Development and Validation of Christian Ministers Psychopathological Scale (CMPS)

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

Article Information

Original Research Article

ABSTRACT

This paper describes the development and validation of a Christian Ministers Psychopathological Scale (CMPS) to facilitate early diagnosis of mental health challenges among Christian Ministers, especially in Nigeria. The study adopted a cross-sectional design and was carried out in four stages. The initial items were generated from an extensive review of literature and concerns raised from a focused group discussion among Christian ministers with Pentecostal affiliation. These concerns are perceived as possible predictors of mental health challenges among the ministers. Fifty-two (52) participants were randomly selected from Ede, Osun State, Southwestern Nigeria for the scale development, while four hundred and fifty-six (456) participants were randomly selected across the six geo-political zones in Nigeria. They responded to the online versions of the 15- item instrument (CMPS) and Depression Anxiety and Stress Scale (DASS-14) for the congruent validation. The observed KMO measure was 0.47, and a significant sphericity test was observed ($X2=1258.495$, df= .703, p = .000). All the 15 items extracted from the Principal Components Analysis PCA were within the very good discrimination values. The CMPS has a Cronbach's alpha of .79. Congruent validity coefficient of (r =.368, p = .035); was observed between CMPS and DASS-14. Authors conclude that the CMPS is gender-sensitive, has acceptable psychometric properties and is recommended as a diagnostic tool for assessing psychopathological symptoms among Christian ministers.

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1. INTRODUCTION

Mental illness is becoming a major health concern in Nigeria, with recent statistics of one in every four Nigerians [1]. Those committed to a religious cause are not exempted from this major concern as depression, loneliness, and anxiety are becoming recurring health issues even among Christian ministers. In the research report by Lifeway, it was reported that 23% of pastors or Christian ministers had personal struggles with mental health. Of this proportion, about 49% of these are not willing to talk about it to their congregation [2].

There is no denying that Christian ministers, like others in the service or caregiving industry, face stressful situations and may consequently have serious psychological problems. The demands placed on pastors and others put pastors at far greater risk for depression and other mental health challenges than individuals with other occupations. A study comparing depression among various groups in the United States reported 11.1% among the clergy as against 5.5%, which was the national average. This higher incidence of depression and other mental health challenges has to do with the stress associated with ministerial work. [3]. In another report by Schaefer Institute in 2013, it was reported that nothing less than 1,700 pastors leave the ministry each month as a result of mental health issues such as depression, burnout, and being overworked. The stress that ministers undergo is enormous, and they are expected to show outstanding and exemplary leadership most of the time. The congregants want to see an exceptional level of compassion exuding from them all the time. They are always ready to give inspiring messages and offer prayers and words of encouragement repeatedly, without consideration for whatever they are passing through, even at their family level [4]. There is so much dependence on religious bodies, spiritual houses and ministers, particularly in developing countries; the reason for this may not be unconnected with the failure of governments to provide the necessary social amenities and infrastructure for the populace. Therefore, people look for spiritual intervention for most of their problems and challenges. The leaders of these religious organizations, particularly in Christianity who are called ministers, are therefore overburdened and have to interface with the people even when they are having their share of the challenges. Therefore, it is very important that if they are going to provide quality service in any area of need of the people, they must at least be psychologically balanced to do so. Christian ministers have an enormous work burden due to the fact they switch between many roles; these may have negative implications on their psychological health and may also affect their relationships at work and with their families.

