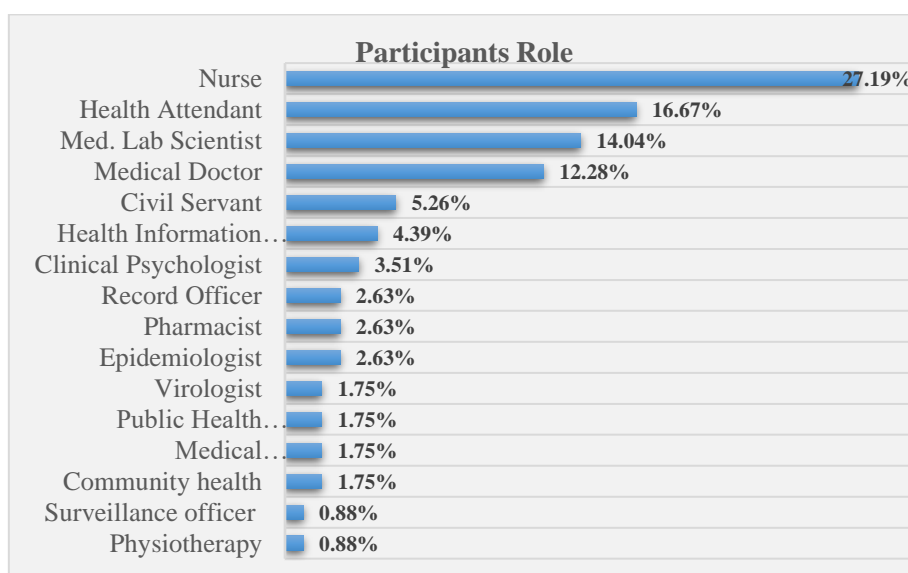


Figure 1: The roles of the study participants in the treatment and Diagnostic centres

The self-esteem scores ranged from 12 to 34. Grittiness, as measured in the sample, had an average score of 40.708 (M = 40.708, SD =

9.3986). The grittiness scores ranged from 16 to 60. Lastly, participants had an average motivation score of 34.628 (M = 34.628, SD =

10.217),. Motivation scores ranged from 20 to 69. These findings provide insights into the central tendency and variability of age, years of experience, self-esteem, grittiness, and motivation, within the sample 61 individuals identified as female, accounting for 53.98% of the total sample. The cumulative percentage shows that female participants make up 53.98% of the total. On the other hand, there were 52

individuals identified as male, representing 46.02% of the total sample.

Correlation Matrix

The following table presents the results of the correlation coefficients and their corresponding probability values between two variables of interest.

Table 2: Pearson’s Coefficients and their Probability Values

Variables		Self-esteem	Grittiness	Motivation	Age	Years of experience
Self-esteem	Pearson’s Coeff (r)	-	-	-	-	-
	P_value	-	-	-	-	-
Grittiness	Pearson’s Coeff (r)	0.24675	-	-	-	-
	P_value	0.00842	-	-	-	-
Motivation	Pearson’s Coeff (r)	-0.07568	-0.33316	-	-	-
	P_value	0.42565	0.00031	-	-	-
Age	Pearson’s Coeff (r)	-0.03832	-0.02968	0.29130	-	-
	P_value	0.68701	0.75499	0.00175	-	-
Years of experience	Pearson’s Coeff (r)	0.03030	-0.00235	0.20385	0.67889	-
	P_value	0.75002	0.98031	0.03034	<.00001	-

The correlation matrix displays the Pearson correlation coefficients and corresponding p-values for the variables (Table 2): Self-esteem, grit, Motivation, Age (as at last birthday), and Years of experience. The correlation coefficient measures the strength and direction of the linear relationship between two variables, while the p-value assesses the statistical significance of the correlation.

There is no statistically significant correlation between self-esteem and any of these variables (p > 0.05): motivation, age, and years of experience. Grittiness is positively and weakly correlated with self-esteem (r = 0.24675, p = 0.00842). There is a negative correlation between grittiness and motivation (p < 0.0003). Also, there is no statistically significant correlation between motivation and self-esteem (p > 0.4257). Motivation is negatively and weakly correlated with grittiness (r = -0.33316, p = 0.00031).

Motivation has a weak positive correlation with age (r = 0.29130, p = 0.00175). Age is not

significantly correlated with self-esteem and grittiness (p > 0.05) whereas age is weakly correlated with motivation (p < 0.05). However, age has a strong positive correlation with years of experience (r = 0.67889, p < 0.00001). Years of experience are weakly positively correlated with motivation (r = 0.20385, p = 0.03034).

