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RESEARCH ARTICLE

CONCEPTUAL FACTORS AS PREDICTORS OF DEPRESSION AMONG CAREGIVERS OF PERSONS WITH INTELLECTUAL DISABILITY IN SOUTH-WEST, NIGERIA

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ABSTRACT

Objective: Caregivers of persons with intellectual disability are faced with multiple challenges, and their works are highly frustrating, especially in Nigeria where caregivers have no defined scope of service and supports. There has not been much study on care-giving and depression among caregivers of children with intellectual disability. This study, therefore, examined the conceptual (openness to experience, conscientiousness, extroversion, agreeableness, neuroticism, self-efficacy, emotional intelligence and self-esteem) factors as predictors of depression among the caregivers of persons with intellectual disability in the Southwest, Nigeria. **Method:** Descriptive survey design was used. Fifty-five primary schools for persons with intellectual disability and 293 caregivers (140 males, 153 females between ages 20 and 65) were purposively selected in the Southwest, Nigeria. Openness to Experience, Conscientiousness, Extroversion, Agreeableness, General Self-efficacy, Wong and Law Emotional Intelligence, Rosenberg's Self-esteem scales, and Beck Depression Index II were instruments used for the study. Data were analyzed with multiple regressions at 0.05 level of significance. **Results:** The levels of independent variables to the dependent variable in terms of weighted mean are openness to experience ($\bar{X} = 4.38$), conscientiousness ($\bar{X} = 2.90$), extroversion ($\bar{X} = 3.45$), agreeableness ($\bar{X} = 3.24$), neuroticism ($\bar{X} = 2.71$), and self-efficacy ($\bar{X} = 3.33$). Years of experience ($r = 0.10$), gender ($r=0.16$), openness to experience ($r=0.25$), conscientiousness ($r=0.19$), extroversion ($r=0.17$), agreeableness ($r=0.26$), neuroticism ($r=0.16$), self-efficacy ($r=0.29$), emotional intelligence ($r=0.15$), and self-esteem ($r=0.16$) had significant positive relationships with depression among caregivers of persons with intellectual disability. **Conclusion:** Openness to experience, extroversion, self-efficacy, agreeableness, conscientiousness, neuroticism, self-esteem and emotional intelligence influenced depression among caregivers of persons with intellectual disability in the Southwest, Nigeria. Therefore, governments at various levels should factor these variables into the environment where caregivers working with persons with intellectual disability function.

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INTRODUCTION

The caregivers of persons with intellectual disability play unique roles providing assistance and support to individuals with delay in development of intellectual functioning and adaptive behaviour to the detriment of their own health. National Institute of Mental Health (NIMH, 2011) defined depression as a biological illness affecting individuals all over the world. Estimates indicate that as many as 14.4 million adults in the United States suffer depression. Okewole et al. (2011) argued that among the numerous psychiatric disorders

seen among caregivers in Nigeria, depression is reported to be one of the first symptoms experienced and also the most enduring psychological outcome for this group. Varcariolis and Halter (2001) observed that depression is poorly recognized and under diagnosed. It is among the most treatable psychiatric illnesses with estimates as many as 80% or more depressed patients respond positively to treatment. Ward (2014) noted that depression is an illness that involves a person's body, mood, and thoughts. In most cases, it is characterized by melancholy, social withdrawal, guilt and the expression of self-deprecating thought. It may also be present in the form of insomnia, poor impulse, and poor judgment. Depression is not easily recognized, and the cause is idiopathic, however, clinical experience has shown that depressed person responds to treatment positively.

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Mood disorder may be hereditary, neuro-physiological abnormalities, neurotransmitter deregulation and hormonal factors (Nolon-Hoeksema, 2001). Blisker and Paterson (2003) illustrated how depression is developed as some situations such as loss, conflict, stress and isolation will bring some thoughts such as negative thinking habits, unfair and unrealistic behaviours, and self-criticism. The individual may develop some behaviour such as poor self-care, social isolation and reduced activities. In the process, sadness, despair, discouragement, numbness and anxiety may set in; these may have physiological effect such as low energy, changes in brain chemistry and low energy to perform at work. Lazarus and Folkman (1984) quoted by Shah, Wadoo and Latoo (2014), defined stress as a particular relationship between the person and the environment that is appraised by the person as tasking or exceeding his or her resources and endangering his or her wellbeing. Huppert (2010) reiterated that psychological wellbeing is about life going well. It is the combination of feeling good and functioning effectively. Suffice to say that people with psychological well-being report feeling happy, capable; well supported and satisfied with life, otherwise depression may prevail. The risk factor is not limited to poor performance, being unaware of social and economic boundaries, dangerous thoughts of harming self or others.