Many Christian organizations in developing countries do not place serious attention on the importance of their frontline workforce's psychological or mental health status; recently, many casualties have been reported among ministers on active service. A few instances of ministers who slumped on duty have been reported [6]. Several reasons may be adduced for this, but it is possible that some of these events may have been averted if closer attention is being given to the psychological health of the ministers. Also, there are several reports of actions and characters that are quite unhealthy that some ministers have displayed that may possibly suggest that such ministers have mental health challenges, instances of corporal punishment been given to members of the congregation and inflicting of body injuries and having to burn members and their belongings with fire for any offence whatsoever [7]. Also, there have been reports of ministers abandoning their assignment temporarily or permanently because of visible or underlying psychopathologies [8]. The foregoing call for closer examination of the psychological health profiles of such ministers. These extremes of behaviour and actions cannot be compared with several others that other members under the leadership of such organizations may have suffered but were not given publicity, possibly because they are viewed as normal spiritual treatments for the situations or challenges they complained of. Literature shows that some of the common mental health challenges of Christian ministers are stress, depression and anxiety [3], resulting from marital and occupational issues. Christian ministers have been reported to be at a higher risk of depression than people in other occupations [3]. As with many other professions, anxiety disorder results from work-related problems [9], which Christian clerics are not exempted from.

1.1 Justification of the Study

With the development of this scale, early diagnosis of psychopathological symptoms, particularly among Christian ministers, will be enhanced, and this may in a way reduce the incidence of Mental health conditions, particularly in Nigeria with a present report of one in every four, that is about 25% in a population of over 200 million people [1], this is a major concern to all.

One of the categories of occupation in the caregiving or service profession are pastors or Christian ministers. According to a recent study [3], the nature and the demands of the work placed on the ministers by themselves and others put them at far greater risk for depression and other mental health challenges than individuals with other occupations.

The CMPS would also provide a medium of data collection on psychopathological symptoms among Christian ministers and help in solving the challenge of the dearth of data for this condition in Nigeria and similar socio-cultural settings. More importantly, is the need for an indigenous scale to assess psychopathological symptoms with considerations for unique socio-cultural elements that affect Nigerians.

2. MATERIALS AND METHODS

2.1 Study Design

This was a cross-sectional study involving four steps in generating and refining items, exploratory factor analysis(EFA), and instrument validation. The study was conducted in Ede, Osun State, south-west Nigeria. Only fifty-two participants out of eighty-six Christian ministers within the area indicated their willingness to participate in the study and returned the instrument sent to them. The four thematic areas employed in the development of the scale are those perceived to be critical to the life of the Christian ministers and the discharge of his duties and those highlighted by focus group discussion among ministers. These are; personal, occupational, marital and relational.

The 124 initial items of the CMPS were subjected to a face assessment and expert judgment. The experts (N= 7) were required to respond with a "YES" or "NO" to each of the items to indicate which to include in the scale. Items with percentage score of ≥ 70% were accepted, while those less than 70% were rejected. Thirty-eight items had a percentage score of ≥ 70% and were accepted for the final scale, while 86 were rejected and therefore dropped. The 38 items accepted had a ≥ 70% score. To reduce the data to a smaller set of summary variables and explore the underlying theoretical structure of psychological health, the initial 38 items of the CMPS were also subjected to an Exploratory Factor Analysis (EFA). Factors with eigenvalues >1 were extracted at the first stage of EFA. Next, the statistics for factors with eigenvalues > 1 were scrutinized. Stevens [10] recommended 0.40 as the least factor loading. Items having loadings of less than 0.45 were deleted to improve the CMPS's interpretability. The different plausible factor solutions were evaluated considering the items' content and the proportional construct of interest.

2.2 The Setting and Participants

The study was conducted in Ede town, Osun State, Nigeria, among Christian ministers with pastoral oversights over the congregation in the same town. The inclusion criteria were Christian ministers who have been in ministry for more than five (5) years and willingness to participate in the study. The exclusion criteria for this study were free-lance ministers, who are not overseeing any congregation, with numbers of years in ministry less than five years and with no willingness to participate in the study. A purposive sample of Eighty (80) participants were selected for this study, out of which only fifty-two (52) agreed to participate. The participants comprised of thirty-nine males and thirteen females aged between 21 and 64 (Male-39; Female-13) were administered. The participants' ages ranged between 21and 64 years (Mean= 44.63; SD = 7.04 of the participants are single, while 1 is widowed,49 are married.10 are Full Pastors, 23 are Assistant Pastors,14 are Deacons, while 5 are unordained ministers.

