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ARTICLE

Determinants of State of Mental Health among Caregivers of Children with Disabilities

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ABSTRACT

This study aimed to determine the association and predictive capacities of job satisfaction, workplace stress, work motivation, and self-esteem on state of mental health of caregivers of children with disabilities in South-West Nigeria. The self-determination theory provided a theoretical framework for the study. A closed-ended paper-pencil questionnaire tagged 'Mental Healthiness Scale for Caregivers' was used for data collection from 241 caregivers of children with disabilities. Data collected was analyzed using descriptive of frequency count, simple percentage and mean as well as inferential statistics involving Pearson product moment correlation and Binary Logistic Regression at 95% confidence interval. Findings revealed a significant but inverse association between self-esteem, workplace stress and mental health. Work motivation had a direct association with mental health while job satisfaction had no significant association with mental health of caregivers of children with disabilities. Caregivers (18–40 years) had the highest odds for mental health concerns. Lowered self-esteem and workplace stress increased mental health concerns while job satisfaction significantly predicted a higher likelihood for positive state of mental health among caregivers of children with disabilities.

KEYWORDS

Mental health; job satisfaction; workplace stress; work motivation; self-esteem; caregivers; children with disabilities

1 Introduction

Children with disabilities (CwDs) are individuals experiencing long-term intellectual, physical and/or sensory impairment that is significant enough to interfere with or hinder their active and full participation in academic and social interactions on an equal basis with their peers. Caring effectively for CwDs requires a substantial amount of time, energy, and funding, and recent research evidence [1] shows that only limited and weak basic services are available for CwDs in low- and middle-income settings (LMICs). Thus, in the absence of responsive social support through government interventions, Nigerian

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parents of CwDs, in a bid to stay focused on their career development while catering sufficiently for the survival needs of their CwDs, have always employed the services of a caregiver(s). Caregivers (CGs) in this current study refers to paid individuals who cater or attend to the concerns, needs and requirements of a child(ren) with disabilities.

As compared to the CGs of children without disabilities, studies have affirmed that CGs of CwDs experience high levels of job-related stress and are thus susceptible to a greater risk for mental health issues [2,3]. Mental health, as stated by Fusar-Poli et al. [4], refers to a state of complete well-being of an individual through which they realise their potential ability to cope effectively with stressors and are able to learn, work and contribute effectively and productively to development within their community. Mental health exists on a continuum among individuals based on their occupation or job-related conditions [3]. Thus, work stress (WS) as experienced by CGs may be directly proportional to the severity of the child's disabling condition and perhaps to the environmental and/or social support received by the CGs. Although there is a paucity of empirical research evidence on the CGs of CwDs in Nigeria, the few studies available reveal that CGs in Nigeria face severe challenges and their stress stems from low remuneration [5] and increasing demands of the child (ren) in their care's condition [6]. Due to job demands and requirements, caregivers of CwDs may further experience isolation and limited/restricted social engagement [7]. Isaac et al. [5] aver that based on associated stressful events that are closely linked with the caregiving to CwDs, the mental healthiness of the CGs in Nigeria is at risk. Unfortunately, no research has been conducted to examine the factors associated with the mental healthiness of the CGs of CwDs, particularly those from South-West Nigeria. Hence, this study aimed to bridge the existing research gap by determining the following:

1. The association between some independent variables (job satisfaction, work stress, work motivation and self-esteem) and the mental healthiness of caregivers, and
2. Establishing which of the independent variables (job satisfaction, job stress, work motivation and self-esteem) have the greatest likelihood of predicting the likelihood of mental healthiness among CwDs in South-West Nigeria.