There is no significant correlation between years of experience and self-esteem or grittiness (p = 0.7500). In summary, based on the correlation matrix:

Grittiness and self-esteem are positively correlated, although the relationship is weak.

Motivation and grittiness are negatively correlated.

Motivation is weakly positively correlated with age and years of experience.

Age is weakly positively correlated with years of experience.

Linear Regression Model

Table 3: Estimation of Regression Model- Model Coefficients – Self-esteem

Predictor	Estimate	SE	t	p
Intercept	21.6437	2.8292	7.6500	<.00001
Grittiness	0.0944	0.0458	2.0640	0.0415
Motivation	-0.0133	0.0428	-0.3121	0.7556
Religion				
Islam – Christianity	-0.9301	0.8661	-1.0739	0.2853
Year	0.0267	0.0492	0.5425	0.5886
Age	-1.8811e-4	1.44E-04	-1.3083	0.1936
Gender				
Male – Female	-1.9227	0.8188	-2.3482	0.0207

The model coefficients in Table 3 represent the estimated regression coefficients for the predictors in a linear regression model with self-esteem as the dependent variable. The intercept (21.6437) represents the estimated mean self-esteem score when all other predictors are zero or at their reference levels.

For each one-unit increase in grittiness, the estimated change in self-esteem is 0.0944 units higher, holding other predictors constant. The coefficient is statistically significant ($p = 0.0415$), indicating that grittiness has a positive and significant association with self-esteem.

Also, for each one-unit increase in motivation, the estimated change in self-esteem is -0.0133 units lower, holding other predictors constant. The coefficient is not statistically significant ($p = 0.7556$), suggesting that motivation does not have a significant association with self-esteem in this model.

For each one-year increase, the estimated change in self-esteem is 0.0267 units higher, holding other predictors constant. The coefficient

is not statistically significant ($p = 0.5886$), indicating that years of experience do not have a significant association with self-esteem in this model.

For each one-unit increase in age, the estimated change in self-esteem is -0.0002 units lower, holding other predictors constant. The coefficient is not statistically significant ($p = 0.1936$), suggesting that age does not have a significant association with self-esteem in this model. Comparing males to females, the estimated change in self-esteem is -1.9227 units, holding other predictors constant. The coefficient is statistically significant ($p = 0.0207$), indicating that gender has a significant association with self-esteem, with males having lower self-esteem compared to females.

Structural Equation Modelling

Tables 4 and 5 present reports on the estimation of structural equation modelling as depicted from our data.

Table 4a: User model versus baseline model

	Model
Comparative Fit Index (CFI)	0.71000
Tucker-Lewis Index (TLI)	0.69250

Our user model has mixed fit indices with the CFI - Comparative Fit Index (0.71000) (Table 4a) assessing the relative improvement in fit compared to the baseline model. The CFI value of 0.71000 suggests a moderate fit while the TLI

- Tucker-Lewis Index measures the degree of improvement in fit compared to the baseline model. The TLI value of 0.6925 suggests a fair fit.

Table 4b: Fit indices

		95% Confidence Intervals		
SRMR	RMSEA	Lower	Upper	RMSEA p
0.08036	0.10216	0.0477	0.15585	0.056

The fit indices provided in Table 4b include SRMR (Standardised Root Mean Square Residual) and RMSEA (Root Mean Square Error of Approximation) with their corresponding confidence intervals.

SRMR (Standardised Root Mean Square Residual): The SRMR measures the average absolute discrepancy between the observed and predicted correlations in the model. Lower values indicate a better fit. In this case, the SRMR value of 0.0804 suggests a reasonably good fit.

The RMSEA provides an estimate of the discrepancy between the model and the population covariance structure. The RMSEA value of 0.1022 suggests a moderately good fit. Overall, based on the fit indices provided, the model shows a reasonably good fit for the SRMR and RMSEA values. However, it's important to consider additional fit indices and carefully evaluate the model's fit in the context of the research question and theoretical framework.

