International Journal of Innovative Research and Scientific Studies, 7(4) 2024, pages: 1457-1467

IJIRSS
International Journal of Innovative Research & Scientific Studies

ISSN: 2617-6548

URL: www.ijirss.com

Anxiety-inducing factors among educators in the Capricorn district of Limpopo, South Africa

Khomotso Maaga[1*], Kebogile Mokwena[2]

[1]*Department of Public Health, Sefako Makgatho Health Sciences University, Pretoria, South Africa.*
[2]*NRF Chair in Substance Abuse and Population Mental Health, Sefako Makgatho Health Sciences University, Pretoria, South Africa.*

Corresponding author: Khomotso Maaga (*Email: khomotso.maaga@smu.ac.za*)

Abstract

This study was aimed at screening for anxiety symptoms among educators in the Capricorn District of Limpopo Province, South Africa. Recent literature has identified the school environment as a risk factor for anxiety, putting teachers at a higher risk. We collected data from 381 teachers using a quantitative cross-sectional study design. The Generalized Anxiety Disorder (GAD-7) scale, along with a researcher-developed socio-demographic questionnaire, was used to determine the prevalence and associated risk factors for anxiety symptoms. Stata-14 was used to analyze the data through the use of bivariate and multivariate analysis. The sample consisted largely of black (n=318, 83.46%), female (n=270, 70.87%) teachers from 25 schools. The prevalence of anxiety was 36.85%, with a majority falling under the mild category (n=85, 22.31%). Personal factors such as gender, race, home language, whether the participant had sought professional mental health assistance in the past 6 months, and the impact of COVID-19 were significantly (p=0.05) associated with the symptoms of anxiety. Additionally, workplace factors such as school of employment and subjects taught were also significantly associated with anxiety symptoms. There is a high prevalence of anxiety symptoms among educators, which may negatively affect the students under their care.

Keywords: Anxiety, COVID-19, Educators, Mental health disorder, Pandemic, Poor mental health, School environment, South Africa, Teacher.

DOI: 10.53894/ijirss.v7i4.3444
Funding: This research is supported by South African Medical Research Council and the National Research Foundation (Grant number: M052 &115449).
History: Received: 13 July 2023/**Revised:** 21 June 2024/**Accepted:** 16 July 2024/**Published:** 22 August 2024

Competing Interests: The authors declare that they have no competing interests.
Authors' Contributions: All authors contributed equally to the conception and design of the study. All authors have read and agreed to the published version of the manuscript.
Transparency: The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.
Institutional Review Board Statement: The Ethical Committee of the Sefako Makgatho Health Sciences University, South Africa has granted approval for this study (Ref. No. SMUREC/H/22/2021:PG).
Publisher: Innovative Research Publishing

1. Introduction

Anxiety disorders are the most prevalent mental health disorders globally [1] with a 50% upsurge that has been observed between 1990 and 2019 [2]. An estimated 45 million people suffered from some form of anxiety disorder in 2019 [3]. It is further asserted that this rate has increased, largely due to the COVID-19 pandemic [4]. Anxiety not only interferes with the day-to-day functions in an individual's life but also has somatic symptoms that are detrimental to health and wellbeing[5]as well as increased risk for morbidity [2] and mortality [6]. Scholars have also linked anxiety disorders as a risk factor for hypertension [7], diabetes, and obesity [8] as well as other mental health disorders such as depression [9].

Although anxiety is prevalent across all settings, races, age groups, and genders, certain groups of people are more vulnerable and hence at a greater risk of anxiety. Research indicates that the conditions they encounter in their work environments expose teachers, both locally and globally, to heightened risk of mental health issues. It is even argued that this has worsened due to the COVID-19 pandemic. To illustrate, Li, et al. [10] demonstrated that teachers are 2.4 times more likely to be anxious than those in other professions.

The school environment has been afflicted with numerous organizational, social, and interpersonal challenges that serve as risk factors for ill mental health. Literature has identified high levels of burnout [11] and occupational stress [12] among educators. For example, a study conducted in the Western Cape found a 28.1 % prevalence of psychological distress among South African educators [13]. This is largely due to the poor working conditions that teachers are subjected to, as they are often not very conducive to their mental health and wellbeing. Poorly functional schools with infrastructure challenges, shortages in textbooks and other teaching materials, interpersonal conflict, and a lack of support are some of the factors that make teaching duties difficult and contribute to occupational stress[14, 15]. Increases in school violence, especially violent acts and bullying by students towards educators [16] and substance abuse issues among learners [17], lead to many disciplinary issues and often place teachers in life-threatening situations.

The recent emergence of the COVID-19 pandemic has also elevated anxiety levels[18] due to the changes within the school environment. Factors such as fear of transmission and infection [19], as well as the harmful effects the pandemic had on the society due to high death toll and other socio-economic ramifications, posed a significant risk factor for negative mental health outcomes. All the aforementioned issues present a highly demanding workplace that intensifies the risk of stress and burnout among educators and thus, elevates the risk of anxiety.

Literature has shown high levels of anxiety among educators, with prevalence rates ranging from 40-73 % in Asian [20, 21], European [22] and American [23] regions. Similar rates were also reported in African countries, with rates of 60.7%[24] and 67.5 % [25] in Nigeria and Egypt, respectively. Higher rates of anxiety have been observed among female teachers [26] which suggests the gendered aspect of anxiety [27], may be explained by expected household-related duties for females, which leads to work-family imbalance and resultant increased anxiety symptoms [23]. However, other studies reported that male teachers were more likely to be anxious [21] while other scholars found no differences across genders [20]. Similarly, conflicting results are reported for age, as some literature sources maintain that younger educators are at an increased risk for anxiety [23, 28] while others have stated that older age is a risk factor for anxiety amongst educators [21].

Prolonged time in the education sector predisposes one to an increased risk of burnout, which leads to job dissatisfaction and ultimately increases the risk for negative mental health outcomes, including anxiety [25]. On the other hand, it is also argued that a prolonged stay also provides valuable experience, which can assist educators in maintaining classroom discipline and dealing with threatening situations that less experienced teachers may not be able to handle, leading to intensified feelings of anxiety [20]. While some authors have reported increased anxiety risk among teachers who are single [27] others have found higher rates among those who are married [29]. Performing administrative functions, having too many students in the classroom, and not having enough time to mark were some of the key issues that were reported among Iranian teachers that scored high for anxiety symptoms [20].