2 Literature Review

Increased calls for inclusion, advances in knowledge and the development of positive attitudes towards persons with disabilities seem to have contributed to the increasing need for CGs, not only in Nigeria but in Sub-Saharan Africa as a whole. However, despite the mentally and physically draining job description of CGs, little attention has been given to their socio-emotional and mental well-being [8,9]. Recent studies have revealed that CGs have constantly struggled to balance their duties and responsibilities with unequivocal social, physical and mental health [8,9]. Unfortunately, CGs, especially those in developing countries like Nigeria, equally face financial insecurities, emotional burdens, job uncertainties, health-risk behaviours, and impaired quality of life [9,10]. Another study aver that the employees with job uncertainties, unconducive working conditions and impaired quality of life may be unsatisfied with their jobs [11]. Lamentably, the CGs of CwDs with role conflicts, low organizational justice and impaired job satisfaction may have heightened emotional instability and psychological trauma [12].

Issues of job satisfaction (JS) among employees have been a subject of debate in various research reports. Regarded as an emotional affect in response to an individual's job, JS is a multi-dimensional construct also described in terms of ideal job preferences and expectations which inform an individual's attitudes and/or disposition toward their job dynamics and situation [11,13]. Past studies established that employees who are satisfied with their jobs have a greater likelihood of making better organizational decisions which are motivated through teamwork and professional collaboration [12,14]. Other studies indicated that JS may contribute significantly to a reduction in employees' absenteeism, substance use

and abuse, burnout, and physical distress [13,15]. On the contrary, Volpe et al. [16] asserted that job dissatisfaction significantly influences employees' displays of negative feelings toward customers and clients. In a study among 315 mental health professionals in Quebec, Fleury et al. [12] found that professionals with less JS tended to terminate their employment prematurely or to provide less adequate professional services to their clients. Extant literature has indicated an association between JS and various mental health disorders and/or psychological distresses [17–21].

A meta-analytic study by Faragher et al. [18] showed that job insecurity was most strongly associated with psychological problems such as anxiety, burnout, and depression. Studies attest that job insecurity is associated with various dimensions of mental health challenges [17,19]. Corroborating the finding of Agarwal et al. [22], Quynh Anh et al. [21] averred that a positive and significant association exits between JS and psychological well-being. In other words, an inverse relationship may occur when employees are dissatisfied with their jobs or working conditions [21]. Over the years, especially following the emergence of COVID-19, arguments and discussions against poor working conditions, work pressure and job stress have increased. For instance, caregivers in Finland have complained about deteriorating working conditions in their care for older people [8], and many of them have experienced increased WS and pressure from their clients' family members. An earlier report in Finland noted that CGs experience role conflict, interruptions, poor working climates, a lack of work motivation, and management/organizational injustices [23]. Lamentably, despite satisfying academic requirements as caregivers, Vehko et al. [23] expressed their concern about the implications of the aforementioned on the mental health and psychological well-being of the CGs of Finish elderly people.

In Nigeria, formal education and training for CGs is currently non-existent, but many have undergone informal training as CGs [24]. Irrespective of the form of training received, studies revealed that caregiving presents some gains to both the giver and recipient [24,25]. As stated by Zarzycki et al. [25], caregiving to individuals with disabilities is not without personal cost, as it can be physically and psychologically exhausting, time-consuming, and stressful. Thus CGs, particularly those caring for CwDs, should be motivated continuously. Unfortunately, the issue of work motivation (WM) for the CGs of CwDs in Nigeria remains a concern as its implication on the state of the CGs' mental health is yet to be ascertained. There is, however, an abundance of empirical evidence from other settings indicating that WM is a significant causative factor for adaptive and maladaptive concerns of employees [26,27]. Over time, WM influences and shapes employees' psychological and mental well-being and ultimately their ability to be resilient [27]. Highly motivated employees are the most productive and presumably they have good physical and mental health [28]. On the contrary, unmotivated employees may be less energetic and constantly report ill-health, have increased psychological and emotional stress, exhibit absenteeism, and ultimately exhibit low productivity in the workplace [8,24,25,29].

