

Article

Mental Health and Coping Strategies among University Staff during the COVID-19 Pandemic: A Cross-Sectional Analysis from Saudi Arabia

Tauqeer Hussain Mallhi ^{1,*} , Nimra Aslam Khan ², Amina Siddique ³, Muhammad Salman ⁴ , Syed Nasir Abbas Bukhari ⁵ , Muhammad Hammad Butt ⁶ , Faiz Ullah Khan ⁷ , Mohammad Khalid ⁸, Zia Ul Mustafa ^{9,10} , Nida Tanveer ¹¹, Naveed Ahmad ¹² , Muhammad Masood Ahmad ¹² , Hidayat Ur Rahman ¹  and Yusra Habib Khan ^{1,*} 

- ¹ Department of Clinical Pharmacy, College of Pharmacy, Jouf University, Sakaka 72388, Saudi Arabia
- ² Department of Gynecology and Obstetrics, CMH Lahore Medical and Dental College, Lahore 54000, Pakistan
- ³ Department of Medicine, Rawalpindi Medical University, Rawalpindi 46000, Pakistan
- ⁴ Institute of Pharmacy, Faculty of Pharmaceutical and Allied Health Sciences, Lahore College for Women University, Lahore 54000, Pakistan
- ⁵ Department of Pharmaceutical Chemistry, College of Pharmacy, Jouf University, Sakaka 72388, Saudi Arabia
- ⁶ Department of Medicinal Chemistry, Faculty of Pharmacy, Uppsala University, 75123 Uppsala, Sweden
- ⁷ Department of Pharmacy Administration and Clinical Pharmacy, Xi'an Jiaotong University, Xi'an 710061, China
- ⁸ Department of Pharmacognosy, College of Pharmacy, Prince Sattam Bin Abdulaziz University, Al-Kharj 11942, Saudi Arabia
- ⁹ Discipline of Clinical Pharmacy, School of Pharmaceutical Sciences, Universiti Sains Malaysia, Penang 11800, Malaysia
- ¹⁰ Department of Pharmacy Services, District Headquarter (DHQ) Hospital, Pakpattan 57400, Pakistan
- ¹¹ Institute of Molecular Cardiology, University of Louisville, Louisville, KY 40292, USA
- ¹² Department of Pharmaceutics, College of Pharmacy, Jouf University, Sakaka 72388, Saudi Arabia
- * Correspondence: thhussain@ju.edu.sa (T.H.M.); yhkhan@ju.edu.sa (Y.H.K.)



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Abstract: This study examined psychological health and coping strategies among faculty and staff at a Saudi Arabian university. A web-based self-administered survey was used to assess probable anxiety, depression, post-traumatic stress disorder (PTSD), and coping strategies by using the Generalized Anxiety Disorder-7 (GAD-7), Patient Health Questionnaire-9 (PHQ-9), Impact of Event Scale-Revised (IES-R), and Brief-COPE scale, respectively. Of 502 participants (mean age 36.04 ± 10.32 years, male: 66.3%), 24.1% (GAD-7 ≥ 10) had probable anxiety. Anxiety score was significantly higher in females ($p < 0.001$), those with a history of COVID-19 infection ($p = 0.036$), and participants with less work experience ($p = 0.019$). Approximately 40% of participants met the criteria of probable depression, with females ($p < 0.001$) and participants with less experience having more depressive symptoms. Around one-fourth (27.7%) of study participants indicated probable PTSD (score ≥ 33), with higher symptoms in females ($p < 0.001$), less experienced staff ($p < 0.001$), and academic staff ($p = 0.006$). Correlation analysis indicated a significant positive correlation between anxiety and depression ($r = 0.844$, $p < 0.001$), anxiety and PTSD ($r = 0.650$, $p < 0.001$), and depression and PTSD ($r = 0.676$, $p < 0.001$). Active coping, religious/spiritual coping, and acceptance were common coping strategies, while substance use was the least adopted coping method among the study participants. This study indicated a high prevalence of probable psychological ailments among university staff.

Keywords: anxiety; coping strategies; COVID-19; depression; faculty members; mental health; pandemic; psychological health; stress; students; teachers; universities

1. Introduction

The COVID-19 pandemic has had far-reaching repercussions for health systems, economies, and societies, resulting in mental health issues [1]. According to the World Health Organization (WHO), the emergence of COVID-19 sparked or amplified symptoms of depression, anxiety, or post-traumatic stress. Moreover, there have been worrying signs of more widespread suicidal thoughts and behaviors [2]. The fear, anxiety, and hysteria associated with infectious diseases are not new phenomena. In the past, HIV / AIDS- and Ebola-related mental health deterioration has been documented in the literature [3]. Psychological distress associated with infectious diseases is exacerbated by a lack of knowledge and conspiracy theories concerning the diseases [4,5]. The emergence of the new disease provokes impulsive reactions that may reveal various psychological anomalies, particularly when an unknown, contagious, and deadly disease, such as COVID-19, emerges [6].

The COVID-19 pandemic has caused massive changes in the operations of all sectors around the world. Social distancing became an invaluable tool in containing the spread of COVID-19 and decelerating the progression of the pandemic [7]. However, it is pertinent to mention that these maneuvers affected the quality of life of individuals in all age groups. The education sector is also severely impacted by the pandemic due to the partial and complete closure of institutions. The existing studies suggest that the transitions in the modes of teaching, instruction, and evaluation have triggered psychological distress among the students as well as the instructors [7,8].