A fresh sample of four hundred and fifty-six (456) Christian ministers comprising one hundred and eighty-four males and two hundred and seventy-two females were purposively selected across the six geo-political zones of Nigeria, which was used to determine the psychometric properties of the 15-item CMPS. The same inclusion criteria were used.

2.3 Data Collection

Data was collected twice in this study. The first data collection was for the scale's item

refinement / exploratory factor analysis. At this stage, a total of fifty -two participants (52) were purposively selected who responded to the instrument. The second data collection was to determine the psychometric properties of the 15 item scale. At this stage, the Google form versions of the CMPS and DASS-14 were designed and used to collect data from four hundred and fifty-six (456) participants across the six geo-political zones of Nigeria. This data collection method was used in compliance with the restriction of movement occasioned by the COVID-19 pandemic.

2.4 Data Analysis

When data is analyzed, it becomes manageable, meaningful and better organized (21).The data were analyzed using SPSS 23 pack.

3. RESULTS

3.1 Exploratory Factor Analysis

According to Pallant [11], the Bartlett's Test of Sphericity (BTS) should be significant (p 0.05), and the Kaiser-Meyer-Olkin (KMO) index should have a range of 0 to 1, with 0.06 defined as the minimum value for adequate factor analysis. The results of the tests are shown in Table 1 w.

Table 1 indicated that the KMO measure of sampling adequacy was .47, and it is within the recommended range of 0 to 1. The BTS was significant (X^2=1258.495, df= 703, *p* = .000). Therefore, the results support the correlation matrix's factorability, and the Principal Components Analysis (PCA) was conducted. The principal component extraction method's test indicated ten components extracted with eigenvalues > 1, and the summary is presented below in Table 2.

Table 2 summarizes principal component matrix analysis showing extracted ten components with eigenvalues above 1 for the 38-Item measure for CMPS. The loading of the 38 items under the ten components is presented in Table 2. The 10 components extracted summarized in Table 3 were because the items loaded on these 10 components with eigenvalues exceeding 1. The eigenvalues of the 10 components range between 11.472 to 1.070, with a percentage ranging from 30.191 to 2.817.

However, only one dimension was retained as items in the other nine components either loaded more than once, rendering them complex structures or standalone items. The eigenvalues of the included component explained a total of 30.19% of the total variance.

3.2 The Measure of Reliability of CMPS

Values of the corrected item/total correlations (point-biserial) were used to indicate discriminations in the items of CMPS. Values between 0 and 0.19 indicate that an item is not discriminating well. Values between 0.2 and 0.39 indicate good discrimination. In contrast, values 0.4 and above indicate very good discrimination. As observed in Table 3, all the 15 items extracted from the PCA were within the very good discrimination values.

3.3 Reliability Coefficient of the 15 Item CMPS

In other to determine the reliability and verify the internal consistency of the items of the CMPS, Cronbach's alpha (or alpha coefficient), Spearman-Brown coefficient, and Guttman Split-Half coefficient were used

The internal consistency of CMPS among the Nigerian sample revealed a Cronbach coefficient (α) of .79, a Spearman-Brown coefficient of .78, and Guttman Split-Half coefficient of .78.

Table 1. Summary of Kaiser-Meyer-Olkin (KMO) and Bartlett's Test Sphericity (BTS) on the factorability of the 15-Item measure for Christian Ministers Psychopathological Scale (CMPS)

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.47
BTS	Approx. Chi-Square	1258.495
	Df	703
	Sig.	.000