Based on the self-determination theory, Ryan et al. [29] asserted that WM is fundamentally influenced by the social context within the work environment. In other words, the CGs of CwDs may be more vulnerable to impaired psychological and mental health based on various social contingencies. Fernet [28] admitted that the lack of WM required contributes significantly to low-quality work-related relationships and burnout. Other studies showed that employees who experience none or lowered WM have difficulties adapting to job demands, have limited capacities for job control, experience heightened mental distress, and have a low quality of life and elevated levels of impaired psychological health [24,29–31]. Some studies have linked higher levels of WM to higher levels of self-efficacy for work engagement, and employees' ability for job control and psychosocial adjustment [32,33]. On the contrary, no statistically significant associations between WM and baseline occupational outcomes, independent vocational activities, physical health and/or occupational stress were revealed in the study of Vukadin et al. [34].

Nowadays stress in the workplace is inevitable, but it seems to have increased with the emergence of COVID-19 [35,36]. Caregiving is generally particularly stressful and it has a significantly detrimental effect on the mental health and emotional well-being of carers [3,37–39], but Machando et al. [39] further averred that poor WM and lack of job control among CGs have further aggravated the burnout, depression, and stress experienced by them, and this ultimately affects the quality of the caregiving service rendered to their clients. Disappointingly, the stress associated with caregiving may be higher among women who provide care to family members with disabilities. In addition, earlier studies revealed that caregivers from developing and underdeveloped economies are prone to compounded mental health challenges [37,40,41]. According to Kash et al. [40] and Sprang et al. [41], additional responsibilities for dependents, aged family members, and spouses who are ill are among the other concurrent stressors that can have a cumulative effect on the psychological functioning and mental healthiness of CGs, and this puts them at risk for compassion fatigue and burnout. Irrespective of the level of stress experienced by an employee/caregiver, every individual also has a level of self-worth.

Adigun [11] and Rosenberg [42] regarded the subjective evaluation of self-worth (positive or negative) as self-esteem. Self-esteem (SE) is a critical component that determines an individual's evaluation of his/her capacity to undertake, maintain and sustain a given task. While stress is a common phenomenon in the workplace [36], SE influences the variety of workplace stressors [43], burnout and depression. Kong [44] posited that an association exists between SE and potential negative mental health outcomes. In other words, CGs with fragile SE may be more prone to inconsistent psychological functioning, leading to an elevated perception of themselves as unproductive and unworthy. Prior to Kong's [44] study, Leeuwis et al. [45] noted that variations in the level (high/low) of individuals' SE may grossly impact their state of mental and psychological well-being. Particularly, a lower level of SE may lead to instability in the state of the CGs' mental health. In other words, caregivers with fragile or low SE may develop increased feelings of failure in specific tasks and social rejection.

A study conducted between 2008 and 2010 among 159 Spanish CGs revealed that those with low SE risked diminishing mental health [46]. Specifically, Costa-Requena et al. [46] indicated that low SE predicts greater depression, emotional distress and anxiety symptoms, whereas CGs with higher levels of SE have enhanced capacities for self-expression, have stable mindsets, higher levels of mindfulness, and may possess positive coping strategies to deal with work stressors that may aggravate or cause an impaired state of mental health [30,38,42,44,47]. Based on the foregoing, the issue of mental healthiness among individuals seems to be a phenomenon that may be environmentally and personally motivated. In other words, the feedback, motivation, and satisfaction derived may inform changes in the state of the mental health of the CGs of CwDs. Unfortunately, associations between job satisfaction (JS), work stress (WS), work motivation (WM) and self-esteem (SE) and mental healthiness of CGs of CwDs are yet to be established in existing literature. Therefore, hinged on the self-determination theory [29], which assumes that every individual requires and responds to motivation (intrinsic/extrinsic) in their quest for growing and striving for a positive quality of life and well-being, this study addresses the following research questions:

1. Is there a significant association between job satisfaction, work stress, work motivation, self-esteem and mental healthiness of CGs of CwDs in South-West Nigeria?
2. Which of the independent variables (gender, age, job satisfaction, work stress, work motivation and self-esteem) have the greatest likelihood of predicting the mental healthiness of CGs of CwDs in South-West Nigeria?