Akhidenor (2010) quoted United Nations (2003) as stating that Nigeria has roughly 12 million citizens who are disabled, who include people with functional limitations such as physical, intellectual or sensory impairment and medical conditions. However, Sango (2013) established that 25 million Nigerians have disability with 3.5 million of these having very significant difficulties including physical and intellectual development conditions. In October 2010, the President of United States of America signed Rosa's law which changed the term 'Mental Retardation' to 'intellectual disability'. Larson (2000) reported that 4.6 million Americans were estimated to have intellectual disability or developmental disability. Scholars use cognitive disability, developmental disability and intellectual disability interchangeably. Intellectual disability can be described as the significant limitation in intellectual functioning and adaptive behaviour which is exhibited in an individual before age of 18 years.

The administration on intellectual and developmental disability (AIDD, 2012) discussed that intellectual disability is diagnosed through the use of standardized test of intelligence and adaptive behaviour. Intellectual disability is defined as significantly sub-average general intellectual functioning existing concurrently with deficits in adaptive behaviour and manifested during the developmental period that adversely affects a child's performance. Intellectual disability can be caused by various factors varying from clinical to biological, combined with environment. Amarjyothi et al (2007) defined intellectual disability as a condition associated with significant intellectual delay and deficits in adaptive behaviours. Psychosocial factors such as psychological trauma, low socioeconomic status and certain cultural influences on child rearing and impoverished environment were identified to be detrimental to development causing intellectual disability (Persha and Rao, 2003). Amarjyothi et al (2007) observed that normal foetal presentation at the time of delivery was found to be indicative of normal development. Most neonates that suffer from seizures in the study of 438 case files of persons with intellectual disability revealed that 32.2% of the population

emerged as predictive factor as a result of neonatal seizures experienced at birth.

Depression among caregivers of persons with intellectual disability: The demands of persons with intellectual disability can have a serious influence on the overall quality of life of caregivers and consequently resulting in depression, although, depression is always present in everyday life but usually noticeable when an individual caregiver starts experiencing continuous depreciation in their roles. Such depreciations may manifest in their physical, social, mental and emotional changes. The caregivers play unique roles in caring for individuals with delay in development of intellectual functioning and adaptive behaviour. The deficiencies in persons with intellectual disability are mostly reflected in social, conceptual and practical skills. Persons with intellectual disability require different levels of care based on the severity of their intellectual disability. Mostly, the adaptive behaviour seen in persons with intellectual disability are difficulties in bathing, dressing, feeding self, understanding verbal and non-verbal cues, lack of understanding of safety measures, inability to find ways around in his/her immediate environment, and difficulties in understanding consequences of their actions.

The caregivers of persons with intellectual disability are vulnerable to stressful situations, physical and emotional abuse, fatigue, injuries and depression. This is because caregivers take care of persons with intellectual disability holistically. Most cares were individualistic and anticipated to be carried out to meet the needs of the persons with intellectual disability. Depression among caregivers of persons with intellectual disability can be considered as one of the most precarious and important risk factors that destroys pleasurable moment. Caregivers may have great commitment and compassion for persons with intellectual disability but the moment they experience severe feeling of depression resulting in sadness, worthlessness, dejection, and despair, they will suffer changes in reality and perception of self (Andrea & Tore, 2004). Depression is a continuum and therefore difficult to know the exact time it sets in. Meanwhile, it is only individual that can describe how much depressed he/she is. Depression is not discriminatory; it may affect the young or old, male or female, rich or poor, literate or illiterate. The complexities of caregivers' job descriptions are not limited to assisting with activities of daily living but also supporting the emotional, psychological and spiritual wellbeing of persons with intellectual disability. Caregivers have high expectation to see individuals with intellectual disability close to independence and integration into the community, since disability is assumed to be a natural part of human experience which makes people around them sympathetic rather than being empathetic. Many of the caregivers are observed to lack interest in their daily activities over time, some expressed helplessness and hopelessness, some think working with persons with intellectual disability make them lose weight, while some eat voraciously, thinking that enough energy will be generated to deal with the ordeal of caring for their clients.