Anxiety carries a great burden, as it has been listed as the second leading cause of Disability Adjusted Life Years (DALY's) in the mental health domain [30]. Due to the debilitating consequences of anxiety, it may interfere with the work-related duties of educators by causing disruptions that hinder optimal performance. For example, anxiety has been associated with lower levels of productivity [31] which results in poor teaching performance [32]. This not only disrupts a school's proper functioning, but it may also lead to poor academic outcomes for students. It is therefore essential to prioritize the mental wellbeing of educators to ensure the wellbeing of students under their care. Screening is one method to achieve this. As a result, this is the main focus of this study.

1.1. Purpose of the Study

The study was aimed at screening for the prevalence and associated risk factors of anxiety symptoms among educators in the Capricorn District of the Limpopo Province.

2. Materials and Methods

2.1. Study Design

The study design was cross sectional in nature with the use of a self-administered questionnaire.

2.2. Research Setting

The study was conducted across 25 schools in two local municipalities located in the Capricorn District of Limpopo Province, South Africa. This district has 541 primary schools and 342 high schools in various urban and rural areas.

2.3. Population

Quantified primary and high school teachers working in the chosen schools of the two municipalities within the Capricorn District made up the population of interest.

2.4. Recruitment

The ethical approval certificate from Sefako Makgatho Health Sciences University (SMUREC) and the permission letter from the Limpopo Department of Education were used to request participation from the management teams of the schools in two municipalities. Logistical arrangements were made subsequent to permission provided by the school, and all the teachers who were interested and able to provide consent participated in the study.

2.5. Sampling

We used stratified sampling to divide the schools into private and public ones from two municipalities. Subsequently, random sampling through the use of the hat method was used to select the individual schools for participation, and all the teachers within the selected schools were invited to participate.

2.6. Sample Size Determination

The minimum sample size of 370 was calculated using the Raosoft sample size calculator for an estimated 10,000 teachers in the Capricorn district, with a 5 % margin of error, a 95% confidence interval and 50% response rate. The final sample consisted of 381 teachers from 25 schools.

2.7. Data Collection Tool

The Generalized Anxiety Disorder (GAD-7) scale was used to screen for anxiety symptoms, and a researcher developed socio-demographic questionnaire to collect demographic information from participants. The GAD-7 was chosen due to its validation and reliability status globally and has been used in various community settings [7, 33]. It has a high sensitivity of 78.1% and a high specificity 74.6% of at a cut-off point of 5 [34].

2.8. Data Collection

The data collection period took place over a seven-month period, between January and July 2022. As a result of the COVID-19 access restrictions, arrangements for the drop-of the study documents were made with the management teams of each school, who were given the responsibility of distributing the surveys to the teachers. Upon a completion of surveys, the management team contacted the researcher to collect them.

2.9. Data Analysis

Microsoft Excel was used to capture and clean the raw data which was then imported to Stata-14 (StataCorp., College Station, TX, USA) for analysis. Socio-demographic data was analyzed descriptively and presented as means, medians, modes, percentages and proportions. The prevalence of anxiety symptoms was established using the scores obtained from the GAD-7 scale with scores above 5 indicatives of possible anxiety. Further classification identified the severity of anxiety symptoms with scores of 5-9 indicating mild symptoms, 10-14 representing moderate symptoms and score of 15 and above, indicating severe symptoms of anxiety. Numeric data was converted into categorical data as necessary for bivariate analysis using Pearson chi-square test of association to explore the association between socio-demographic variables and anxiety symptoms. Using a confidence interval of 95 % and a p-value of 0.05. the variables that were significantly associated were kept and inputted to run multivariate analysis.

2.10. Ethical Considerations

Ethical clearance and permission to conduct the study were provided by the SMU Research Ethics Committee (SMUREC/H/22/2021:PG) and from the Limpopo Department of Health, as well as all school management teams. Participants further provided consent for participation in the study, and all the COVID-19 safety regulations were upheld during data collection.

3. Results

3.1. Profile of the Schools

The total sample of 381 participants came from a total of 25 schools, both private (n=57, 14.96%) and public (n=324, 85.04%), in Polokwane (n=119, 31.23%) and Lepelle-Nkumpi (n=262, 68.77%) local municipalities. A total of 11 (58.27 %) primary, 13 (38.58%) high, and 1 (3.15%) combined school participated, with the participation rate ranging from 4-32 in each school.

3.2. Socio-Demographic and Work-Related Variables of the Participants

The greatest proportion of the sample were black (n=318, 83.46%) and female (n=270, 70.87%), with similar proportions of married (n=165, 43.3%) and single (n=163, 42.78%). A small proportion of 26.77 % (n=102) had access to a mental health consultation office and an even smaller proportion of 6.04 (n=23) had made use of those facilities in the past 6 months despite 45.1 (n=172) % of the participants indicating the negative impact of COVID-19 on their mental wellbeing. Majority of the participants held a bachelor's degree (n=205, 53.95%) and had an average of 15 years spent in the teaching profession. Most of the participants were hired on a permanent basis (n=330, 86.46%). There was an average

of 36 students per class, with a learner-to-teacher ratio of 15 to 50. Table 1 presents all the socio-demographic variables of the participants.

Table 1.
Participant socio-demographic variables.

