

Original Article

Covid-19 Induced Psychological Distress and Coping Strategies among Nigerian Undergraduate Students: A Cross-Sectional Study

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Abstract

Introduction: COVID-19 disrupted undergraduate students' academic programme and it imposed psychological distress but effective coping strategies were needed. While it is expected that COVID experiences could induce high level of stress among university students, its adaptive measure was not fully explored. This study assessed Covid-19 induced psychological distress and coping strategies among university students.

Method: A descriptive-cross sectional design was used on a population of 7,693 undergraduate students, from which a sample of 418 was drawn using the Taro Yamane formula with an expected 10% non-response rate. The instruments used were a modified Kessler Psychological Distress Scale (K10) and an adapted COPE inventory for coping strategies. The reliability index of the modified K10 was .869 and adapted Brief Coping Orientation to Problems Experienced (Brief-COPE) had .727. Data were analysed using SPSS version 28. Data presentation was in simple percentages, mean and standard deviation.

Result: The results showed that the majority of students (361, 93.3%) had a likelihood of severe psychological distress and the the most rated statement on psychological distress scale was '*Restless and could not sit still*' 4.6 ± 0.84 . The coping strategy mainly used was '*I turn to work or other substitute activities to take my mind off things*' 2.29 ± 1.09 while the least used was '*I put my trust in God*' 1.39 ± 0.80 .

Conclusion: The study recommends that the university administration should be prepared to engage the students in the use of active coping and religion against a probable future pandemic.

Keywords; COVID-19, Psychological distress, Coping strategy, undergraduate students, University.

Introduction

Coronavirus pandemic disrupted Nigerian universities' academic programmes. The universities experienced a lockdown and academic operations were reduced to the barest minimum (Bozkurt et al., 2020). The imposed lockdown affected the smooth running of academic calendars (Bozkurt et al., 2020) and this form of interruption was not witnessed in Nigerian universities until that time in history (Ajeli & Iloakasia, 2020). The situation led to an immediate vacation of the students from the universities on 23rd March 2020, under the directive of the National Universities Commission (NUC) (Ifijeh & Yusuf, 2020). The imposition of lockdown on Nigerian universities restricted students' movement (Adewumi & Pitan, 2022), despite the burning energy associated with their age group. Students were uncomfortable at home as some anticipated promotion to the next level while others anticipated graduation (Savitsky, 2020). In the midst of these, the opening of the universities was not ascertained, and this induced psychological distress in the students (Padrón et al., 2021).

Psychological distress is a state of emotional exhaustion characterized by the inability to cope with environmental demands (Schröpfer et al., 2021). The behavioural responses linked with psychological distress are feelings of sadness and depression (Lathabhavan, 2023). The contagious nature of the coronavirus caused worry and apprehension (Bodrud-Doza et al., 2020). These were induced by the coronavirus disease and it caused an alteration to students' social interaction as it came with panic and emotional turmoil (Umucu & Lee, 2020a). The COVID-19 pandemic harmed the academic performance of the students (Eze et al., 2021). Some institutions had challenges evaluating their students during the COVID-19 (Ebohon et al., 2021). Anxiety and worries

were also part of the resultant effects of the uncertainty experienced as the number of COVID-19 cases continued to emerge in that period (Oginni et al., 2021). While these were impacting the mental state of the students, some institutions of higher learning had little or no preparation to mitigate the effect of the hit of COVID-19 on the teaching-learning system (Ebohon et al., 2021).

The effects of COVID-19 on teaching-learning situations were described in literatures (Eze et al., 2021; Mazrekaj & De Witte, 2024). The major effect of the COVID-19 pandemic was the academic disruption in the school (Ifijeh & Yusuf, 2020). The resultant effect of these disruptions was the movement of traditional teaching methods to virtual learning (Adedoyin & Soykan, 2023). The digital divide ensued due to the remote learning embarked upon by institutions and there were reported issues of connectivity issue during learning (Adedoyin & Soykan, 2023; Eze et al., 2021). Another challenging effect of COVID-19 on learning was the widening learning gap created due to the lack of electricity and access to online resources (Eze et al., 2021). This could further heighten worries leading to psychological distress. Literature supported a high rate of psychological distress linked with worries (Every-Palmer et al., 2020). In this studied university, all the undergraduate students were residing on campus and they interacted across the departments, faculties, and in their respective dormitories. These modes of living foster social engagements and participation in co-curricular activities like sporting activities, campus drug-free clubs, and departmental religious fellowships that are helpful to the academic learning and psychological well-being of the students. However, COVID-19 put an end to these social engagements (Umucu & Lee, 2020), with a resultant effect on the psychological