Mbugua, Kuria and Ndeti (2011) observed that the following factors are identified as triggers of depression among caregivers:

- Shift from extended family caregivers to nuclear family caregivers.
- Level of intellectual disability (low, medium or high)

- Economic situation where people work long hours for little pay, especially with non-skilled workers.
- Caregivers' unpreparedness for the role.
- Caregivers' lack of control of what happens in their lives.

It has equally been observed that individual characteristics of the caregivers of persons with intellectual disability may have influence on the presence and level of depression of caregivers generally. Centuries ago, Plato stated that all forms of learning have emotional biases, however, the theory of multiple intelligences as described by Gardner (2006) showed that traditional intelligent quotient (I.Q.) tests did not sufficiently explain why some people are successful or not, happy or sad. Kendra (2015) described emotional intelligence as the ability to perceive, control and evaluate emotions which is also the ability to understand, express and control emotion. Emotional intelligence can be learned and strengthened or it could be an inborn characteristic as suggested by some researchers. Beard (2012) stated that the main identifying characteristics of emotional maturity are made possible by the emotional intelligence components. Beard (2012) established that the five main components of the emotional intelligence as previously stated by Daniel Goleman (1995) are self-awareness, self-regulation, and internal motivation, empathy and social skills. It is important for caregivers to understand their own moods, what motivates them and their effect on the persons with intellectual disability. Kendra (2016) remarked that many contemporary personality psychologists believe that there are five basic dimensions of personality namely Agreeableness, Conscientiousness, Extroversion, Neuroticism and Openness to experience.

Agreeableness trait has attributes like kindness, trust, pro-social behaviours, altruism and affection that could be seen in caregivers of persons with intellectual disability. Caregivers that are high in agreeableness tend to be more cooperative while the caregivers with low agreeableness tend to be more competitive and manipulative which may subject some of the caregivers to depression. According to Kendra (2016), conscientiousness reflects in individuals as the high levels of thoughtfulness, goal-directed and good impulse control which makes individuals to be more organized, and detail oriented. When caregivers are high in conscientiousness, it prepares them to be able to manage whatever problems encountered and develop adaptability as coping skill to associated caring problems. Extraversion is exhibited by assertiveness, sociability, excitability, talkativeness and high amounts of emotional expressiveness. A caregiver of persons with intellectual disability who is high in extroversion will be outgoing and have the capacity to re-energise in social situations.

Considering the challenges and dynamics being encountered by caregiver, self-efficacy is required for multi-tasking and job satisfactions which enable motivation to engage in more productive activities. Caregivers' self-efficacy refers to an individual's judgment to their capabilities to use their skills in diverse situation. Bandura (2011) defined self-efficacy as our belief in our ability to succeed in situations which focused on how personality is shaped by social and observational learning. To the best of our knowledge; no study has been carried out especially in Nigeria to establish the factors that may predict depression among the caregivers of persons with intellectual disability especially in the South-West. This is the aim of this study.

MATERIALS AND METHODS

This study adopted a descriptive survey design of correlational type, because none of the variables of the study was manipulated and the joint and relative contributions of independent variables (openness to experience, conscientiousness, extroversion, agreeableness, neuroticism, self-efficacy, emotional intelligence, self-esteem) to the depression in caregivers of persons with intellectual disability were examined. Caregivers of persons with intellectual disability in all public special schools in Lagos, Oyo, Ogun, Ondo, Osun and Ekiti states of Nigeria constituted the population for this study. This study covers 55 special and inclusive public primary schools in the study states. Two hundred and ninety three (293) caregivers were purposively sampled. The samples include all the caregivers from the selected schools. Five research instruments were adopted pilot-tested in selected private schools before used for data collection for this study. The instruments included; Beck depression index (BDI 11) developed by Beck, Steer and Brown (1996) in 1996. Big five personality scale, (NEO-FFI Revised) developed by Costa and McCrae (1992) in 1992. The Wong and Law emotional intelligence scale (WLEIS) developed by Wong, Law and Song (2004) in 2004. Self-efficacy scale: developed by Schwartzberg and Jerusalem in 1995 and Rosenberg self-esteem scale (RSES) by Rosenberg (1979). Cronbach's Alpha was used to determine the reliability coefficient of the variables (1951). Lawshe's (1975) Content Ratio was used to determine content validity of the instruments. The ethical consideration was fulfilled by getting permission from the Head of the schools and individual respondent. The instruments used were simplified with native language. The data collection procedure lasted four weeks. The data collected was analyzed using Multiple Regression and subjected to test for the study hypotheses and the relationship and correlations were examined between the independent and dependent variables at 0.05 level of significance.