Variable	Frequency (n)	Percentage (%)
Age (n=381)		
≤42	193	50.66
>42	188	49.34
Age (Mean 41.1; SD 12.1; Min. 20; Max. 69)		
Gender (n=381)		
Female	270	70.87
Male	111	29.13
Race (n=381)		
Black	318	83.46
Colored	1	0.26
Indian	1	0.26
White	61	16.01
Home language (n=381)		
Sepedi	224	58.79
Tsonga	52	13.65
Afrikaans	51	13.39
English	14	3.67
Zulu	7	1.84
Venda	6	1.57
Ndebele	6	157
Swati	5	1.31
Setswana	4	1.05
Xhosa	1	0.26
Other	2	0.52
Marital status (n=381)		
Married	165	43.3
Single	163	42.78
Divorced	26	6.82
Widowed	27	7.09
Highest level of education (n=381)		
Diploma	113	29.74
Bachelor	205	53.95
Postgraduate diploma	53	13.95
Masters	9	2.37
Office to consult for mental health stress(n=381)		
Yes	102	26.77%
No	279	73.23
Type of office (n=380)		
None	277	72.89
Local school	65	17.11
District office	21	5.53
Provincial office	4	1.05
Other	13	3.42
Consulted professional for mental health in past 6 months (n=381)		
Yes	23	6.04
No	358	93.96
Impact of Covid-19 on mental health (n=381)		
Yes	172	45.1
No	209	54.86

Approximately forty-six percent (n=190) of the sample had been in the teaching industry for over 13 years and were currently employed on a permanent basis (86.61%, n=330) in their current school of employment. Slightly over half (53.02 %, n=202) of the sample had more than 36 students per class. Table 2 presents the participant's work-related variables as follows:

Table 2.
Work-related variables.

Variable	Frequency (n)	Percentage (%)
Teachers per school (n=381)		
Below 33	213	55.91
Above 33	168	44.09
Conditions of employment (n=381)		
Permeant	330	86.61
Temporary	51	13.39
Level of appoint (n=371)		
Teacher	313	86.46
Head of department	30	8.29
Deputy principal	14	3.87
Principal	5	1.38
Number of years as teacher (n=381)		
13 years and less	191	50.13
More than 13 years	190	49.87
Years at particular school (n=381)		
6 years and less	205	53.81
More than 6 years	176	46.19
Number of subjects teaching(n=381)		
1-2 subjects	216	56.70
3 or more subjects	165	43.30
Learner per teacher(n=381)		
Below 36 students per class	179	46.98
Above 36 students per class	202	53.02

3.3. Prevalance and Severity of Anxiety Symptoms

A prevalnace of 38.85% (n=148) was found, with majority exhibiting mild (22.31%, n= 85) to moderate (11.29%, n=43) anxiety symptoms. Figure 1shows the severity of anxiety symptoms.

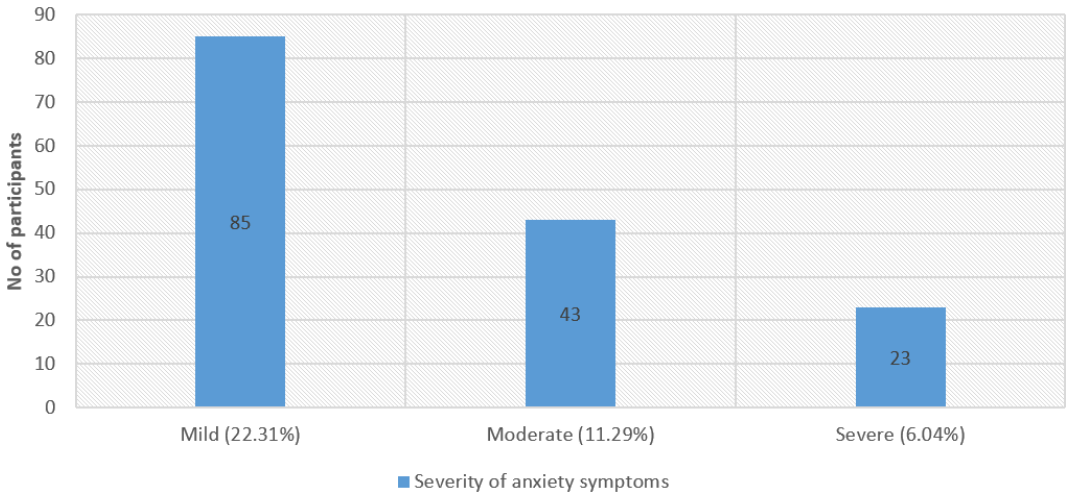

Figure 1.
Severity of anxiety symptoms.

3.4. Reported Components of Anxiety Symptoms

The most commonly reported symptoms were worrying too much about different things (n=58.27%), easily annoyed or irritated (n=172, 45.14%) having an inability to control worrying (n=171, 44.88%), and feeling afraid (n=160, 41.99%). Table 3 presents all the reported manifestations of anxiety symptoms.

Table 3.
Reported manifestations of anxiety symptoms.

Problems associated to anxiety symptoms	Frequency (%)
1. Feeling nervous, anxious, or on edge	155(40.68)
2. Not being able to stop or control worrying	171(44.88)
3. Worrying too much about different things	222 (58.27)
4. Trouble relaxing	151(39.68)
5. Being so restless that it's hard to sit still	115(30.18)
6. Becoming easily annoyed or irritable	172(45.14)
7. Feeling afraid as if something awful might happen	160(41.99)

3.5. Factors Associated with Anxiety Symptoms

The Pearson chi square test of association identified 10 factors that were significantly associated with anxiety symptoms ($p \leq 0.05$). It was found that anxiety was more common among African female teachers who were single and had not soughtprofessional mental health assistance in the past 6 months. Additionally, the impact of COVID-19 was also significantly associated. Other related factors included the subjects that teachers were responsible for teaching, home language, and the school of employment. Table 4 presents all the factors associated with anxiety symptoms.

Table 4.
Factors associated with anxiety symptoms.