state of the students (Bodrud-Doza et al., 2020). Psychological implications of being away from the regular academic setting were among the issues that imposed stress on the undergraduate students (Bodrud-Doza et al., 2020). Disruption to learning in the school settings also impacted the psychological well-being of the undergraduate students. Other psychological distress was due to the myth and internet propaganda about Coronavirus (COVID 19) (Khan et al., 2020). Adaptation and mitigation to this stress were imperative due to its consequential effect on mental health of the undergraduate (Every-Palmer et al., 2020). Investigators proposed that coping strategies are linked with psychological balance as it improves emotional worth (Umucu & Lee, 2020), and for undergraduate students to cope, there would be a need to utilize coping strategies to function optimally. Coping strategies are cognitive behavioural measures adopted to mitigate the psychological distress imposed by stressors in the environment (Freire et al., 2020). Some of the documented coping strategies are; religion, emotional vent, substance use, acceptance, planning, mental and behavioural disengagement (Carver et al., 1989). Although some of these coping strategies are positive while others such as substance use, over-eating, sleeping too much, and being disengaged mentally are referred to as negative if used on a long-term basis (Nerli et al., 2023). The effect of COVID-19 on undergraduates required adjustment which could be provided through the adoption of coping strategies (Umucu & Lee, 2020).

The adoption of coping strategies to help stabilize students was needed at that period. During COVID-19 pandemic, students engaged in learning new skills and getting involved in other productive activities to cope with the pandemic situation (Pederiva et al., 2024). In the studied university, students were trained on the use of Learning

Management System to mitigate worries about losing academic sessions. The Nigerian society holds religion in high esteem and it is one of the major coping strategies used in psychological distress (Fatima et al., 2022). Nigerian students during the COVID-19 pandemic could not engage in religious rites involving gathering of worshippers. The inability to engage in religious activities weakened the coping ability of the students (Savitsky, 2020). A decline in religious worship was witnessed in Nigeria during COVID-19 (Fatima et al., 2022). A study has been conducted on coping strategies among nursing students during the pandemic period (Savitsky, 2020). There is also an investigation into COVID stress and coping among the disabled population (Umucu & Lee, 2020). The New Zealanders' population was also studied and the psychological distress and coping strategies were measured during the period (Every-Palmer et al., 2020). However, there is a dearth of study in Nigeria regarding the psychological distress and coping strategies adopted by undergraduate students during COVID-19, especially in the university setting. This gives an impetus for the present study.

Objectives of the study

1. To assess the level of psychological of distress among the students
2. To identify the coping strategies used by the student
3. To assess the impact of coping strategies on psychological distress

Research method

Design: This is a descriptive-cross sectional design conducted among undergraduate students

Setting: The study was carried out at Afe Babalola University, a Nigerian private university established in the year 2009. The university has different undergraduate academic programmes within five colleges

namely; Medical & Health Sciences, Engineering, social and management sciences, Law and Sciences.

Population and sample: The population for this study was 7,693 undergraduate students across all departments within the Colleges of the institution. The sample size for the study was 418. This was derived from Taro Yamane sample size formula with the consideration of 10% non-response/attrition rate. A total of 387 completed the questionnaire, hence a data sample realization of 93% response rate.

Instrument: The instruments used for data collection were; (i) the Kessler Psychological Distress Scale (K-9) and (ii) the Brief Coping Orientation to Problems Experienced Inventory (Brief-COPE).

The original Kessler scale: consists of 10 text items that describes the psychological state of the respondents. It is a self-reported tool that measures the perceived behavior of the undergraduate within four (4) weeks of the occurrence of the distress. It is a 5-point Likert scale with its responses as; All of the time (score 5), Most of the time (score 4), Some of the time (score 3), A little of the time (score 2) and None of the time (score 1). The present study used nine text items from the scale and its scale reliability was .869.

The second instrument was a copy of the adapted COPE Inventory (Carver et al., 1989): It is a self-reported instrument. The content of the instruments are emotional responses which are coping strategies classified under the following; Behavioral disengagement, Focus on and venting of emotions, acceptance, mental disengagement, positive reinterpretation and growth, planning, active coping and religious coping. The instrument had the following responses; I haven't been doing this at all (Score 0), A little bit (score 1), A medium amount (score 2), and I've been doing this a lot (score 3). The scale reliability of the Brief-COPE instrument was 0.727.