The educational institutions in Saudi Arabia switched their teaching and examinations online immediately following the first report of COVID-19 cases in the country [9]. However, the academic year 2020–2021 began under new regulations in which lectures were delivered online while practical courses and examinations were held on campus. [10]. Over the past three years, Saudi universities have experienced unprecedented challenges due to online or hybrid education, uncertainties related to the evaluation and enrollment of the courses, and measurement of the learning outcomes. The university staff has also faced various obstacles due to remote teaching, including an adaptation of various approaches to pedagogy, a lack of face-to-face interactions, technical problems during remote teaching, and the modification of curricula and assessment methods [7].

These challenges, along with navigating other predicaments in their daily lives, posed serious mental health issues among university staff during the ongoing pandemic. Varying degrees of psychological and emotional disruption have been observed among teachers at different educational levels [7]. The impact of COVID-19 on the psychological health of students in Saudi universities has been well discussed [7,10]. Moreover, the negative impact of the COVID-19 pandemic on the mental health of teachers has been indicated around the globe [11,12]. However, we did not come across any study evaluating the impact of COVID-19 on the psychological health and coping mechanisms among academic and non-academic staff in a higher educational institution in Saudi Arabia. Alhazmi et al. investigated anxiety in a small number of university teachers in Saudi Arabia and found its prevalence at 58.2%. However, the extent of depression, stress, and adaptation of coping mechanisms was not discussed in their study [13]. The psychological well-being of university staff carries pivotal implications such as professional engagement, work-related satisfaction, and quality student-teacher interaction that could be translated into improved student learning and developmental outcomes. In this context, it is imperative to ascertain the extent of psychological anomalies among university staff during the ongoing COVID-19 pandemic. This study aimed to quantify the extent of anxiety, depression, post-traumatic stress disorder (PTSD), and coping strategies among university staff. Our findings will aid in the development of psychological interventions and focused policies for educational instruction during such a crisis.

2. Materials and Methods

2.1. Study Design, Settings, and Subjects

A cross-sectional, questionnaire-based, online study was conducted during the academic years 2021/2022 (December 2021 to April 2022) among staff at Jouf University, Kingdom of Saudi Arabia (KSA). The Jouf University is the largest public-sector educational institute in the Al-Jouf region of Saudi Arabia and is comprised of three sub-campuses. All the academic and administrative staff of the university were approached to administer the survey. However, the university staff that was not involved in teaching, research, or management of the university was excluded from this study. The methodological flow of this study is described in Figure 1.