Factors	Frequency (%)	Anxious (%)	Not anxious (%)	Chi^2	p-value
School					
Bokamoso	16 (4.20)	7 (4.73)	9 (3.86)		
Capricorn	10 (2.62)	2 (1.35)	8 (3.43)		
CM Sehlapelo	08 (2.10)	1 (0.68)	7 (3.00)		
Dr Dixion Mphahlele	31 (8.14)	11 (7.43)	20 (8.58)		
Dr MJ Madiba	21 (1.31)	2 (1.35)	3 (1.29)		
Flora park	08 (2.10)	5 (3.38)	3 (1.29)		
Jabez Christian academy	12 (3.15)	5 (3.38)	7 (3.00)		
Kgwadu	30 (7.87)	13 (8.78)	17 (7.30)		
Lebowakgomo	09 (2.36)	5 (3.38)	4 (1.72)		
Makgongoana	05 (1.31)	1 (0.68)	4 (1.72)		
Makgothane	26 (16.82)	9 (6.08)	17 (7.30)		
Marara Cynthia	29 (7.61)	2 (1.35)	27 (11.59)	41.9533	0.013
Masedibu	12 (7.61)	5 (3.38)	7 (3.00)		
Matlalaohle	32 (8.40)	11 (7.43)	21 (9.01)		
Mosepedi	28 (7.35)	13 (8.78)	15 (6.44)		
Ngoatotlou	04 (1.05)	0 (0.00)	4 (1.72)		
Northern academy	07 (1.84)	4 (2.70)	3 (1.29)		
PCS	27 (7.09)	12 (8.11)	15 (6.44)		
PEMPS	12 (3.15)	6 (4.05)	6 (2.58)		
Peter Nchabeleng	06 (1.57)	3 (2.03)	3 (1.29)		
Phuti Makibelo	04 (1.05)	0 (0.00)	4 (1.72)		
Piet Hugo Laerskool	24 (6.56)	17 (11.49)	8 (3.43)		
Setototwane	05 (1.31)	2 (1.35)	3 (1.29)		
Wonderland	9 (2.36)	6 (4.05)	3 (1.29)		
Mogodumo	21 (5.51)	6 (4.05)	15 (6.44)		
Gender					
Female	270 (70.87)	114 (77.03)	156 (66.95)	4.4492	0.035
Male	111 (29.13)	34 (22.97)	77 (33.05)		
Race					
Black	318 (83.46)	111 (75.00)	207 (88.84)		
White	61 (16.01)	36 (24.32)	25 (10.73)	14.7349	0.002
Colored	1 (0.26)	0 (0.00)	1 (0.43)		
Indian	1 (0.26)	1 (0.68)	0 (0.00)		
Marital status					
Married	165 (43.31)	61 (41.22)	104 (44.64)		
Single	163 (42.78)	68 (45.95)	95 (40.77)	7.9694	0.047
Divorced	26 (6.82)	14 (9.46)	12 (5.15)		
Widowed	27 (7.09)	5 (3.38)	22 (9.44)		
Age(n=381)					
Below 42 years	193 (50.66)	86 (58.11)	107 (45.92)	5.3766	0.020
Above 42 years	188 (49.34)	62 (41.89)	126 (54.08)		
Home language (n=381)					
Sepedi	224 (58.79)	78 (52.70)	146 (62.66)		
Tsonga	52 (13.65)	16 (10.81)	36 (15.45)		
Afrikaans	51 (13.39)	30 (20.27)	21 (9.01)		
English	14 (3.67)	8 (5.41)	6 (2.58)	20.7317	0.036
Zulu	7 (1.84)	4 (2.70)	3 (1.29)		
Venda	6 (1.57)	2 (1.35)	4 (1.72)		
Ndebele	6 (1.57)	3 (2.03)	3 (1.29)		
Sesotho	9 (2.36)	1 (0.68)	8 (3.43)		

Factors	Frequency (%)	Anxious (%)	Not anxious (%)	Chi^2	p-value
Swati	5 (1.31)	2 (1.35)	3 (1.29)		
Setswana	4 (1.05)	3 (2.03)	1 (0.43)		
Xhosa	1 (0.26)	0 (0.00)	1 (0.43)		
Other	2 (0.52)	1 (0.68)	1 (0.43)		
Consulted professional for mental health in past 6 months (n=381)					
Yes	23 (6.04)	15 (15.5)	8 (3.43)	7.1663	0.007
No	358 (93.96)	133 (89.86)	225 (96.57)		
Impact of COVID-19 on mental health (n=381)					
Yes	172 (45.14)	92 (62.16)	80 (34.33)	28.3017	0.000
No	209 (54.86)	56 (37.84)	153 (65.67)		
Subject: Social science					
Yes	39 (10.24)	21 (14.19)	18 (7.73)	4.1156	0.042
No	342 (89.76)	127 (85.81)	215 (92.27)		
Subject: Art					
Yes	31 (8.14)	18 (12.16)	13 (5.58)	5.2472	0.022
No	350 (91.86)	130 (87.84)	220 (94.42)		

3.6. Multivariate Analysis

Using the 10 factors that were significant at chi-square level analysis, a logistic regression model was built, and only four factors remained statistically associated with symptoms of anxiety (p=0.05). The odds ratio identified that participants who were negatively impacted by COVID-19 were at a 3-fold increased risk for anxiety symptoms. Moreover, teachers who taught arts and social sciences were 2 times less likely to exhibit anxiety symptoms, while teachers of African descent were more likely to be anxious. Table 5 shows the factors in the logistic regression table.

Table 5.
Results of multivariate analysis.

Factors	Odds ratio	Std. err.	P>|z|	[95% conf. interval]
Gender	0.69	0.18	0.16	0.41 1.15
Race	1.33	0.15	0.01	1.06 1.68
Marital status	0.89	0.13	-0.71	0.66 1.21
Sought professional mental health assistance in the past 6 months	2.04	1.00	0.14	0.77 5.37
COVID-19 impact	3.35	0.78	0.00	2.11 5.31
Age	0.72	0.18	0.20	0.43 1.19
School of employment	1.00	0.01	0.64	0.97 1.04
Home language	1.05	0.05	0.33	0.94 1.16
Subject: Art	2.42	1.00	0.03	1.07 5.45
Subject: Social science	2.12	0.80	0.04	1.00 4.47

4. Discussion

Females dominated the majority of the sample, aligning with the overall gender representation in the teaching profession [35]. The mean age of the participants was 41, which is comparable to a Chinese study that reported a mean age of 41 in their teaching sample [36]. Synonymous with other authors that reported a relatively long duration in the teaching industry [37, 38], the average teaching experience was 15 years. Despite a long duration spent in the teaching profession, high rates of job dissatisfaction have been reported throughout the country, as well as on a global scale [29, 39] which may account for the high prevalence of anxiety symptoms in the present study.