Data analysis: The data collected were cleaned and imported into the SPSS version 28 for data analysis. The 5-point scale of the Kessler-10 instrument had a minimum of 10 and 50 as the maximum on its original scale. These were converted proportionately in the present study that utilized modified Kessler-10. The scoring interpretation of the likelihood level of psychological distress was determined using these ranges; Likely to be well [10-19], Likely to have a mild disorder [20-24], Likely to have a moderate disorder [25-29] and Likely to have a severe disorder [30-50]. The nine (9) Brief-COPE statements were calculated in means and standard deviation. Each statement of the COPE used was categorized into its coping strategies form. These were arranged from the highest-rated mean statement to the lowest. The presentation of data was done using simple percentages, mean, and standard deviation, while inferential statistics (regression analysis) was used to determine the impact of coping strategies on psychological distress.

Ethical consideration: Ethical clearance was obtained from the institution's ethics committee AB/EC/20/07/142. Participation in the study was by individual respondent's volition and the right to withdraw from the study when willing was made known to the respondents. The consent form was signed by the respondents, anonymity and confidentiality were maintained by not linking the particulars of the respondents to the research document.

Results

Demographics

The result showed that the age of the respondents was Mean 20.9. Over three-fifths of the respondents (254, 65.5%) were female. About two-fifths (140, 36.2%) were from the College of Medicine and Health Sciences (CMHS) and about one-fifths 79 (20.4%) were from Social and Management Science. About

two-fifths (146, 37.7%) were 300 level students of the institution (**Table 1**).

Psychological distress: Psychological distress was measured using nine (9) statements from Kessler-10. The highest reported statement was 'Restless and could not sit still' 4.6 ± 0.84 , while the least reported statement was 'Everything was an effort' 3.7 ± 1.37 . The total mean of the scale was 4.2 ± 1.06 and the level of psychological distress among the respondents indicated a likelihood of severe disorder (361,93.3%) (**Table 2**).

Coping strategy: The coping strategy of the respondents was measured using Nine (9) statements from COPE Inventory instrument. The most rated statement was 'I turn to work or other substitute activities to take my mind off things' 2.29 ± 1.09 while the least rated statement was 'I put my trust in God' 1.39 ± 0.80 . The overall statements revealed that 2.3 ± 1.02 (**Table 3**).

Impact of coping strategies on psychological distress: Multiple regression analysis showed that the overall fit of the model was significant, as illustrated with an F- statistics of 25.77 with a p-value less than 0.05 ($F(9, 377) = 18.9, p < 0.01$). This described a significant portion of the variance in psychological scores. The adjusted R^2 value of 0.381 revealed the model accounted for approximately 38% of the final psychological scores' variability, and the included predictors showed that a unit increase in mental disengagement and behavioral disengagement increased psychological distress by 0.880 units (95% confidence interval [CI]: 23.61-1.41 and 0.965 unit (95% confidence interval [CI]: -1.36-1.61) respectively. Conversely, a unit increase in religious coping, positive reinterpretation/growth, and active coping decreases psychological distress by; -0.631, -1.273, and -0.279 respectively (**Table 4**).

Table 1: Socio-demographic variable (n = 387).

Variables	Outcomes
Age	Mean 20.9
Gender	
Male	133 (34.4%)
Female	254 (65.5%)
Colleges	
Medicine/health science	140 (36.2%)
Social & Management Sciences	79 (20.4%)
Sciences	6 (1.6%)
Law	65 (16.8%)

Engineering	97 (25.1%)
Level of study	
100	50 (12.9%)
200	103 (26.6%)
300	146 (37.7%)
400	78 (20.2%)
500	6 (1.6%)

Table 2: Psychological distress of the students (n = 387).

Statement	Mean (Sd)
Restless and could not sit still	4.6 (0.84)
Feel worthless	4.5 (0.97)
So nervous that nothing could calm you down	4.5 (0.92)
Hopeless	4.4 (0.99)
So sad that nothing could cheer you up	4.4 (0.97)
Depress	4.3 (1.16)
Restless or fidgety	4.1 (1.12)
Feel nervous	3.7 (1.18)
Everything was an effort	3.7 (1.37)
Level of psychological distress	F (%)
Likely to be well	7 (1.8%)
Likely to have a mild stress	6 (1.6%)
Likely to have a moderate stress	13 (3.4%)
Likely to have a severe stress	361 (93.3%)

Table 3: Coping strategies used by the student (n = 387).