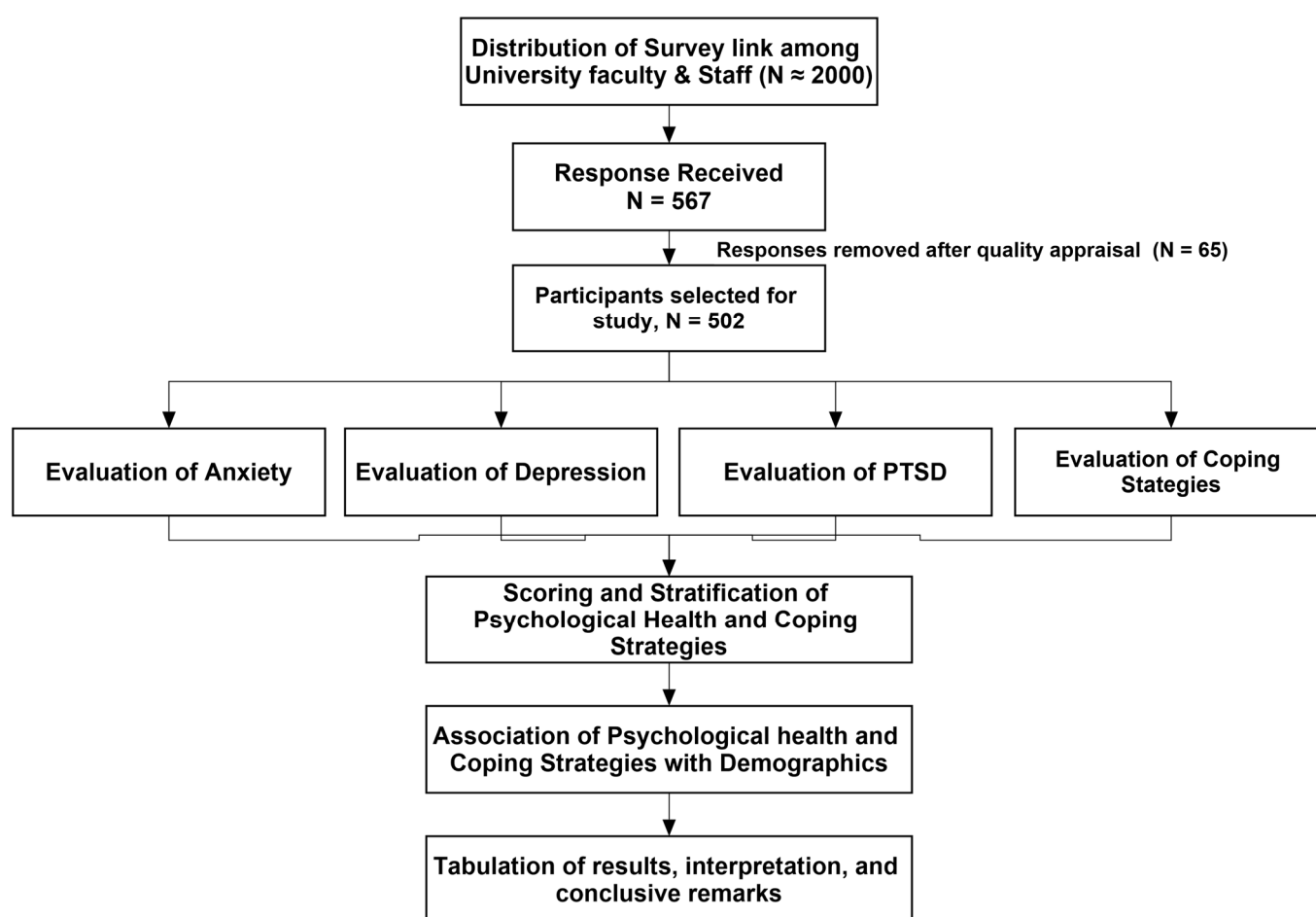


Figure 1. Study flow diagram.

2.2. Ethics Statement and Approval

Prior approval of the study protocol was obtained from the Local Committee of Bioethics (LCBE) at Jouf University, KSA (Reference no. 07-05-43). The survey did not capture any identifiable information from the respondents and data was anonymized before analysis.

2.3. Survey Instrument, Outcome Measures and Validation

A comprehensive literature review was undertaken in order to design the survey instrument (questionnaire) [7,14–16]. The study instrument included questions related to demographics and scales to assess psychological health and coping methods. The scales included in the survey instrument estimated the prevalence of anxiety, depression, and post-traumatic stress disorder (PTSD) symptoms through the Generalized Anxiety Disorder Scale (GAD-7), Patient Health Questionnaire (PHQ-9), Impact of Events Scale-Revised

(IES-R), respectively. Brief-COPE questionnaire was used to determine the coping strategies adopted by the study participants to tackle psychological illnesses.

2.3.1. Outcome Measures

The GAD-7 scale, which consists of seven items, was used to measure probable anxiety. Each question consisted of four options: “not at all”, “several days (less than a week)”, “over half the days (more than a week)” and “nearly every day”. These options were scored zero, one, two, and three, respectively. Each item receives a score between zero and three, resulting in a range of cumulative score from 0 to 21. Probable anxiety was defined as a score of 10 or greater on the GAD-7 [17]. On the basis of the cumulative score, the anxiety symptoms were further classified into various severity classes. The score less than 5 was referred to less/minimal probable anxiety, 5 to 9 as mild probable anxiety, 10 to 14 as moderate probable anxiety, and the score of ≥ 15 were considered cutoff points for severe probable anxiety.

The likelihood of probable depression was assessed using the PHQ-9 scale. This scale has 9 questions on four-points Likert scale, where the score of each question ranges from 0 to 3 and follows the same scoring criteria as the GAD-7, resulting in a range of 0 to 27. A score of 10 or higher indicated probable depression [18]. A score of ≤ 4 referred to minimal probable depression, 5–9 as mild probable depression, 10–14 as moderate probable depression, and similarly 15–19, and ≥ 20 indicated moderately severe and severe probable depression, respectively.

The probable PTSD was estimated using the IES-R scale, which consists of 22 items. A five-point scale is used to rate the items of IES-R scale. A score ranging from 0 (“not at all”) to 4 (“extremely”) was given to each item, resulting in cumulative score ranging from zero to 88 [19]. The IES-R scale is further divided into three major domains, including intrusion, avoidance, and hyperarousal. The intrusion subscale is comprised of items 1, 2, 3, 6, 9, 14, 16, and 20, and the avoidance subscale has seven items (5, 7, 8, 11, 12, 13, 17, and 22), while hyperarousal is estimated through six items (4, 10, 15, 18, 19, and 21) of the IES-R scale.

The coping strategies or methods used to cope with psychological illnesses among the study participants were ascertained by the Brief-COPE scale [20]. This scale consists of 28 items, where each item has a specific coping method, and the use of this method was assessed through a four-point Likert scale. Each item was scored from one (I haven’t been doing this at all) to four (I’ve been doing this a lot). Twenty-eight items of the Brief-COPE scale can be further divided into fourteen facets. These facets included self-distraction (SD), active coping (AC), denial (D), substance use (SU), use of emotional support (ES), use of instrumental support (IS), behavioral disengagement (BD), venting (V), positive reframing (PR), planning (P), humor (H), acceptance (A), religion (R), and self-blame (SB). The possible score range for these coping methods is 2 to 8, with higher scores indicating a greater frequency of using the corresponding coping style. Coping styles measured through the Brief-COPE scale can be classified into two or three domains/factors: (1) “Approach coping” and “Avoidant coping”, (2) “Problem-focused coping”, “Emotion-focused coping” and “Avoidant coping”, (3) “Adaptive coping” and “Maladaptive coping” [21–23]. In the present study, we divided the scale into approach (facets: AC, PR, P, A, ES, IS) and avoidant (facets: D, SU, V, BD, SD, SB) copings for further analysis [21].