The current study found a high prevalence of anxiety symptoms of 38.85% among educators, which was much higher than what was reported in Poland [40] and China [10]. Similar to what Desouky and Allam [25]found in a study among Egyptian educators, the majority of the teachers reported mild (11.9%) to moderate symptoms (6.04%). However, this overall prevalence rate (38.85%) found in the current study is much lower than studies conducted in other parts of Nigeria [24] Saudi Arabia [18] and Malaysia [37]. The differences in prevalence may be context specific, as the Nigerian study by Ishaya, et al. [24] was conducted in a high-conflict area in Nigeria. The high proportion of mild and moderate categories is also of concern because, although it may not be dramatic enough to indicate a response, it is, however, doing harm to the mental health of the affected.

Socio-demographic factors such as race were significantly associated with anxiety symptoms, as black teachers were 1.3 times more likely to display symptoms of anxiety as compared to other races. Additionally, Sepedi, Afrikaans, and Tsonga-speaking teachers reported higher rates of anxiety symptoms. The locality of the research area may influence both the race and home language of the teacher. The current finding that female teachers exhibited higher rates of anxiety symptoms than their male colleagues was also replicated in numerous other studies which argued that female teachers are at a higher risk for anxiety [27, 37]. This can be partly explained by the increasing rates of violence within the school environment, as teachers' experiences of violent acts and bullying from their learners [16]. This is largely due to social

problems like substance abuse [17] and behavioral problems that are on the rise and contribute to increasing rates of school violence.

Although school violence is experienced by both male and female teachers, it is argued that female teachers carry much of the burden, as acts of sexual harassment [41] and verbal abuse [42] are mostly perpetrated on them, as opposed to their male counterparts. From a societal standpoint, women are generally more vulnerable to acts of violence, and this fact remains true even in the workplace. Literature reports continuous exposure to violence as a risk factor for elevated levels of anxiety, as victims remain anxious long after the event has occurred [43]. Although male and female teachers may be exposed to similar situations, they are affected differently due to biological, social, and emotional differences between them [20].

Synonymous with what was found by previous authors [23, 28], this study found that younger teachers were more susceptible to symptoms of anxiety than teachers that were older. While this was quite different from what was reported by other scholars [20] it is reasoned that the lack of experience among younger teachers is a contributing factor, as they lack experience in terms of classroom management skills, disciplinary tactics, and overall management in the teaching environment [27, 44]. Moreover, comparable to Nigerian teachers [27] the current study found that single teachers were at a greater risk of anxiety than those who were married. Single teachers have lower levels of social support as compared to those who are married [45] which may explain their higher levels of anxiety. Heightened feelings of loneliness and isolation play a significant role in the predisposing of anxiety symptoms [45] and this may have been worsened by prolonged home confinement during the Covid-19 pandemic throughout the various lockdown regulations. Social support is an important factor in reducing anxiety-related symptoms among educators [46] and literature has demonstrated that a healthy marriage can provide higher levels of social, financial, and emotional support [47-50] which can be a potential buffer against ill mental health outcomes [47].

Although personal attributes of the teachers largely contributed to the increased risk of anxiety, there are various workplace factors that also played a great role. As an example, the specific school of employment was of great significance for anxiety symptoms among educators. This infers that there are various anxiety-inducing factors within the schools that may protect or expose teachers to ill mental health. To illustrate, in this sample, only 26.77% of the educators had access to a mental health office that they could consult, which is an indication that the vast majority of the educators received no mental health support from their school of employment. Studies have linked higher rates of stress and anxiety to a lack of support [46, 51]. Furthermore, this study found that teachers in public schools had higher rates of anxiety compared to those in private schools, despite this factor not being significant. This further serves as evidence that the factors within the school environment may predispose educators to ill mental health, as literature has shown that public schools in South Africa are plagued by many socio-economic ills. For example, many public schools have issues such as limited resources, high learner-to-teacher ratios, and dilapidated infrastructure [52-54]. All these issues have been linked to an increased risk of anxiety [25, 27]. It is therefore empirical for governmental interventions to prioritize improving school conditions not only for the benefit of the learners but also for the mental wellbeing of the educators. A Ghanaian study also gathered evidence that a poor working environment increases the risk of high anxiety levels among educators [46].

The study also identified a significant association between subjects taught by the teachers, as art and social science teachers were two times less likely to be anxious than teachers of other subjects. However, in comparison, it is noted that social science teachers had slightly higher levels of anxiety as compared to art teachers. This finding was also displayed in the work of Asa and Lasebikan [27] which found that teachers who taught art and commercial subjects had lower rates of anxiety compared to science teachers. It is explained that because subjects such as math, science and languages are compulsory subjects, teachers of these subjects usually present with higher stress levels due to a higher influx of students, thus, higher workload demands [55]. Additionally, the shortage of teachers, especially in math and science in South Africa, further contributes to the higher workload. This is evidenced by the high anxiety and stress levels reported by other scholars among math [56, 57] language [58, 59] and science teachers [60, 61].

The most common manifestations of anxiety symptoms were worrying too much about different things (n=58.27%), inability to control worrying (n=171, 44.88%), and becoming easily annoyed or irritated (n=172, 45.14%). Other studies have linked anxiety symptoms with insomia [62], headaches [63] and increased heart palpitations [64] while others have reported increased risk of death, disability, and intereference with daily activities [2, 6]. The ramifications of untreated anxiety not only affects the teacher but also affects the students under their care, as higher levels of anxiety among eductors was postively associated with depersonalisation [65] which means that teachers distance themselves mentally from their students. The teacher-student relationship plays an integral role in the social, mental, emotional, and academic development of students, and the poor mental health outcomes of teachers may disrupt this growth Li, et al. [66]. Glazzard and Rose [67] found that students often pick up on the negative mental health status of their educators, regardless of how well the educators may try to conceal this from the students. Another study revealed that educators' anxiety can negatively impact their students' academic performance [68]. It is thus essential to protect and priorities the health and wellbeing of educators for the benefit of their students.

5. Conclusion

The prevalence of anxiety symptoms among this sample of educators was high, at 38.85%. This prevalence was also largely due to the impact of the COVID-19 pandemic, as reported by 45% of the participants, as well as other personal and work-related variables. These findings indicate the presence of mental health challenges that are underdiagnosed in developing countries and support the need for further investigation into the mental health of teachers throughout the country in order to strengthen prevention and treatment strategies.

5.1. Recommendations

The authors recommend increased governmental involvement in the provision of mental health support programs for educators at a local and national level.