3 Methods

3.1 Design and Participants

The cross-sectional study was adopted for the study to determine quantitatively any possible association between and/or the predictive capacities of job satisfaction, work stress, work motivation, self-esteem and mental health among caregivers working with CwDs in Nigeria. A multistage sampling procedure was adopted. In other words, the purposive sampling technique was used to identify three states (Lagos, Ogun, and Oyo) from the six states in the South-West region of Nigeria. Then, using simple random sampling technique, a total of 241 CGs were selected for the study (Lagos State: n = 118 [48.9%]; Ogun State: n = 69 [28.6%]; Oyo State: n = 54 [22.5%]).

3.2 Measures

The Mental Healthiness Scale for Caregivers (MHSCGs), which comprises Sections A–F, was used for data collection. The MHSCGs was a paper-pencil questionnaire which was written in the English language because the English language is an official language in Nigeria. Section A of the scale was used to access the demographic characteristics of the respondents which was put together by the researchers. In addition to the demographic information collected from the respondents, Section B was the Mental Health Scale, Section C was the Rosenberg Self-esteem Scale while the Minnesota Job Satisfaction Questionnaire and Workplace Stress Scale respectively formed sections C and D of the MHSCGs. These are further described below:

Mental Health Scale (MHS): The MHS was designed by Sharma et al. [48]. The MHS, which is a 15-item questionnaire, has a 2-response (Yes/No) scale. We coded the 'Yes' responses as 1 and the 'No' responses as 2. In order to further determine the role of the predictor variable on the target variable, that is, the mental healthiness of the CGs of CwDs, the scores obtained from the computation of the data collected from the MHSs were recorded according to the two different variables so as to delineate between the perceived poor (re-coded as 1) and good (re-coded as 2) mental health of the respondents.

Rosenberg Self-Esteem Scale (RSES): The 10-item scale was developed by Rosenberg [42]. The RSES has five negatively and five positively worded statements that measure self-esteem. In this study, the RSES was designed in a 4-point Likert scale of 1 = Strongly Disagree to 4 = Strongly Agree. During coding of the data collected, all negatively worded statements were reversed as 1 = Strongly Agree to 4 = Strongly Disagree.

Minnesota Job Satisfaction Questionnaire (MSQ): The MSQ [49] is a 20-item questionnaire designed in a 5-point Likert format of 5 = Extremely Satisfied to 1 = Not Satisfied. The MSQ focuses more on general job satisfaction, which addresses both the extrinsic and intrinsic job motivation variables. In other words, the MSQ queried how satisfied the respondents were with their jobs through statements which included "Being able to keep busy all the time"; "My pay and the amount of work I do"; and "The working conditions", among others.

Work Motivation Scale (WMS): The 18-item WMS was developed by Tremblay et al. [50]. The WMS requires respondents to indicate the reasons why they are still engaged in their current work, which in the case of this study is the caregiving to CwDs. The WMS consists of five sub-scales which measure the respondents' intrinsic motivation, integrated regulation, identified regulation, introjected regulation, external regulation, and amotivation respectively. Unlike the 7-point rating scale of Tremblay et al. [50], this current study narrowed down the 7-point response format to a 3-point one (3 = Corresponds at all; 2 = Corresponds moderately; and 1 = Corresponds exactly) to measure the participants' work motivation.

Workplace Stress Scale (WSS): This scale was developed by the Marlin Company, North Haven, CT, USA, and the American Institute of Stress, Yonkers, NY, USA [51]. The WSS, a 5-point Likert response format of 1 = Never to 5 = Very Often is an 8-item scale which has been used widely to access relevant psychological information from employed respondents on how they feel towards their jobs. An example of an item in the WSS is the statement, "I receive appropriate recognition or rewards for good performance".

4 Validity and Reliability

The MHSCGs was subjected to both content and face validities. Mental health professionals and a Senior Lecturer of Psychology from a Federal University in Nigeria commented on the MHSCGs before it was subjected to a reliability test. The MHSCGs was subjected to a test-retest reliability test among 15 Rehabilitation/Speech/Occupational Therapists and Nurses in Oyo State, Nigeria. Although earlier studies presented a reliability co-efficient of 0.86 [11] among some adolescents with hearing loss, revalidation of the reliability of the RSES among carers was needed. Therefore, a further reliability test of the RSES revealed a reliability co-efficient of 0.76 while the MHS revealed a reliability co-efficient of 0.83, and a Cronbach's alpha of 0.96 was obtained for the MSQ. The WMS and WSS had a reliability co-efficient of 0.82 and 0.75, respectively.