Table 2. Principal component matrix of the CMPS

	Component Matrix									
	Component									
	1	2	3	4	5	6	7	8	9	10
F7	.722									
F30	.717									
F9	.689									
F22	.670									
F19	.640									
F20	.632									
F23	.621									
F31	.620						.444			
F27	.617									
F26	.609									
F15	.600									
F18	.600									
F16	.581			.424						
F11	.574									
F8	.573									
F33	.573									
F21	.566									
F6	.557			.546						
F32	.555									
F34	.550									
F29	.547		-.422							
F28	.542									
F3	.509				-.431					
F25	.506				.414					
F4	.476							.416		
F13		.696								
F10	.580	.625								
F14	.487	.623								
F2	.404	.539								
F12	.478	.505								
F5	.467		-.581							
F35	.272		.513	.455						
F38	.392		.480	-.405					.405	
F37	.447	.329	.449							
F17	.514			.545						
F1	.404	.414			.431					
F36	.430			.441		.550				
F24	.528					-.533				
%	30.191	11.463	7.778	6.760	4.607	4.323	4.060	3.511	3.160	2.817
Eigenvalue	11.472	4.356	2.956	2.569	1.751	1,643	1.543	1.334	1.021	1.070

Table 2 :Extraction Method: Principal Component Analysis.

a. 10 components extracted.

3.4 The Measure of Validity of the CMPS

Making use of the congruent validity technique, CMPS was validated Depression, Anxiety and Stress Scale (DASS) [12].

The result shows that there is a significant positive correlation between CMPS and DASS (r =.368, p = .035). This finding made (CMPS) valid as a diagnostic tool for measuring psychopathological symptoms among the Christian ministers in the general Nigerian population.

3.5 Norm for CMPS

The 95% confidence interval (CI) was used to determine the cutoff points for CMPS. The derived CI based on a sample of 184 male participants was between a range of 34.4 and 40.6. On the other hand, the derived CI for females based on 272 samples was between a range of 40.3 and 46.8. The mean plus one standard deviation of ≥ 58.87 and ≥ 70.63 was considered the cutoff points for the male and female samples. Scores above the norm implied emotion dysregulation. This is summarized in Table 5.

Table 3. Item – Total Statistics of CMPS

Reliability Statistics			
Cronbach's Alpha	N of Items		
.79	**15**		
Item-Total Statistics			
Items of CMPS	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
I experience shaking in my body that I can't explain.	23.8750	79.035	.718	.873
I lose my patience easily	23.5250	78.974	.494	.876
I get quickly agitated on issues	23.7250	77.743	.632	.872
I enjoy withdrawing from the crowd all the time	22.7750	75.512	.416	.881
I talk more to myself.	22.9250	72.584	.496	.878
I talk more because people don't understand spiritual things.	22.9750	74.948	.455	.879
I have noticed my short temper	23.1500	74.849	.509	.876
My partner has noticed/complained about my reduced interest in sex	23.7750	77.358	.606	.872
I feel very tired when it comes to sex	23.5250	77.487	.555	.874
I have challenges when it comes to meeting the needs of the congregation	22.7000	71.703	.568	.874
I know many people are against my ministerial activities.	23.7500	75.321	.621	.871
I know I may end up poor or unable to meet my needs.	23.8250	78.199	.583	.874
I feel worried during transfer over the welfare of my spouse	23.6500	71.823	.678	.867
I feel worried during transfer over the welfare of my children	23.5500	72.049	.620	.870
People are envious of my achievements in ministry.	23.6750	76.892	.599	.872

Table 4. 95% confidence interval of cutoff point determination for CMPS by gender

	Individual Male	Individual Female
Margin of error	3.09	3.22
Sample size	184	272
Sample mean	37.5	43.5
Standard deviation	21.369	27.130
95% confidence interval	37.5 (95% CI 34.4 to 40.6)	43.5368 (95% CI 40.3 to 46.8)
Cut off	≥ 58.87	≥ 70.63

4. DISCUSSIONS

This study is a development and validation of the Christian Ministers Psychopathological Scale (CMPS). The scale measures behavioural disorders that may precipitate psychological symptoms among Christian ministers. In scale creation, [13] proposed a two-stage strategy. The first step included generating an initial pool of items, and the second stage involved validation (evaluation of the instruments item performance).

The diagnostic and statistical manual of mental disorders (DSM–5) and the International Classifications of Diseases (ICD10) were used to review clinical aspects of common conditions identified with Christian ministers such as (Depression and anxiety) [14, 15]. The generation of items relating to the agreed themes resulted in 124 items used for scale purification purposes. The ability of CMPS to measure opinions, beliefs, and attitudes was tested on a 5-point Likert scale was utilized. In other words, each CMPS item is a declarative statement hence the decision to employ a Likert answer format [16].