RESULTS

Table 4.1 shows that there is significant joint contribution of the independent variables (openness to experience, conscientiousness, extroversion, agreeableness, neuroticism, self-efficacy, emotional intelligence, self-esteem) to the prediction of the dependent variable (depression). Table 4.2 presents the relative contribution of the independent dispositional variables (openness to experience, conscientiousness, extroversion agreeableness, neuroticism, self-efficacy, emotional intelligence, self-esteem) on depression. The reveals the various relative contributions and levels of significance of the independent variables expressed in beta weights to the dependent variable (depression). The relative contributions of Conscientiousness ($\beta = -.135$, $t = -.1551$, $P > .05$); Agreeableness ($\beta = .145$, $t = 1.852$, $P > .05$), Emotional intelligence ($\beta = -.029$, $t = -.313$, $P > .05$) and Self-esteem ($\beta = .065$, $t = .970$, $P > .05$) were not significant. While Openness to experience ($\beta = -.229$, $t = -2.524$, $P < .05$); Extroversion ($\beta = .208$, $t = -2.761$, $P < .05$); Neuroticism ($\beta = -.083$, $t = -1.075$, $P < .05$) and Self-efficacy ($\beta = -.195$, $t = -2.081$, $P < .05$) were significant. The magnitude of contributions of the independent variables to depression at different levels as expressed in beta weights is as shown here: Openness to experience ($\beta = -.229$, $P < .05$) > Extroversion ($\beta = .208$, $P < .05$) > Self-efficacy ($\beta = -.195$, $P < .05$) > Agreeableness ($\beta = .145$, $P > .05$) >

Table 4.1. Multiple regression analysis of the joint contribution of the independent variables (openness to experience, conscientiousness, extroversion, agreeableness, neuroticism, self efficacy, emotional intelligence, self-esteem) to depression

Model	Sum of Squares	DF	Mean Square	F	Sig.	Remark
Regression	6420.107	8	802.513	6.703	.000	Sig.
Residual	34003.552	284	119.731			
Total	40423.659	292				

R = .339

R Square = .159

Adjusted R² = .135

Std. Error of the Estimate = 10.9422

Table 4.2 Of Multiple regression analysis of the relative contribution of the independent variables (openness to experience, conscientiousness, extroversion, agreeableness, neuroticism, self efficacy, emotional intelligence, self-esteem) to depression

Model	Unstandardized Coefficient		Standardized Coefficient	Rank	T	Sig.
	B	Std. Error	Beta			
(Constant)	15.805	8.166			1.936	.054
Openness to experience	-.632	.250	-.229	1st	-2.524	.012*
Conscientiousness	-.209	.135	-.135	5th	-1.551	.122
Extroversion	.255	.092	.208	2nd	-2.761	.006*
Agreeableness	.315	.170	.145	4th	1.852	.065
Neuroticism	-.186	.173	-.083	6th	-1.075	.283
Self-efficacy	-.364	.175	-.195	3rd	-2.081	.038*
Emotional intelligence	-3.422E-02	.109	-.029	8th	-.313	.755
Self-esteem	.279	.287	.065	7th	.970	.333

*Denotes correlation at 0.05 level of significance

Conscientiousness ($\beta = -.135, P > .05$) > Neuroticism ($\beta = -.083, P < .05$) > Self-esteem ($\beta = .065, P > .05$) > Emotional intelligence ($\beta = -.029, P > .05$). This implies that openness to experience was the most independent variable that strongly predicts depression, followed by extroversion, self-efficacy, agreeableness, conscientiousness, neuroticism, self-esteem and the least variable was emotional intelligence.