5 Procedure for Data Collection

Two trained research assistants were recruited to assist the researchers with data collections in the three purposively selected states in South-West Nigeria. After the prospective respondents were briefed properly about the objective of the study, they gave their informed consents (verbal/written) before they responded to the research instruments. The study was voluntary and did not attract either material or financial incentives. Confidentiality of their responses was assured and strictly adhered to. Respondents were given adequate time to attend to the research instruments.

6 Data Analysis

Data gathered through the questionnaires was coded in the SPSS statistical package version 23 software. Using the SPSS statistical package, the demographic information of the respondents was analysed and presented using descriptive statistics involving frequency counts and simple percentages. Research question one was analysed using the Chi-square analysis and research question two with binary logistic regression at $p < 0.05$.

7 Ethical Consideration

This study observed all the ethics of social sciences and humanities research in accordance with the *Declaration* of *Helsinki* and the University of Ibadan, Nigeria.

8 Results

A total of 241 (35.7% male and 64.3% female) CGs of CwDs participated in this study. Among the study participants, about 63.1% were within the ages of 18–40, while those aged between 41–65 years totalled 36.9% (Mean age = 40.2; standard deviation = 12.9). A total of 117 (48.5%) indicated that they worked more than eight hours a day with their clients. Also, about 36.5% and 24.1% worked with children with intellectual disabilities and those with Autism/behavioural disorders, respectively. Only 12 (5.0%) participants stated that with regard to their work, they received no support from a supervisor/parent/guardian, and another 33 (13.7%) indicated that their relationship/interaction with the supervisor/parent/guardian was complicated. In terms of workload, 52.3% indicated that they had a moderate workload. However, 150 (62.2%) participants were unsatisfied with their jobs as CGs for CwDs, and about 46.1% of the total number of study participants rated their life satisfaction as being fairly satisfied. Approximately, 5.4% rated their health status as poor, 17% as good, and 27% of the participants rated their health status as very good.

Research question one: Is there a significant association between job satisfaction, work stress, work motivation, self-esteem and the mental healthiness of CGs of CwDs in South-West Nigeria?

Table 1 was used to establish if there was any significant association between job satisfaction, work stress, work motivation, self-esteem and the mental healthiness of the CGs of CwDs. The results showed

that self-esteem ($\chi2 = 21.551$; $p < .05$) and workplace stress ($\chi2 = 27.767$; $p < .05$) have an inverse but significant association with the mental healthiness of the CGs caring for CwDs; while work motivation ($\chi2 = 10.744$; $p < .05$) has a significant linear association with their mental healthiness. Job satisfaction ($\chi2 = 5.147$a; $p > .05$), however, was not significantly associated with the mental healthiness of the CGs of CwDs. See Table 1 for the details of the results.

Table 1: Association between job satisfaction, work stress, work motivation, self-esteem and mental healthiness

Variables		Self-rated Mental Health Status			$\chi2$	Df	Sig
		Poor (%)	Good (%)	Total (%)			
Self-esteem	High	59 (69.4)	26 (30.6)	85 (35.3)	21.551[a]	2	.000
	Low	74 (47.4)	82 (52.6)	156 (64.7)			
Work motivation	Low	19 (57.6)	14 (42.4)	33 (13.7)	10.744[a]	1	.001
	Moderate	106 (57.6)	78 (42.4)	184 (76.3)			
	High	8 (33.3)	16 (66.7)	24 (10.0)			
Job satisfaction	Unsatisfied	26 (92.9)	2 (7.1)	28 (11.6)	5.147[a]	2	.076
	Fairly satisfied	107 (52.5)	97 (47.5)	204 (84.6)			
	Very satisfied	0 (0.0)	9 (100.0)	9 (3.7)			
Work place stress	Low	0 (0.0)	8 (100.0)	8 (3.3)	27.767[a]	2	.000
	Moderate	108 (52.9)	96 (47.1)	204 (84.7)			
	High	25 (86.2)	4 (13.8)	29 (12.0)			