5.2. Limitations

Given the cross-sectional nature of the study, one must interpret the findings with cautions.

References

[1] D. J. Stein, K. M. Scott, P. De Jonge, and R. C. Kessler, "Epidemiology of anxiety disorders: From surveys to nosology and back," *Dialogues in Clinical Neuroscience*, vol. 19, no. 2, pp. 127-136, 2022.

[2] X. Yang *et al.*, "Global, regional and national Burden of anxiety disorders from 1990 to 2019: Results from the global Burden of disease study 2019," *Epidemiology and Psychiatric Sciences*, vol. 30, p. e36, 2021. https://doi.org/10.1017/s2045796021000275

[3] P. Xiong, M. Liu, B. Liu, and B. J. Hall, "Trends in the incidence and DALYs of anxiety disorders at the global, regional, and national levels: Estimates from the global Burden of disease study 2019," *Journal of Affective Disorders*, vol. 297, pp. 83-93, 2022. https://doi.org/10.1016/j.jad.2021.10.022

[4] D. F. Santomauro *et al.*, "Global prevalence and Burden of depressive and anxiety disorders in 204 countries and territories in 2020 due to the COVID-19 pandemic," *The Lancet*, vol. 398, no. 10312, pp. 1700-1712, 2021.

[5] D. S. M. T. F. American Psychiatric Association, *Diagnostic and statistical manual of mental disorders: DSM-5*. Washington, DC: American Psychiatric Association, 2013.

[6] S. M. Meier, M. Mattheisen, O. Mors, P. B. Mortensen, T. M. Laursen, and B. W. Penninx, "Increased mortality among people with anxiety disorders: Total population study," *The British Journal of Psychiatry*, vol. 209, no. 3, pp. 216-221, 2016. https://doi.org/10.1192/bjp.bp.115.171975

[7] S. U. Johnson, P. G. Ulvenes, T. Øktedalen, and A. Hoffart, "Psychometric properties of the general anxiety disorder 7-item (GAD-7) scale in a heterogeneous psychiatric sample," *Frontiers in Psychology*, vol. 10, p. 1713, 2019. https://doi.org/10.3389/fpsyg.2019.01713

[8] L. Sanna *et al.*, "Physical comorbidities in men with mood and anxiety disorders: A population-based study," *BMC Medicine*, vol. 11, pp. 1-9, 2013. https://doi.org/10.1186/1741-7015-11-110

[9] N. H. Kalin, "The critical relationship between anxiety and depression," *American Journal of Psychiatry*, vol. 177, no. 5, pp. 365-367, 2020. https://doi.org/10.1176/appi.ajp.2020.20030305

[10] Q. Li, Y. Miao, X. Zeng, C. S. Tarimo, C. Wu, and J. Wu, "Prevalence and factors for anxiety during the coronavirus disease 2019 (COVID-19) epidemic among the teachers in China," *Journal of Affective Disorders*, vol. 277, pp. 153-158, 2020. https://doi.org/10.1016/j.jad.2020.08.017

[11] D. Mijakoski *et al.*, "Determinants of burnout among teachers: A systematic review of longitudinal studies," *International Journal of Environmental Research and Public Health*, vol. 19, no. 9, p. 5776, 2022.

[12] E. Khalifa, O. Khalaf, and R. Mohammed, "Prevalence of occupational stress and depression among school teachers," *Egyptian Journal of Occupational Medicine*, vol. 46, no. 1, pp. 1-6, 2022. https://doi.org/10.21608/ejom.2021.76784.1237

[13] A. K. Domingo, L. Asmal, S. Seedat, T. M. Esterhuizen, C. Laurence, and J. Volmink, "Investigating the association between diabetes mellitus, depression and psychological distress in a cohort of South African teachers," *South African Medical Journal*, vol. 105, no. 12, pp. 1057-1060, 2015. https://doi.org/10.7196/samj.2015.v105i12.9843

[14] P. Marais, "" We can't believe what we see": Overcrowded classrooms through the eyes of student teachers," *South African Journal of Education*, vol. 36, no. 2, pp. 1-10, 2016. https://doi.org/10.15700/saje.v36n2a1201

[15] J. West and C. Meier, "Overcrowded classrooms–the Achilles heel of South African education?," *South African Journal of Childhood Education*, vol. 10, no. 1, pp. 1-10, 2020. https://doi.org/10.4102/sajce.v10i1.617

[16] M. H. Woudstra, E. Janse van Rensburg, M. Visser, and J. Jordaan, "Learner-to-teacher bullying as a potential factor influencing teachers' mental health," *South African Journal of Education*, vol. 38, no. 1, pp. 1-10, 2018. https://doi.org/10.15700/saje.v38n1a1358

[17] K. E. Mokwena and N. J. Setshego, "Substance abuse among high school learners in a rural education district in the Free State province, South Africa," *South African Family Practice: Official Journal of the South African Academy of Family Practice/Primary Care*, vol. 63, no. 1, pp. e1-e6, 2021. https://doi.org/10.4102/safp.v63i1.5302

[18] R. A. Alhazmi *et al.*, "Prevalence and factors of anxiety during the coronavirus-2019 pandemic among teachers in Saudi Arabia," *Frontiers in Public Health*, vol. 10, p. 827238, 2022. https://doi.org/10.3389/fpubh.2022.827238

[19] N. Wakui *et al.*, "Causes of anxiety among teachers giving face-to-face lessons after the reopening of schools during the COVID-19 pandemic: A cross-sectional study," *BMC Public Health*, vol. 21, no. 1, pp. 1-10, 2021. https://doi.org/10.1186/s12889-021-11130-y

[20] M. Aslrasouli and M. S. P. Vahid, "An investigation of teaching anxiety among novice and experienced Iranian EFL teachers across gender," *Procedia-Social and Behavioral Sciences*, vol. 98, pp. 304-313, 2014. https://doi.org/10.1016/j.sbspro.2014.03.421

[21] M. T. Hossain *et al.*, "Mental health status of teachers during the second wave of the COVID-19 pandemic: A web-based study in Bangladesh," *Frontiers in Psychiatry*, vol. 13, p. 938230, 2022. https://doi.org/10.3389/fpsyt.2022.938230

[22] N. Ozamiz-Etxebarria, "Emotional state of school and university teachers in Northern Spain in the face of COVID-19," *Revista Española de Salud Pública*, vol. 95, p. e202102030, 2021.