Statement	Category	Mean (Sd)
I admit to myself that I can't deal with it and quit trying.	Behavioral disengagement	3.28 (0.92)
I feel a lot of emotional distress and I find myself expressing those feelings a lot.	Focus on and venting of emotions	2.95 (1.11)
I get upset and am aware of it.	Focus on and venting of emotions	2.72 (1.07)
I accept that this has happened and that it can't be changed.	Acceptance	2.59 (1.17)
I turn to work or other substitute activities to take my mind off things.	Mental disengagement	2.29 (1.09)
I look for something good in what is happening.	Positive reinterpretation and growth	1.97 (1.04)
I think hard about what steps to take	Planning	1.94 (1.03)
I do what has to be done one step at a time.	Active coping	1.78 (0.92)
I put my trust in God.	Religious coping	1.39 (0.80)

Table 4: Coping strategies and psychological distress (n = 387).

Coping category	B	SE	Beta	T	P	95% CI
Mental disengagement	0.880	0.271	0.142	3.245	0.001*	23.61-1.41
Religious coping	-0.631	0.369	-0.075	-1.710	0.088	0.35-0.10
Behavioral disengagement	0.965	0.328	0.133	2.937	0.004*	-1.36-1.61
Focus on and venting of emotions	1.701	0.289	0.271	5.890	0.000*	0.32-2.27

Acceptance	0.048	0.250	0.008	0.191	0.849	1.13-0.54
Positive reinterpretation and growth	-1.273	0.310	-0.197	-4.109	0.000*	-0.45-(-0.66)
Focus on and venting of emotions	1.527	0.274	0.252	5.577	0.000*	-1.88-2.07
Planning	0.607	0.320	0.093	1.896	0.059	0.99-1.24
Active coping	-0.279	0.353	-0.038	-0.791	0.430	-0.02-0.42

Discussion

The sample realization was 93% (387/418). The age of the respondents was Mean 20.9. SD 4.71. (254, 65.5%) were female. This is similar to a study by Akbar and Aisyawati (2021) where about three-quarter of the respondents (180, 72%) were female and about the three-fifths of the respondents were between the age bracket of 20-21. The present study also showed that (146, 37.7%) of the respondents were 300 level student nurses of the institution. This is not in line with study by Ebohon et al. (2021) where the highest figure was from the first year students.

Psychological distress: In this study, the highest reported statement was 'Restless and could not sit still' 4.6 ± 0.84 while the least reported statement was 'Everything was an effort' 3.7 ± 1.37 . In a similar study among nursing students in Israel which was conducted by Savitsky et al. (2020), it was reported that not having a mental engagement is associated with higher grades of stress. In this study, the means of the scale was 4.2 ± 1.06 and the level of psychological distress among the respondents indicated a likelihood of severe stress (361, 93.3%). This study is similar to a study among physicians in the United States on sources of distress and coping strategies where 85% of the respondents reported an unpleasant psychological state (Dehon et al., 2021). This

is not in line with a study by Savitsky et al. (2020) where the prevalence of moderate and severe stress among the respondents was 42.8% and 13.1% respectively. In a study among students in Indonesia, one-quarter (25%) of the students were documented to develop worries which was linked to the apprehension regarding hitch in the smooth academic programme and adverse effects of the COVID-19 and issues on activities on activities of daily living (Akbar & Aisyawati, 2021). A world-wide study revealed that 83% of the students were further stressed due to the closure of schools and loss of physical interaction further stressed the already stressed (Akbar & Aisyawati, 2021). The higher level of psychological distress recorded in this study and the 76% higher degree of psychological distress reported in Akbar & Aisyawati (2021) could be associated with both studies having similar age group of the students. The higher level of psychological distress in the present study could be associated with fears related to academic disruptions in schools coupled with consequential news on the number of COVID-19 deaths recorded. The students are also known for social interaction in learning and other co-curricular engagements. Therefore, curtailing the movement of the students of these age groups that are full of energies is a probable factor to aggravating

the psychological distress among the students.