The results further showed that about 65% of the study participants demonstrated low levels of self-esteem; about 86.3% reported moderate to high motivation at work; about 85% were fairly satisfied with their work as carers of CwDs; and about 96.7% reported moderate to higher levels of work stress. While self-esteem and workplace stress were found to have a significant but inverse association with mental health; work motivation had a direct and positive influence on mental health while job satisfaction had no association with the mental health of the CGs of CwDs. This finding implied that work motivation fostered psychological well-being and a positive state of mental health of the study participants. On the other hand, low self-esteem and workplace stress had the potential to raise concerns about the mental healthiness of the CGs of CwDs while job satisfaction was not found to either negatively or positively associate with the mental healthiness of the participants.

Research question two: Which of the independent variables (gender, age, job satisfaction, work stress, work motivation and self-esteem) have the greatest likelihood of predicting the mental healthiness of the CGs of CwDs?

To provide a response to research question two, the dependent variable (mental health) was recoded into different variables to differentiate between poor (1) and good (2) states of mental health. Also, gender (male = 1; female = 2) as well as the age (1 = 18–40; 2 = 41–65) of the participants were coded. In accordance with Menard (2010), we checked for all assumptions of binary logistic regression in order to establish multicollinearity among the variables in the study and confirmed that none of the assumptions were violated. To establish the predictive likelihood of the independent variables on the dependent variable (mental health), the Omnibus Test of the Model Coefficients was conducted in order to further ascertain the fitness of the data to the model. The model was statistically significant, $\chi2$ (n = 241) = 82.223, with a

p value of 0.00. Thus implies that that the model was able to distinguish between the subscales vis-à-vis the mental health of the CGs of CwDs.

Furthermore, the model explained between 30.7% and 41.0% of the Cox and Snell R2 as well as the Nagelkerke R2 respectively of the variance in the independent variables examined in the study. The estimated variance was correctly classified in 72.6% of the cases. The computed 72.6% revealed the existence of a strong association between prediction and grouping for this model. Using the regression coefficients, the odds ratio (OR) for the independent variables as predictors was calculated as exponents (Exp). The exponents (Exp) were used to estimate the variation in the odds of membership in the dependent variable, that is, the mental healthiness of the CGs of CwDs for every one-unit increase of the predictor variable (independent variables) (see Table 2). In order to further establish the significant influence of the predictive abilities of the predictor variable on the target variable, the Wald statistics were computed, as shown in Table 2.

Table 2: Summarized regression coefficients and odd odds ratio for the independent variables

						95% C.I. for Exp(B)			
		B	S.E.	Wald	Exp(B)	Lower	Upper	Df	Sig.
	Gender(1)	−.474	.323	2.154	.623	.331	1.172	1	.142
	Age(1)	.828	.339	5.972	2.289	1.178	4.446	1	.015**
	Workload	−.103	.236	.190	.902	.568	1.432	1	.663
	Working hours	.063	.173	.133	1.081	.759	1.496	1	.715
Step 1a	Job satisfaction	.130	.027	24.098	1.139	1.081	1.200	1	.000**
	Work motivation	−.031	.051	.383	.969	.877	1.071	1	.536
	Self-esteem	.212	.089	5.596	1.236	1.037	1.472	1	.018**
	Workplace stress	−.126	.004	8.300	.881	.809	.960	1	.004**
	Constant	−8.100	3.104	6.807	.000			1	.009**

In order to establish the predictive likelihood of gender, age, job satisfaction, work stress, work motivation and self-esteem on the mental health of CGs of CwDs, we conducted a binary logistic regression which was statistically significant ($\chi 2(8) = 88.223$, $p < .005$). As shown on Table 2 using the Nagelkerke R2 value, the regression model explained 41% of the variance in the mental health of the CGs of CwDs and correctly classified 30.7% of the cases.

The results are summarized in Table 2.