2.3.2. Translation and Validation

The Arabic versions of all the afore-mentioned scales have been previously validated in the Saudi population [7,14,15,24,25]. However, keeping in view the linguistic variation/regional dialects, the research team decided to develop a new Arabic translation of these scales by two independent Arabic language experts (forward translation). After reconciling these forward translations, they were compared to the previously validated Arabic scales (GAD-7, PHQ-9, IES-R, and Brief-Cope) to settle any linguistic variation/regional dialect issue. Consequently, the scales were back translated into the English language and compared against the original scales to develop the final version. A pilot study was conducted among 60 participants to assess the reliability of the study instrument. The

Cronbach alpha value came out to be more than 0.7 for each scale, which was comparable to the findings of earlier validation studies [7,14,15,24,25]. Data from the pilot study were not included in the final analysis.

2.4. Sampling and Data Collection

The data from the respondents were collected through convenient sampling technique. An anonymous and bilingual survey instrument (Arabic and English) was sent to the official emails of the university staff ($N \approx 2000$). Moreover, a request to participate in this study was also sent to all staff of the university by the office of the vice president of graduate studies and scientific research at Jouf University. A request to distribute the survey link was also made to the relevant administrative managers of relevant departments. All participants provided their informed consent online. The study instrument did not record any participant identification information. All the data were checked for accuracy and transferred to Microsoft Excel version 16.73 for cleaning and coding. Subsequently, all the data were imported into SPSS version 26 (Armonk, NY, USA) for further analysis.

2.5. Statistical Analysis

All the statistical analyses were carried out by SPSS software. The categorical data were presented as numbers along with proportion, while continuous data were indicated with a mean or median along with a standard deviation (SD) or interquartile range, where applicable. The differences in anxiety, depression, PTSD, and coping style scores between all dichotomous variables were estimated by the Mann–Whitney U test. For trichotomous or more variables, the comparison of scores was made through the Kruskal–Wallis test. Pairwise multiple comparisons were made using Dunn’s test, and the family-wise error rate (alpha inflation) was controlled by Dunn’s proposed Bonferroni adjustment. In addition, effect size was determined by computing $r \left(\frac{z}{\sqrt{N}} \right)$ and ϵ^2 (epsilon-squared estimate) for the Mann–Whitney U test and the Kruskal–Wallis H test [26], respectively. As suggested by Tomczak and Tomczak [26], the calculated r value was interpreted similarly to the Pearson’s correlation coefficient (small effect < 0.3 , medium 0.3 – 0.5 , and strong effect > 0.5). Epsilon-squared estimates of 0.01 – <0.06 , 0.06 – <0.14 , and ≥ 0.14 were considered small, medium, and large effects, respectively. The chi-square or Fischer exact test was used to ascertain the differences between categorical variables.

The correlation between probable anxiety, depression, PTSD, and coping methods was determined using Spearman’s correlation test. The strength of the correlation was assessed using the correlation coefficient cut-off criteria proposed by Chan (poor < 0.3 , fair 0.3 – 0.5 , moderately strong 0.6 up to 0.8 , and very strong ≥ 0.8) [27,28]. Multiple regression models were used to determine the impact of different coping methods on probable generalized anxiety, depression, and PTSD. Standardized beta values were used to interpret the findings of the regression analysis at the 95% confidence interval. The significance level was set at a p -value ≤ 0.05 throughout the analysis.

3. Results

3.1. Sample Description

Of all the university staff ($N \approx 2000$), a total of 567 responded to the survey. Of these, 502 responses [academic staff = 299 (professor = 53, associate professor = 69, assistant professor = 120, and lecturers = 57) and non-academic staff = 203] were included in the final analysis. Sixty-five responses were removed following the quality appraisal. The quality appraisal was performed by assessing the responses for profanity, gibberish, and straight-lining. However, only 65 straight-lining responses were identified; they were excluded. The demographic features of the survey respondents are presented in Table 1. The mean age of the study participants was 36.04 ± 10.32 years (median 36, IQR 15), with the majority being 31 to 50 years of age and of male gender (male to female ratio = 21). Most of the study participants (39.6%) had doctorate degrees, while 35.5% and 14.3% had master’s and bachelor’s degrees, respectively. The majority of the respondents (71.9%) were

from the main campus (Sakaka region) of Jouf University. Approximately 93% reported having a family member or close relative infected with COVID-19 during the pandemic, while 52.8% of participants were infected with SARS-CoV-2.

Table 1. Psychological assessment based on demographics of respondents (N = 502).

Variables	Overall	Mean Rank								
		Anxiety Symptoms Score	Sig.	Effect Size (η^2)	Depressive Symptoms Score	Sig.	Effect Size (η^2)	PTSD Symptoms Score	Sig.	Effect Size (η^2)
Age (Median 36, IQR 15)										
≤30 years	159 (31.7)	266.46	0.045 *	0.012	269.15	0.032 *	0.014	249.20	0.206	0.006
31–50 years	301 (60.0)	239.06			238.03			247.46		
>50 years	42 (8.4)	284.04			281.24			289.15		
Gender										
Male	333 (66.3)	227.38	<0.001 *	−0.236	226.02	<0.001 *	−0.247	232.32	<0.001 *	−0.187
Female	169 (33.7)	299.02			301.16			289.29		
Education										
Bachelor	178 (35.5)	243.10	0.121	0.012	241.65	0.381	0.006	235.44	0.015 *	0.021
Master	72 (14.3)	288.89			276.53			265.51		
PhD	199 (39.6)	246.16			252.08			271.08		
Other	53 (10.6)	248.99			248.38			212.88		
Experience (median 5, IQR 7) years)										
≤5 years	271 (54.0)	273.79	<0.001 *	0.031	277.12	<0.001 *	0.044	276.13	<0.001 *	0.036
6–10 years	140 (27.9)	233.03			235.28			229.85		
>10 years	91 (18.1)	213.54			200.16			211.46		
Location										
Sakaka	361 (71.9)	250.02	0.732	0.001	248.59	0.661	0.002	250.59	0.831	0.001
Qurayyat	86 (17.1)	248.58			253.69			248.37		
Tabarjal	55 (11.0)	265.80			267.18			262.38		
Family member or relative got COVID-19										
Yes	465 (92.6)	252.05	0.759	−0.013	252.77	0.480	−0.032	253.67	0.231	−0.054
No	37 (7.4)	244.54			244.54			224.22		
Infected with COVID-19?										
Yes	265 (52.8)	264.19	0.036 *	−0.094	260.27	0.147	−0.065	259.43	0.192	−0.058
No	237 (47.2)	237.31			241.69			242.63		