DISCUSSION

The findings of this study indicate there was joint contribution of the independent variables (openness to experience, conscientiousness, extroversion, agreeableness, neuroticism, self-efficacy, emotional intelligence, self-esteem) to the prediction of the dependent variable (depression). This study supports that of Malouff, Thoesteinsson, Schulle (2005) which stated that mood disorder (depression) was associated with a typical pattern of personality traits, high levels of neuroticism and lower levels of extroversion, conscientiousness and agreeableness with large effect sizes for neuroticism, extroversion and conscientiousness and small for agreeableness whereas, no significant association was found with openness. This study also supports the findings of Rukhasana and Graham (2012) that the stress levels experienced by caregivers of persons with intellectual disability were related to degree of personality differences. The report by Kotov et al. (2010) also indicated an association between depressive disorders and high levels of neuroticism as well as low levels of conscientiousness with large effect sizes. However, this study is different from that of Abikoye and Sholarin (2012) which confirmed that care self-evaluation that composed of psychology's traits such as neuroticism, self-esteem, locus of control and generalised self-efficacy on a joint basis as predictors of caregiver's depression. In their self-evaluations and psychological health among caregivers of psychiatric patients in the South-west, Nigeria, they informed that caregivers of mentally-ill persons would be significantly purer on psychological health than people in the control group. This study equally corroborates the findings of Abikoye and Adekoya (2010). They found core self-evaluations and burnout among HIV counsellors, with those high on core self-evaluations scoring significantly lower in emotional exhaustion

and depersonalisation than persons low on the core self-evaluation traits. Also, caregivers with high core self-evaluations may be more effective institutions requiring positive interpersonal relationship or stress tolerance. But they observed that not all the psychosocial variables (openness to experience, extroversion, self-efficacy, emotional intelligence, self-esteem) grouped together accounted for depression situation of caregivers of intellectual disability. This study is in accordance with Abikoye and Adekoya (2007) who revealed that all socio-psychological factors cannot predict the depression situation of caregivers of persons with intellectual disability in South-West, Nigeria. This study observes the relative contribution of the independent variables, openness to experience, conscientiousness, extroversion agreeableness, neuroticism, self-efficacy, emotional intelligence, self-esteem to depression of caregiver of persons with intellectual disability. Openness to experience was the most independent variable that strongly predicted depression, followed by extroversion and self-efficacy, while other variables such as conscientiousness; agreeableness, emotional intelligence and self-esteem were not significant. The finding of this study corroborates Pekka and Erkki (2006) who affirmed that neuroticism and extroversion to symptoms of anxiety and depression were significant. Also, Maciejewski et al (2000) stated that high levels of self-efficacy predicted less severe symptoms of depression. This study also partly supports the submission of Oshodi et al (2013) who through self-rating affirmed that depression scale (ZDS) such as extroversion and neuroticism were chief factors responsible for high depression among caregivers of persons with intellectual disability in Lagos, Nigeria. However, they were unable to prove that openness to experience, conscientiousness, agreeableness, self-efficacy; emotional intelligence and self-esteem were joint factors causing depression among caregivers of persons with intellectual disability in the study area. This further confirms that the eight variables may not be jointly responsible for the cause of depression among the caregivers of persons with intellectual disability.

Conclusion

Given that the influence of caring for persons with intellectual disability predisposes caregivers to depression, this study

implies that when openness to experience and emotional intelligence of caregivers are high, the susceptibility of the caregiver to depression can be significantly reduced. Also, the caregivers in Lagos, Oyo, Ogun, Ondo, Osun and Ekiti states were observed to have moderate extroversion, agreeableness, self-efficacy, self-esteem and behaviour. This study submits that caregivers that easily experience unpleasant emotions or psychological distress are more prone to depression.

Recommendations

The local school authority should endeavour to carry out annual physical and mental health assessments by appropriate experts for all caregivers to enhance early detection of depression and respond appropriately to their mental health needs. Also, regular training of caregivers that centres on how to handle mental health problems should be conducted so as to boost understanding and awareness of this illness exposure.

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