The study showed that increases in perceived difficulties due to age (OR = 2.29, 95% CI [1.18, 4.45], $p < .05$), self-esteem (OR = 1.24, 95% CI [1.04, 1.47], $p < .05$) and workplace stress (OR = .88, 95% CI [.81, .96], $p < .05$) had a higher likelihood of predicting an increased state of unhealthy mental health among the CGs of CwDs. This further implied that those within the age range of 18–40 years had a 22.9% likelihood of exhibiting mental health challenges as compared to 12.4% and 9% likelihoods when considering self-esteem and workplace stress respectively among the CGs of CwDs. Job satisfaction (OR = 1.14, 95% CI [1.08, 1.20], $p < .05$) was significantly associated with a higher likelihood of predicting an increased state of healthy mental health among the CGs of CwDs. In other words, the CGs of CwDs who were satisfied with their jobs had an 11.4% likelihood of having positive mental health. As earlier shown in Table 2, about 85% indicated that they were fairly satisfied with their work as carers of CwDs.

9 Discussion

The objective of this current study was to establish the association as well as the predictive capacities of job satisfaction, work stress, work motivation and self-esteem for the mental healthiness of CGs of CwDs. In response to research question one, a Chi-square analysis revealed a significant association between self-esteem and workplace stress, which were found to have a significant association with the mental health of the study participants. This finding implies that the perceived mental health challenges among the study participants were heightened by impaired self-esteem and the stress associated with caregiving and/or the work environment. This finding of this current study did not deviate from reports from previous studies [2,3,36,37] about the on-the-job stress experienced by the CGs of CwDs. In particular, Abdullahi et al. [7] as well as Magnacca et al. [3] emphasized that due to increased work-related stress and the nature and degree of the disabilities, the CGs of CwDs were susceptible to a greater risk of mental health concerns such as depression, burnout, emotional disruption, and poor quality of life which could result in loss of their social capital quality.

A few studies in Nigeria have revealed that CGs in Nigeria are poorly remunerated for their jobs [5,7]. The foregoing, that is, poor remunerations or wages given to the CGs of CwDs in Nigeria could be because many of the CGs were non-skilled or without any relevant certifications [24]. However, this current study revealed that 86.3% of the study participants reported moderate-to-high levels of motivation at work. While it was the general view that salaries and wages in the country were not satisfactory, the participants in this study were found to have appreciable work motivation, which probably informed their positive mental well-being. Work motivation is a phenomenon that has the potential to influence employees' adaptive and/or maladaptive concerns significantly [24,26,27,29]. Essentially, work motivation, when seen as positive, is a concept that is capable of arousing productivity and fostering better emotional, physical, and mental health among workers within an organization [28].

This current study agreed with [25,32,34] on the positive link between work motivation and a positive state of mental well-being. However, this current study's finding deviated from the report by Vukadin et al. [34], who found no significant association between work motivation and the various aspects of emotional, physical, and mental health, vocational activities, and stress at work. Furthermore, the finding of this current study corroborated the submission of Adigun [35], Kong [44], Li et al. [38], and Machando et al. [39], who found a correlation between a negative state of mental health and job uncertainties, low self-esteem, workload, unconducive working conditions, and job dissatisfaction. Our study found no significant association between job satisfaction and mental health challenges among the CGs of CwDs. This current finding did not support studies [12,15] that reported a direct and significant relationship between job satisfaction and heightened emotional instability and psychological trauma.

A finding of this current study further established an inverse association between age (especially of those within the age bracket of 18–40 years), self-esteem and workplace stress and the mental health of the study participants. This implies that younger CGs of CwDs seem to experience more mental health challenges as compared to those within the age range of 41–65. This current finding may probably be because the expectations of many of these younger CGs of CwDs are not being met adequately in the course of their jobs. Thus, many of them tend to develop lower self-esteem which further aggravates mental health challenges such as depression, personality disorders, severe worry, anxiety, fatigue, emotional distress, post-traumatic stress disorder (PTSD), dissociation and dissociative disorders, among others. The current finding is not peculiar to CGs of CwDs in Nigeria, as it has also been observed among Spanish CGs [46].