Abbreviations: PTSD: post-traumatic stress disorder; * significant at $p < 0.05$.

3.2. Psychological Outcomes

3.2.1. Anxiety and Depression

Figure 2 depicts the severity of probable generalized anxiety in the sample (mild 34.1%, moderate 18.7%, and severe 5.4%). Overall, the prevalence of probable anxiety was 24.1% ($GAD-7 \geq 10$). As presented in Table 1, a significant difference in anxiety symptoms scores were observed in the age, gender, work experience, and COVID-19 infection status-related variables. However, in post hoc analysis using Dunn's test with Bonferroni correction to control the familywise error rate (Table 2), we found no significant difference in the anxiety symptoms score among the age categories. The anxiety symptoms score was significantly greater in females ($p < 0.001$) and those with a history of COVID-19 infection ($p = 0.036$). Furthermore, participants with less work experience had significantly higher anxiety scores than those with 6–10 years and >10 years of work experience ($p = 0.019$ and $p = 0.002$, respectively). As shown in Table 3, university staff rank had no influence on the anxiety symptoms score ($p = 0.078$).

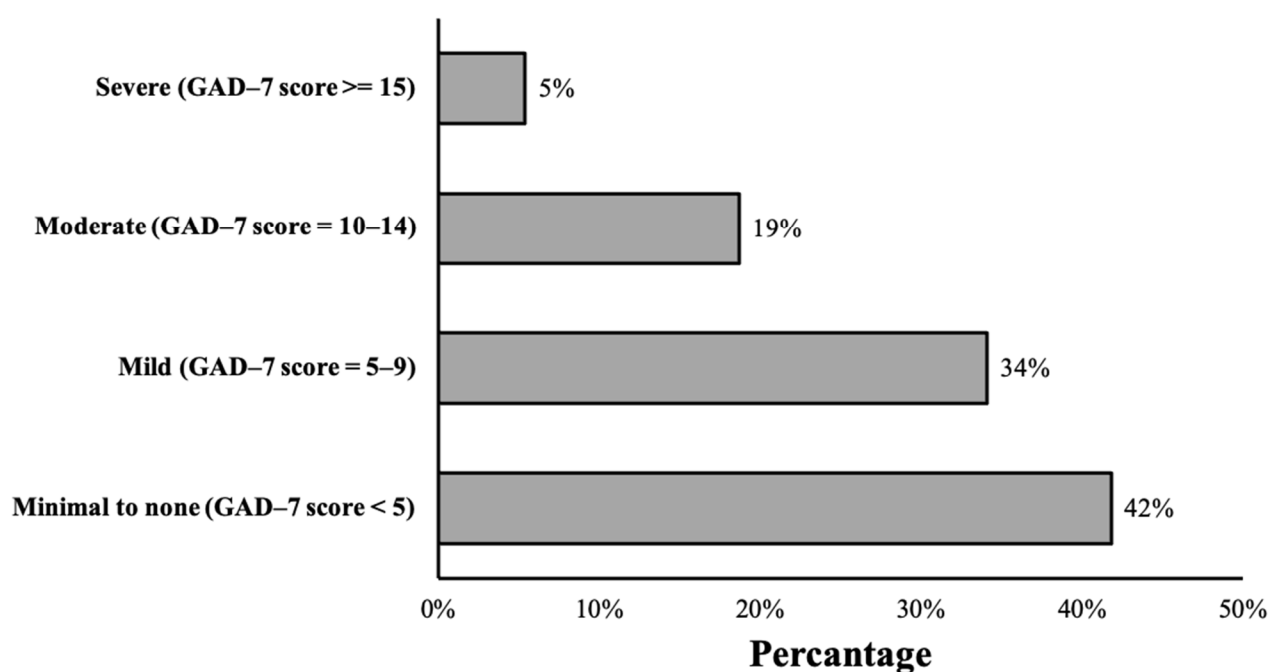


Figure 2. Severity of probable generalized anxiety among the study participants (N = 502).

Table 2. Pairwise comparisons of anxiety, depression, and PTSD symptoms scores between age, education, and experience variables using Dunn’s test.