[23] P. A. Lizana and L. Lera, "Depression, anxiety, and stress among teachers during the second COVID-19 wave," *International Journal of Environmental Research and Public Health*, vol. 19, no. 10, p. 5968, 2022. https://doi.org/10.3390/ijerph19105968

[24] D. S. Ishaya, T. J. Ibrahim, and D. Joseph, "Assessment of psychological trauma symptoms among teachers in conflict areas: The case of Biu local government area of Borno State," *KIU Journal of Humanities*, vol. 5, no. 2, pp. 157-162, 2020.

[25] D. Desouky and H. Allam, "Occupational stress, anxiety and depression among Egyptian teachers," *Journal of Epidemiology and Global health*, vol. 7, no. 3, pp. 191-198, 2017. https://doi.org/10.1016/j.jegh.2017.06.002

[26] H. Saeed, A. Eslami, N. T. Nassif, A. M. Simpson, and S. Lal, "Anxiety linked to COVID-19: A systematic review comparing anxiety rates in different populations," *International Journal of Environmental Research and Public Health*, vol. 19, no. 4, p. 2189, 2022.

[27] F. T. Asa and V. O. Lasebikan, "Mental health of teachers: Teachers' stress, anxiety and depression among secondary schools in Nigeria," *International Neuropsychiatric Disease Journal*, vol. 7, no. 4, pp. 1-10, 2016. https://doi.org/10.9734/indj/2016/27039

[28] J. V. Cleofas and M. F. Mijares, "The role of professional self-care practices in lowering anxiety among Filipino teachers enrolled in graduate studies," *Teacher Development*, vol. 26, no. 2, pp. 206-220, 2022. https://doi.org/10.1080/13664530.2022.2043422

[29] L. Wang and D. Zhang, "Characteristics of anxiety among primary and middle school teachers: A content-based approach to state anxiety," *Health*, vol. 4, no. 1, pp. 26-31, 2012. https://doi.org/10.4236/health.2012.41006

[30] GBD Mental Disorders Collaborators, "Global, regional, and national Burden of 12 mental disorders in 204 countries and territories, 1990–2019: A systematic analysis for the global Burden of disease study 2019," *The Lancet Psychiatry*, vol. 9, no. 2, pp. 137-150, 2022. https://doi.org/10.1016/s2215-0366(21)00395-3

[31] R. Mortensen, "Anxiety, work, and coping," *The Psychologist-Manager Journal*, vol. 17, no. 3, p. 178, 2014.

[32] R. Q. Danish, S. Qaseem, T. Mehmood, Q. M. Ali, H. F. Ali, and R. Shahid, "Work related stressors and teachers' performance: Evidence from college teachers working in Punjab," *European Scientific Journal*, vol. 1, no. 4, pp. 158-173, 2019. https://doi.org/10.19044/esj.2019.v15n4p158

[33] T. A. Dhira, M. A. Rahman, A. R. Sarker, and J. Mehareen, "Validity and reliability of the generalized anxiety disorder-7 (GAD-7) among university students of Bangladesh," *PloS One*, vol. 16, no. 12, p. e0261590, 2021. https://doi.org/10.1371/journal.pone.0261590

[34] J.-G. Seo and S.-P. Park, "Validation of the generalized anxiety disorder-7 (GAD-7) and GAD-2 in patients with migraine," *The Journal of Headache and Pain*, vol. 16, no. 1, pp. 1-7, 2015. https://doi.org/10.1186/s10194-015-0583-8

[35] N. Davids and Y. Waghid, "Gender under-representation in teaching: A casualty of the feminisation of teaching?," *South African Journal of Higher Education*, vol. 34, no. 3, pp. 1-12, 2020. https://doi.org/10.20853/34-3-4045

[36] Y. Zhou, J. Sheng, S. Yang, F. Wang, and Z. Liu, "Occupational anxiety of college teachers in post-epidemic period and its countermeasures," *Converter*, vol. 2021, no. 7, pp. 14-18, 2021.

[37] Z. Othman and V. Sivasubramaniam, "Depression, anxiety, and stress among secondary school teachers in Klang, Malaysia," *International Medical Journal*, vol. 26, no. 2, pp. 71-74, 2019.

[38] V. Capone and G. Petrillo, "Mental health in teachers: Relationships with job satisfaction, efficacy beliefs, burnout and depression," *Current Psychology*, vol. 39, no. 5, pp. 1757-1766, 2020.

[39] C. I. Okeke and P. N. Mtyuda, "Teacher job dissatisfaction: Implications for teacher sustainability and social transformation," *Journal of Teacher Education for Sustainability*, vol. 19, no. 1, pp. 54-68, 2017. https://doi.org/10.1515/jtes-2017-0004

[40] E. Biernat, M. Piątkowska, and M. Rozpara, "Is the prevalence of low physical activity among teachers associated with depression, anxiety, and stress?," *International Journal of Environmental Research and Public Health*, vol. 19, no. 14, p. 8868, 2022. https://doi.org/10.3390/ijerph19148868

[41] D. Smit and V. Du Plessis, "Sexual harassment in the education sector," *Potchefstroom Electronic Law Journal*, vol. 14, no. 6, pp. 173-217, 2011.

[42] R. Özkiliç, "Bullying toward teachers: An example from Turkey," *Eurasian Journal of Educational Research*, vol. 47, pp. 95-112, 2012.

[43] I. D. Neumann, A. H. Veenema, and D. I. Beiderbeck, "Aggression and anxiety: Social context and neurobiological links," *Frontiers in Behavioral Neuroscience*, vol. 4, p. 928, 2010. https://doi.org/10.3389/fnbeh.2010.00012

[44] K. Sieberer-Nagler, "Effective classroom-management & positive teaching," *English Language Teaching*, vol. 9, no. 1, pp. 163-172, 2016.