In their study among 159 Spanish CGs, Costa-Requena et al. [46] affirmed that CGs with lowered self-esteem were at risk of diminishing mental health. Unlike CGs with higher levels of SE, a 2008 to 2010 review of mental health concerns among CGs revealed depression, emotional distress, and anxiety symptoms as the major symptoms of mental health among younger CGs in Spain. In a similar vein, this current study alluded

to the report of Kong (2018), who earlier identified an inverse relationship between self-esteem and negative mental health outcomes leading to impaired psychological functioning. In line with past studies [2,3,8,23,35], this study found that the workplace stress experienced by the CGs of CwDs was a motivator of the perceived mental health challenges such as burnout, anxiety, fatigue and emotional distress.

While some factors had an inverse impact on the mental health of the study participants, job satisfaction was found to have a direct link with their mental health. In other words, our study noted that participants were fairly satisfied with their jobs as CGs of CwDs. Hence, the level of satisfaction derived on the job had a positive impact on their perceived mental health. This finding corresponded with studies [12–15,21] that reported that employees who were satisfied with their work schedules had higher odds for greater work motivation, making informed organizational decisions, and engaging in teamwork resulting in a reduced potential for job burnout, substance use and abuse, emotional and physical distress, fatigue, stress, and anxiety disorders. Volpe et al. [16] noted that job satisfaction significantly influenced employees' displays of positive emotions towards their customers and clients. However, our findings did not support other studies that proved that lack of job satisfaction contributed to premature termination of their employment and/or their psychological distresses [17,19,20].

10 Conclusion

This study could conclude that while self-esteem and workplace stress were found to have a significant but inverse association with mental health, work motivation had a direct and significant association with mental health while job satisfaction had no association with the mental health of CGs of CwDs. Age, workplace stress, and self-esteem were factors that could have an inverse effect on the manifestation of mental health challenges among the CGs of CwDs. With regard to age, younger individuals who worked as caregivers were not necessarily satisfied with such a job. They could have had their self-esteem deflated because of issues around unemployment and redundancy, and thus needed to work as CGs in order to survive. Job satisfaction remained a plausible factor that fostered positive mental well-being among the CGs of CwDs.

11 Recommendation

This study recommends that it is essential for the Ministry of Women Affairs and Child Development, the Ministry of Health and Social Welfare and even for the parents of children with disabilities to pay attention to the mental health of the CGs of CwDs. The activities of the CGs of CwDs should be closely monitored and psychological evaluations should be conducted on CGs from time-to-time in order to ascertain their state of psychological well-being. Employers of CGs for CwDs should improve on the organization of the work environment, reduce possible workplace stressors and motivate CGs to be more positive and to perform better. There is a need to improve on the communication channels/patterns between the CGs of CwDs, their employees and with the parents of their charges. Ideas brought forward by CGs for the enhancement of the behavioural, health and academic achievements of CwDs should be examined for possible inclusion in the individualized educational programmes (IEP) being designed for the CwDs. Professional development and growth should be made possible for the CGs of CwDs. In other words, the government needs to promote education institutions that will set up continuing training programmes geared towards qualifying professionals in caregiving for individuals with disabilities in Nigeria. Such programmes should include stress management strategies and programmes that promote the positive mental health of the caregivers, enhance their self-esteem, promote stress support and prevention, and provide strategies for resolving problematic situations in the workplace.

12 Limitations of the Study

In line with Theofanidis et al. [52], the authors of this study acknowledge some limitations. The study used a closed-ended questionnaire for data collection and such a mode of data collection prevented

participants from expressing fully their thoughts and feelings towards the variables we investigated. Of course, this study was representative of the CGs of CwDs in South-West Nigeria, and we believe that the perceptions of the CGs in the other five geo-political regions in Nigeria may differ. Therefore, we advise that generalization of these findings should be done cautiously. We encourage the reproduction of this study in other geographical locations with extended populations of CGs of CwDs, and perhaps such future studies should employ a mixed method approach in their investigations.

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