Sample 1—Sample 2	Anxiety		Depression		PTSD	
	Sig.	Adjusted Sig. #	Sig.	Adjusted Sig. #	Sig.	Adjusted Sig. #
Age (years)						
≤ 30 –31–50	0.051	0.153	0.027	0.080	–	–
≤ 30 –>50	0.479	1.000	0.627	1.000	–	–
31–50–>50	0.056	0.169	0.067	0.201	–	–
Education						
Bachelor—master	–	–	–	–	0.135	0.807
Bachelor—PhD	–	–	–	–	0.016	0.098
Bachelor—other	–	–	–	–	0.316	1.000
Master—PhD	–	–	–	–	0.779	1.000
Master—other	–	–	–	–	0.043	0.259
PhD—other	–	–	–	–	0.009	0.053
Experience (years)						
≤ 5 –6–10	0.006	0.019 *	0.005	0.015 *	0.002	0.006 *
≤ 5 –>10	0.001	0.002 *	<0.001	<0.001 *	<0.001	<0.001 *
6–10–>10	0.312	0.936	0.069	0.206	0.342	1.000

Dunn’s proposed Bonferroni adjustment was used to control the family-wise error rate; * significant at $p < 0.05$; PTSD: post-traumatic stress disorder.

Table 3. Psychological impairment and coping strategies among academic and non-academic university staff.

Variables	Academic Staff (N = 299)		Non-Academic Staff (N = 203)		Sig.	Effect Size (r)
	Median (IQR)	Mean Rank	Median (IQR)	Mean Rank		
Psychological impairment						
Anxiety symptoms score	7 (0, 10)	260.78	5 (0, 9)	237.83	0.078	−0.079
Depression symptoms score	9 (0, 13)	260.21	7 (0, 12)	238.67	0.098	−0.074
PTSD symptoms score	22 (4, 37)	265.92	17 (0, 30)	230.27	0.006 *	−0.122
Major Brief-COPE domains						
Avoidant coping	24 (16, 29)	266.40	21 (15, 26)	229.56	0.005 *	−0.125
Approach coping	25 (18, 30)	262.40	24 (15, 29)	235.44	0.041 *	−0.091
Coping methods						
Self-distraction	4 (3, 5)	254.54	4 (3, 5)	247.02	0.561	−0.026
Active coping	4 (3, 5)	259.96	4 (3, 5)	239.03	0.105	−0.072
Denial	4 (2, 5)	263.09	3 (2, 5)	234.43	0.025 *	−0.100
Substance use	4 (2, 5)	267.37	2 (2, 4)	228.12	0.002 *	−0.139
Emotional support	4 (2, 5)	259.65	4 (2, 5)	239.49	0.116	−0.070
Instrumental support	4 (2, 5)	259.78	4 (2, 5)	239.31	0.112	−0.071
Behavioural disengagement	4 (2, 5)	265.65	3 (2, 5)	231.59	0.009 *	−0.117
Venting	4 (2, 5)	262.54	4 (2, 5)	235.25	0.033 *	−0.094
Positive reframing	4 (2, 5)	259.19	4 (2, 5)	240.18	0.139	−0.066
Planning	4 (2, 5)	258.59	4 (2, 5)	241.06	0.174	−0.061
Humour	4 (2, 5)	261.19	4 (2, 5)	237.23	0.062	−0.083
Acceptance	4 (3, 5)	260.05	4 (2, 5)	238.90	0.101	−0.073
Religion	4 (3, 5)	254.12	4 (2, 6)	247.64	0.616	−0.022
Self-blame	4 (2, 5)	260.71	4 (2, 5)	237.93	0.076	−0.079

IQR: interquartile range; PTSD: post-traumatic stress disorder; * significant at $p < 0.05$.

In the present study, the prevalence of probable depression was found to be 39.8% (PHQ-9 ≥ 10). The severity of probable depression ranged from mild (22.3%) to severe (6.0%) (Figure 3). There was a significant difference in PHQ-9 scores among age, gender, and work experience variables. Females were found to report more depressive symptoms than males ($p < 0.001$). In pairwise comparisons, age did not show any significant impact on the depressive symptoms score (adjusted $p > 0.05$). Staff with less than 5 years' work experience had higher depression symptoms scores than those with 6–10 years' experience or more (Table 2). As presented in Table 3, there was no significant difference in depression symptoms scores between academic and non-academic university staff ($p = 0.098$).

3.2.2. Post-Traumatic Stress Disorder

The median IES-R score was 22 (IQR 33; mean 21.25, SD 18.09). The median scores of IES-R subscales were 7 (IQR 12; mean 7.56, SD 6.64), 8 (IQR 13; mean 7.87, SD 6.84), and 6 (IQR 9; mean 5.83, SD 5.27) for intrusion, avoidance, and hyperarousal, respectively. As shown in Figure 4, a total of 139 respondents (27.7%) met the criteria of probable PTSD (score ≥ 33), with nearly 22% having alarmingly high IES-R scores. As shown in Table 1, the IES-R score was significantly higher among females ($p < 0.001$). Those having less work experience were found to have higher PTSD symptoms scores than the others (adjusted

$p < 0.05$, Table 2). In addition, the PTSD symptoms score was substantially greater among academic staff than non-academic staff ($p = 0.006$, Table 3).