Table 5: Measurement model in Structural Equation Model (SEM) analysis

Latent	Observed	Estimate	95% Confidence Intervals		B	p
			Lower	Upper		
Exogenous	Grittiness	0.2314	0.4332	0.3513	0.3123	< .00001
	Motivation	0.0042	0.3283	1.0923	0.0212	0.0136
Control V	Gender	0.1321	0.4293	0.6140	0.1014	0.3081

	Age	0.3464	0.9347	1.1976	0.3128	< .00001
	Year	9.3083	4.3542	30.2412	0.1746	< .00001
	Religion	-0.6423	0.3212	0.4324	-0.0683	0.5432
Endogenous	Self-esteem	1	1	1	1	1

Table 5 presents the measurement model in a Structural Equation Model (SEM) analysis. The table includes estimates, confidence intervals, and statistical significance for the latent variables (Grit, Motivation, Gender, Age, Year, and Religion) and observed variables (Self-esteem). The estimate of Grittiness is 0.2314, indicating the relationship between the latent variable "Grittiness" and the observed variable "Self-esteem". The confidence interval (0.3123, 0.3513) suggests that the true population value of the relationship is likely to fall within this range. The p-value < .00001 indicates a statistically significant relationship between Grittiness and Self-esteem.

The estimate of Motivation is 0.0042, indicating the relationship between the latent variable "Motivation" and the observed variable "Self-esteem".

The confidence interval (0.0212, 1.0923) suggests that the true population value of the relationship is likely to fall within this range. The p-value of 0.0136 indicates a statistically significant relationship between Motivation and Self-esteem.

Control Variables

The estimate for Gender 0.1321, suggests a relationship between the latent variable "Gender" and the observed variable "Self-esteem".

However, the p-value of 0.3081 indicates that this relationship is not statistically significant. The estimate is 0.3464, indicating a relationship between the latent variable "Age" and the observed variable "Self-esteem". The p-value < .00001 suggests a statistically significant relationship between self-esteem and age. The estimate for year 9.3083, indicates a relationship between the latent variable "Year" and the observed variable "Self-esteem". The p-value < .00001 suggests a statistically significant relationship between the two variables. The estimate for religion is -0.6424, indicating a negative relationship between the latent variable "Religion" and the observed variable "Self-esteem". However, the p-value of 0.5432 suggests that this relationship is not statistically significant.

Observed Variable

The estimate for self-esteem is 1, representing the relationship between the latent variable "Self-esteem" and itself. This is fixed at 1 to establish a reference point for other variables. In summary, the SEM analysis suggests that Grittiness and Motivation have statistically significant relationships with Self-esteem. Gender and Religion do not have significant relationships with Self-esteem, while Age and Year do show significant relationships. (Figure 2).

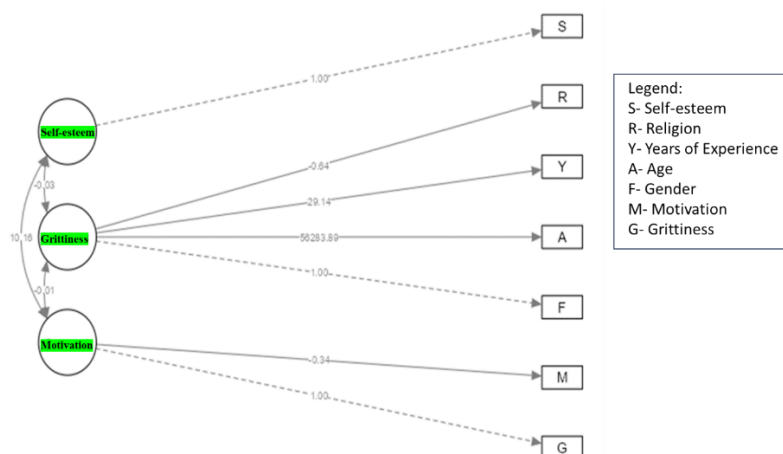


Figure 2: Path Diagram for describing the association between self-esteem, grittiness, motivation and some socio-demographic variables.

Discussion

The findings of this study provide valuable insights into the relationships between psychological variables and demographic characteristics in the context of self-esteem among the sample of 113 individuals. The

analysis revealed several important patterns and associations, which have implications for understanding and promoting psychological well-being among health workers. First, the analysis of demographic characteristics highlighted the diversity within the sample. The

average age of participants was 39.88 years, with a range of 24 to 58 years. This indicates that individuals across a wide age range were represented in the study. Similarly, participants had varying levels of experience, with an average of 13.51 years and a range from 1 to 41 years. These findings suggest that the sample included individuals with different levels of professional experience, which may influence their perceptions and attitudes.

In terms of self-esteem, the average score was 24.12, indicating a moderate level of self-esteem among participants. Grittiness, as measured in the sample, had an average score of 40.71, suggesting a relatively high level of perseverance and passion for long-term goals. Motivation scores averaged 34.63, indicating a moderate level of motivation. This corroborates with the finding by Fischer *et al.*, (2022) in which family physicians in California showed grit and resiliency in the face of difficulties brought on by the COVID-19 pandemic (19). These findings provide a baseline understanding of the psychological variables under investigation.