Coping strategy: The most rated statement was 'I turn to work or other substitute activities to take my mind off things' 2.29 ± 1.09 while the least rated statement was 'I put my trust in God' 1.39 ± 0.80 . In this study, the overall statements revealed a mean and standard deviation of 2.3 ± 1.02 . In a study by Dehon et al. (2021), some coping strategies like blaming self, venting, and behavioural engagement were noted to be associated with psychological distress. In a study among the students at Jakarta on coping strategy, social support, and psychological distress during the COVID-19 pandemic, it was revealed that coping strategies were documented to be associated with adverse psychological distress among the students (Akbar & Aisyawati, 2021). In a study conducted in the United States, many of the students utilized a problem-focused method to cope among which were; planning (48.1%), active coping (41.0%), and instrumental support (33.8%) (Mozid, 2022). In this present study, the respondents utilized less of religion as an instrument to cope with the situation as 'I put my trust in God' 1.39 ± 0.80 was the least rated statement on coping strategy. However, in a study on associations between psychological distress and coping strategies among students engaged in online learning, the study revealed about half of the students (45.2%) used religion as a coping strategy (Mozid, 2022). Religion is documented to be an effective coping strategy. In another related study which was carried out during the pandemic period among the Indonesian general public which utilized an online survey, the results showed that religion has a significant impact on the stress associated with COVID-19 ($p < 0.05$) (Saud et al., 2021). In another study, there was a perfect correlation between religion as a coping strategy and mental state among the respondents (Umucu & Lee, 2020b). Nigeria

is a religious society and the students are products of this society. However, there is a distinction in the use of religion as a coping strategy between the poor and the rich. In the present study, showed that the students showed less use of religion as a coping strategy. This may corroborate the explanation that the poor mainly use religion as coping strategy as the students in the present study were mainly children from rich families across the nation. The deduction from the present study could be explained in the fact that the students diverted to burning energy which was constrained by reason of COVID-19 restriction to other activities. The present study did not probe further to explore the activities that students diverted in an attempt to cope with the pandemic situation.

Coping strategy and psychological distress: The study showed that mental disengagement and behavioral disengagement are predictors of psychological distress among the students. In a similar survey that utilized Brief COPE as a tool which was conducted among Italian undergraduates in a public university, it was revealed that behavioral disengagement is a determinant of psychological distress (Buizza et al., 2022). Disengagement as a coping strategy is termed a maladaptive form of strategy used in mitigating psychological distress (Kabir et al., 2023). The present study revealed that religious coping, active coping, and positive reinterpretation/ growth could mitigate psychological distress. The religious coping strategy was not fully explored during the COVID-19 pandemic (Rababa et al., 2021). In another similar study with almost the same sample as the present study carried out among undergraduate students across the faculties of a university in Nigeria, it was reported that two-fifths of the students experienced psychological distress but there was no religious gathering as a succor because of COVID-19 restriction on social gathering. In the Nigerian context, religion is

one of the major means of coping with challenging situations. The reason why it was not exploited in the present study may be due to the shift of religious activities to an online platform. Lazarus and Folkman's stress and coping theory reported that cognitive appraisal and availability of resources are a factor in stress and coping situations (Adeyoyin, 2022). Using this perspective to describe the students' experience during COVID-19, it could be deduced that proscriptions of religious gatherings in worship centres across the nation contributed to the forms of coping strategies used during the COVID-19 period. This could be a factor for the use of both mental and behavioural disengagements in the present study.

Implications of findings for practice:

Covid-19 greatly impacted the mood of the students, and this was shown in the higher percentage of likelihood of severe stress among the students. It is therefore expedient that the educational administrators prepare for probable future pandemic by teaching on supportive adaptive measures to empower and enable students to cope in any possible foreseeing pandemic that could impose a threat and stress on their educational pursuits. The school authorities can also utilize the findings to prepare ahead of any pandemic to foster resilience in the students.

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Limitation of the study: The study could not be extended to other universities around the South-western region of the country. This limitation was due to a lack of funds for this project coupled with government restrictions on movement and social interaction during the COVID-19 pandemic.

Conclusion: The study concluded that there is a high level of psychological distress among undergraduate students. The most-rated of the coping strategy used by undergraduate students was behavioral disengagement. Mental and behavioural disengagement are predictors of psychological distress, while religious and active coping reduces psychological distress. The least coping method adopted by the students was religion. The study recommended engagement in co-curricular activities like sporting and religious services as positive coping mechanisms for the students of the institution.

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