The purification of CMPS was done using a combination of reliability analysis and EFA, as proposed by Flynn and Pearcy [17] and Pecheux and Derbaix [18]. A team of specialists checked the content validity of the initial items generated by the authors. According to [19], content validity represents current knowledge in the construct of interest. It is also a vital sign of an instrument's validity and may give insight into the viability and practicability of an instrument [20].

This research finding showed that the CMPS had acceptable validity and reliability. Cronbach's alpha was 0.79, and item-total correlation ranged from 0.41 to 0.71 was reported for the scale. This finding implies a good item inter-relatedness, unidimensionality, and homogeneity of the construct [19, 21] among the Nigerian population. To put it another way, Cronbach's alpha, Spearman-Brown coefficient, and Guttman Split-

Half coefficient scores were not too high to make some items redundant [22, 23].

In conclusion, the high alpha score indicates that CMPS has a high level of reliability. The CMPS was verified using the congruent validity approach, as [24] advised. A standardized scale, DASS-14 for measuring depression, anxiety and stress in the general population, was positively linked with CMPS. This tool is useful and suitable for measuring psychopathological symptoms among Christian Ministers within the Nigerian population, in Nigeria and other climes with similar socio-cultural circumstances, based on its exploratory factor analysis and acceptable psychometric qualities.

5. CONCLUSIONS AND RECOMMENDA-TIONS

The CMPS is a 15-item scale with a single factor created by subjecting an initial 124 items generated through expert appraisal (content validity) of the initial pool of items, and expository factor analysis for item purification. Internal consistency (reliability coefficient) of the CMPS items is acceptable. DASS-14 had strong positive correlations with CMPS, indicating a satisfactory validity coefficient. The CMPS is gender-sensitive, as the 95% Confidence Interval (CI) revealed that male participants had a lower cutoff point than female participants.

Concerted efforts must be made to reach out to religious organizations on the importance of balanced psychological health for those who relate with the people. More importantly, the need to focus on those being recruited to be trained as future workforce (trainee ministers). Emphasis is usually only on their educational qualifications and confirmation of the call of God on the applicants. There is a need to deliberately assess the psychological health of those seeking the opportunity to become ministers. This will further help to improve the quality of services that they will give; if only those who are psychologically balanced are selected. Beyond

this, effort should be put in place to assess the mental health profiles of ministers from time to time. Therefore, the CMPS is recommended as a diagnostic tool for assessing psychopathological symptoms among Christian Ministers in particular and religious leaders in general not only in Nigeria but also in other countries with similar socio-cultural situations.

6. LIMITATIONS OF THE STUDY

This study was carried out within the context of the Nigerian population's, a distinct psycho-sociocultural environment. A scale re-validation is therefore necessary before using this scale on other populations and generalizing the findings of this study on other populations with distinct social-cultural traits must be addressed with caution.

DISCLAIMER

The products used for this research are commonly and predominantly use products in our area of research and country. There is absolutely no conflict of interest between the authors and producers of the products because we do not intend to use these products as an avenue for litigation but the advancement of knowledge. Also, the research was not funded by the producing company rather, it was funded by the personal efforts of the authors.

CONSENT AND ETHICAL CONSIDERA-TION

This study relied on human subjects for its investigation, to this extent, the Helsinki Declaration was followed in terms of research ethics for human beings. The research purpose was assessed by Redeemer's University's Internal Research Ethics Committee, which advised protocols. The ethical requirements for this type of research are not applicable (National Code of Health Research Ethics; Nigerian National Health Research Ethics Committee) (NHREC). Section B, item A. http://www.nhrec.net/nhrec/NCHRE10.pdf
Participants' consent was obtained before the administration of the instruments. Participation was voluntary, confidentiality was assured, and the participants were free to leave at any stage of the study

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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