The correlation analysis revealed interesting associations between the variables. Grittiness showed a positive and moderate correlation with self-esteem, suggesting that individuals with higher levels of grittiness tend to have higher self-esteem. On the other hand, motivation exhibited a negative and moderate correlation with grittiness, implying that higher motivation is associated with lower levels of grit. These findings highlight the complex interplay between psychological variables and their influence on self-esteem among health workers.

Furthermore, age and years of experience showed weak positive correlations with motivation, suggesting that as individuals grow older and gain more experience, their motivation levels may increase. However, no significant correlations were found between age, years of experience, and self-esteem or grittiness, indicating that these demographic factors may not directly impact these psychological variables. The regression analysis provided insights into the predictive power of the variables on self-esteem. Grittiness emerged as a significant predictor, with a positive association with self-esteem. This suggests that individuals with higher levels of grittiness are more likely to have higher self-esteem. However, motivation did not significantly predict self-esteem in this model. Additionally, gender was found to be a significant predictor, with males having lower self-esteem compared to females.

Study limitation

Most health professionals were preoccupied, which presented a challenge, and the number of

respondents who agreed to participate in our online survey was limited to 113. We utilised an online platform spanning various geopolitical zones to enhance data coverage. However, the limited number of respondents may hinder the generalisation of our findings to the broader population of Nigerian health workers.

Conclusion

In conclusion, the results of this study shed light on the relationships between psychological variables (grittiness, motivation) and demographic characteristics (age, years of experience, gender) in the context of self-esteem among health workers. The findings suggest that grittiness plays a significant role in influencing self-esteem, with individuals demonstrating higher levels of grittiness tending to have higher self-esteem. Additionally, gender was found to be a significant predictor, indicating that males may have lower self-esteem compared to females. However, motivation did not show a significant association with self-esteem in this model.

These findings have important implications for interventions and strategies aimed at enhancing the psychological well-being of health workers. Encouraging the development of grit and resilience among health workers may contribute to improved self-esteem and overall well-being. Furthermore, understanding the gender differences in self-esteem can help tailor support and empowerment programs to address specific needs.

Promoting grit and other attributes such as resilience: Interventions and training programs should be developed to foster grit and resilience among health workers. These programs can focus on enhancing perseverance, passion, and goal-oriented behaviour, which may contribute to higher self-esteem.

Address gender-specific needs: Given the significant difference in self-esteem between males and females, it is important to design interventions that address the unique challenges and needs of each gender. Providing support, mentorship, and empowerment opportunities can help promote positive self-esteem in both male and female health workers.

Explore motivation factors: While motivation did not show a significant association with self-esteem in this study, further research can delve deeper into the factors influencing motivation among health workers. Identifying and addressing motivational barriers can potentially enhance overall well-being and job satisfaction. Overall, the findings of this study contribute to the growing body of knowledge on the psychological status of health workers. By understanding the factors that influence self-esteem, interventions and support systems can be developed to

enhance the mental health and resilience of health workers, ultimately improving their overall well-being and performance.

List of Abbreviations

COVID-19:	Coronavirus disease 2019
SEM:	Structural Equation Model
SRMR:	Standardised Root Mean Square Residual
RMSEA:	Root Mean Square Error of Approximation
CFI:	Comparative Fit Index
TLI:	Tucker-Lewis Index

Declarations

Ethics approval and consent to participate

We received ethical clearance to conduct the Study from the Hospital Research Ethical Committee (HREC) at the College of Medicine, University of Lagos (Approval No. CMUL/HREC/05/20/738). Additionally, participants provided consent through an online survey, confirming their willingness to take part in the study.

Consent for publication:

All the authors gave their consent for the publication of the work under the Creative Commons Attribution Non-Commercial 4.0 license. Otherwise, all copyright ownership including all rights incidental thereto is conveyed to the journal when published.

Availability of data and materials

The study data is available upon request to the corresponding author.

Competing interests

The authors declare that no competing interests exist.

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Authors' contributions

OAO conceived and planned the experiments. AM supplied the instrument and collected the data, and OjT, OgT and OIA carried out the statistical analysis and supplied the analytical tools. BSA, AA, ASO, IB and OgO contributed to data collection, online weblink design, and interpretation of the results. All authors contributed to writing the manuscript and provided critical feedback.

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