[45] M. F. Ali, S. Kundra, M. A. Alam, and M. Alam, "Investigating stress, anxiety, social support and sex satisfaction on physical education and sports teachers during the COVID-19 pandemic," *Heliyon*, vol. 1, no. 8, p. e07860, 2021. https://doi.org/10.1016/j.heliyon.2021.e07860

[46] M. Peele and S. Wolf, "Predictors of anxiety and depressive symptoms among teachers in Ghana: Evidence from a randomized controlled trial," *Social Science & Medicine*, vol. 253, p. 112957, 2020. https://doi.org/10.1016/j.socscimed.2020.112957

[47] T. W. Myroniuk, "Marital dissolutions and the health of older individuals in a rural African context," *Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, vol. 72, no. 4, pp. 656-664, 2017. https://doi.org/10.1093/geronb/gbw077

[48] A. G. Bulloch, J. V. Williams, D. H. Lavorato, and S. B. Patten, "The depression and marital status relationship is modified by both age and gender," *Journal of Affective Disorders*, vol. 223, pp. 65-68, 2017. https://doi.org/10.1016/j.jad.2017.06.007

[49] S. Clark, C. Cotton, R. Margolis, and H. P. Kohler, "The psychological benefits of marriage and children in rural Malawi," *Studies in Family Planning*, vol. 51, no. 3, pp. 251-272, 2020. https://doi.org/10.31235/osf.io/6x5vw

[50] J. Grundström, H. Konttinen, N. Berg, and O. Kiviruusu, "Associations between relationship status and mental well-being in different life phases from young to middle adulthood," *SSM-Population Health*, vol. 14, p. 100774, 2021. https://doi.org/10.1016/j.ssmph.2021.100774

[51] I. Borrelli, P. Benevene, C. Fiorilli, F. D'Amelio, and G. Pozzi, "Working conditions and mental health in teachers: A preliminary study," *Occupational Medicine*, vol. 64, no. 7, pp. 530-532, 2014. https://doi.org/10.1093/occmed/kqu108

[52] M. Dilekmen and B. Erdem, "Depression levels of the elementary school teachers," *Procedia-Social and Behavioral Sciences*, vol. 106, pp. 793-806, 2013. https://doi.org/10.1016/j.sbspro.2013.12.091

[53] J. W. Foncha, J.-F. A. Abongdia, and E. O. Adu, "Challenges encountered by student teachers in teaching English language during teaching practice in East London, South Africa," *International Journal of Educational Sciences*, vol. 9, no. 2, pp. 127-134, 2015. https://doi.org/10.31901/24566322.2015/09.02.04

[54] P. Du Plessis and R. Mestry, "Teachers for rural schools–a challenge for South Africa," *South African Journal of Education*, vol. 39, 2019. https://doi.org/10.15700/saje.v39ns1a1774

[55] D. Daniels and E. Strauss, "Mostly I'm driven to tears, and feeling totally unappreciated: Exploring the emotional wellness of high school teachers," *Procedia-Social and Behavioral Sciences,* vol. 9, pp. 1385-1393, 2010. https://doi.org/10.1016/j.sbspro.2010.12.339

[56] V. Alkan, T. Coşguner, and Y. Fidan, "Mathematics teaching anxiety scale: Construction, reliability and validity," *International Journal of Assessment Tools in Education,* vol. 6, no. 3, pp. 506-521, 2019.

[57] M. V. Mkhize, "Mathematics anxiety among pre-service accounting teachers," *South African Journal of Education,* vol. 39, no. 3, pp. 1-14, 2019. https://doi.org/10.15700/saje.v39n3a1516

[58] Q. Su, "On teacher's role anxiety and its overcoming—Analysis based on the personality mask and shadow theory," *Academic Exploration,* vol. 6, pp. 143-148, 2018.

[59] T. Machida, "Japanese elementary school teachers and English language anxiety," *TESOL Journal,* vol. 7, no. 1, pp. 40–66, 2016. https://doi.org/10.1002/tesj.189

[60] S. Aydin, "A systematic review of research on teaching anxiety," *International Online Journal of Education and Teaching,* vol. 8, no. 2, pp. 730-761, 2021.

[61] P. S. Kavenuke, J. J. Kayombo, and M. Kinyota, "Are they stress-free? Examining stress among primary school teachers in Tanzania," *Center for Educational Policy Studies Journal,* vol. 12, no. 3, pp. 59-80, 2022. https://doi.org/10.26529/cepsj.1058

[62] A. N. Kaczkurkin, J. Tyler, E. Turk-Karan, G. Belli, and A. Asnaani, "The association between insomnia and anxiety symptoms in a naturalistic anxiety treatment setting," *Behavioral Sleep Medicine,* vol. 19, no. 1, pp. 110-125, 2021. https://doi.org/10.1080/15402002.2020.1714624

[63] H. T. Chu *et al.*, "Associations between depression/anxiety and headache frequency in migraineurs: A cross-sectional study," *Headache: The Journal of Head and Face Pain,* vol. 58, no. 3, pp. 407-415, 2018. https://doi.org/10.1111/head.13215

[64] F. Alijaniha *et al.*, "Relationship between palpitation and mental health," *Iranian Red Crescent Medical Journal,* vol. 18, no. 3, p. e22615, 2016. https://doi.org/10.5812/ircmj.22615

[65] A. Levante, S. Petrocchi, F. Bianco, I. Castelli, and F. Lecciso, "Teachers during the COVID-19 era: The mediation role played by mentalizing ability on the relationship between depressive symptoms, anxious trait, and job burnout," *International Journal of Environmental Research and Public Health,* vol. 20, no. 1, p. 859, 2023. https://doi.org/10.3390/ijerph20010859

[66] L. Li *et al.*, "Longitudinal associations among teacher–child relationship quality, behavioral engagement, and academic achievement," *Early Childhood Research Quarterly,* vol. 61, pp. 25-35, 2022. https://doi.org/10.1016/j.ecresq.2022.05.006

[67] J. Glazzard and A. Rose, "The impact of teacher well-being and mental health on pupil progress in primary schools," *Journal of Public Mental Health,* vol. 19, no. 4, pp. 349-357, 2020.

[68] S. L. Beilock, E. A. Gunderson, G. Ramirez, and S. C. Levine, "Female teachers' math anxiety affects girls' math achievement," *Proceedings of the National Academy of Sciences,* vol. 107, no. 5, pp. 1860-1863, 2010. https://doi.org/10.1073/pnas.0910967107