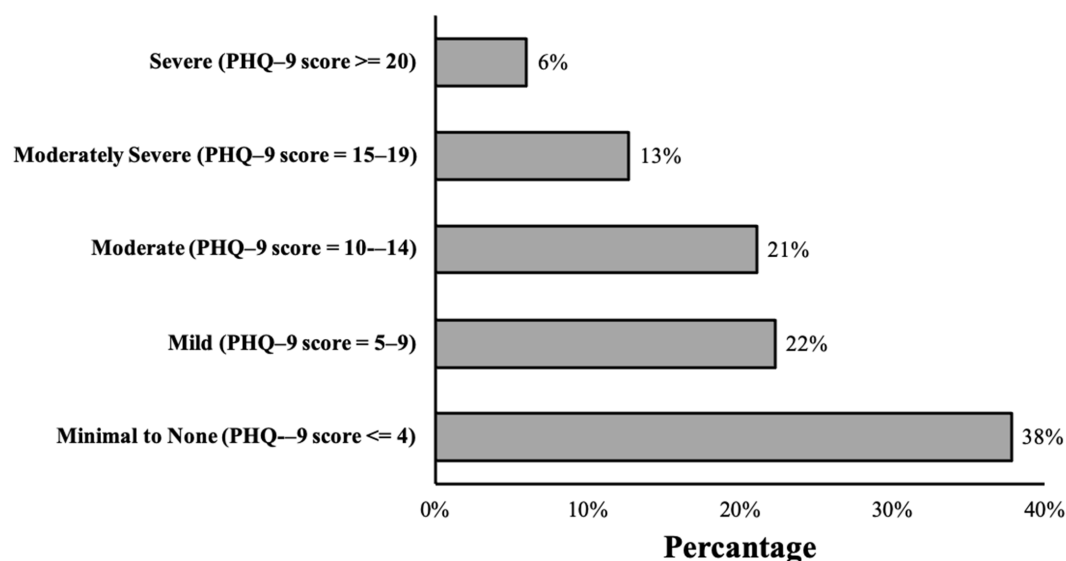


Figure 3. Severity of probable depression among study participants (N = 502).

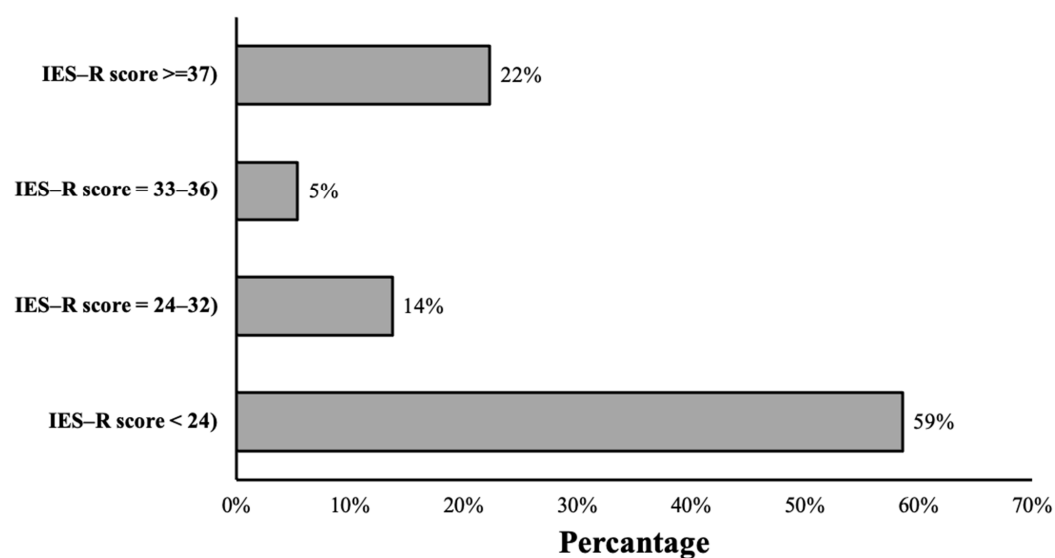


Figure 4. Severity of probable PTSD among study participants (N = 502) [IES-R: Impact of Event Scale-Revised; PTSD: post-traumatic stress disorder].

3.3. Coping Strategies

Coping strategies employed by the respondents are shown in Table 4. Overall, scores related to approach coping [median 24 (IQR: 17, 30), mean 24.09 (SD 8.21), range 12–48] were greater than avoidant coping [median 24 (IQR: 15, 28), mean 22.68 (SD 7.23), range 12–48]. Regarding the specific coping strategy, the top three most commonly adopted coping methods were active coping, religious/spiritual coping, and acceptance (Table 4). It was encouraging to observe that substance use was the least adopted coping method among the study participants [mean score 3.53 ± 1.64 ; median 3 (IQR 2, 5)]. The avoidant coping score was significantly higher among study participants who were older, female, had less experience, and had a history of COVID-19 infection (Tables 5 and 6). Likewise, approach coping scores were higher among females ($p < 0.001$), academic staff ($p = 0.041$, Table 3), those with less experience (adjusted $p < 0.05$, Table 6), and those having a family member who suffered from COVID-19 infection (Table 5).

Table 4. Coping ways adopted by the study participants.

Coping Strategies	Overall						Mean Rank							
	Mean $\pm$ SD	Median (IQR)	Anxiety	Without Anxiety	Sig. #	Effect Size	Depression	Without Depression	Sig. #	Effect Size	PTSD	Without PTSD	Sig. #	Effect Size
Self-distraction	4.00 $\pm$ 1.48	4 (3, 5)	298.74	236.50	<0.001 *	−0.188	272.44	237.63	0.007 *	−0.120	295.22	234.76	<0.001 *	−0.191
Active coping	4.34 $\pm$ 1.54	4 (3, 5)	287.30	240.13	0.001 *	−0.142	284.21	229.84	<0.001 *	−0.187	320.47	225.09	<0.001 *	−0.300
Denial	3.76 $\pm$ 1.65	4 (2, 5)	334.13	225.26	<0.001 *	−0.330	321.96	204.84	<0.001 *	−0.407	351.14	213.35	<0.001 *	−0.437
Substance use	3.53 $\pm$ 1.64	3 (2, 5)	334.81	225.04	<0.001 *	0.340	314.00	210.11	<0.001 *	−0.368	331.43	220.89	<0.001 *	−0.358
Emotional support	3.77 $\pm$ 1.62	4 (2, 5)	331.47	226.10	<0.001 *	−0.319	321.87	204.90	<0.001 *	−0.405	338.60	218.15	<0.001 *	−0.382
Instrumental support	3.89 $\pm$ 1.68	4 (2, 5)	330.86	226.30	<0.001 *	−0.316	315.84	208.89	<0.001 *	−0.370	339.52	217.80	<0.001 *	−0.385
Behavioural disengagement	3.76 $\pm$ 1.63	4 (2, 5)	334.60	225.11	<0.001 *	−0.330	330.23	199.36	<0.001 *	−0.456	350.79	213.48	<0.001 *	−0.437
Venting	3.84 $\pm$ 1.65	4 (2, 5)	336.61	224.47	<0.001 *	−0.340	327.64	201.08	<0.001 *	−0.439	354.76	211.96	<0.001 *	−0.453
Positive reframing	3.96 $\pm$ 1.72	4 (2, 5)	336.71	224.76	<0.001 *	−0.336	320.38	205.88	<0.001 *	−0.397	345.56	215.48	<0.001 *	−0.412
Planning	3.97 $\pm$ 1.61	4 (2, 5)	340.96	223.09	<0.001 *	−0.356	317.98	207.47	<0.001 *	−0.382	352.33	212.89	<0.001 *	−0.440
Humour	3.83 $\pm$ 1.57	4 (2, 5)	332.23	225.86	<0.001 *	−0.322	323.78	203.63	<0.001 *	−0.416	341.45	217.06	<0.001 *	−0.394
Acceptance	4.15 $\pm$ 1.79	4 (2, 5)	307.60	233.69	<0.001 *	−0.223	299.85	219.48	<0.001 *	−0.277	327.06	222.57	<0.001 *	−0.330
Religion	4.20 $\pm$ 1.79	4 (2, 5)	324.22	228.41	<0.001 *	−0.288	311.04	212.07	<0.001 *	−0.341	342.12	216.80	<0.001 *	−0.394
Self-blame	3.80 $\pm$ 1.62	4 (2, 5)	334.01	225.30	<0.001 *	−0.330	328.03	200.82	<0.001 *	−0.441	358.19	210.65	<0.001 *	−0.468

Mann–Whitney U test; * significant at $p < 0.05$.

Table 5. Distribution of avoidant and approach copings across demographics.

Variables	Avoidant Coping			Approach Coping		
	Mean Rank	Sig.	Effect Size (r/ϵ^2)	Mean Rank	Sig.	Effect Size (r/ϵ^2)
Age						
≤30 years	236.73	0.016 *	0.017	240.35	0.155	0.007
31–50 years	251.27			252.19		
>50 years	309.08			288.75		
Gender						
Male	233.41	<0.001 *	−0.175	234.63	<0.001 *	−0.164
Female	287.15			284.15		
Education						
Bachelor	234.33	0.244	0.008	232.83	0.177	0.010
Master	262.37			263.31		
PhD	262.98			264.04		
Other	251.26			251.11		
Experience						
≤5 years	263.77	0.039 *	0.013	271.24	0.003 *	0.023
6–10 years	248.59			233.33		
>10 years	219.45			220.65		
Location						
Sakaka	251.94	0.986	0.000	254.66	0.606	0.002
Qurayyat	249.15			249.49		
Tabarjal	252.30			233.88		
Family member got COVID-19						
Yes	257.60	0.001 *	−0.149	256.10	0.012 *	−0.112
No	174.81			193.74		
Infected with COVID-19?						
Yes	269.06	0.004 *	−0.128	260.10	0.159	−0.063
No	231.86			241.88		

Avoidant coping: D, SU, V, BD, SD, SB; approach coping: AC, PR, P, A, ES, IS; * significant at $p < 0.05$.**Table 6.** Pairwise comparisons of avoidant and approach coping scores between age and experience variables using Dunn's test.

Sample 1—Sample 2	Avoidant Coping		Approach Coping	
	Sig.	Adjusted Sig. #	Sig.	Adjusted Sig. #
Age (years)				
≤30–31–50	0.306	0.917	–	–
≤30–>50	0.004 *	0.012 *	–	–
31–50–>50	0.015 *	0.046 *	–	–
Experience (years)				
≤5–6–10	0.314	0.941	0.012 *	0.036 *
≤5–>10	0.011 *	0.034 *	0.004 *	0.012 *
6–10–>10	0.135	0.404	0.516	1.000

Dunn's proposed Bonferroni adjustment was used to control the family-wise error rate; * significant at $p < 0.05$.Operational Definitions: probable anxiety: GAD-7 score ≥ 10 , probable depression: PHQ-9 score ≥ 10 , and probable PTSD: IES-R score ≥ 33 .

3.4. Association between Anxiety, Depression, PTSD and Coping Methods

Correlations between probable anxiety, depression, PTSD, and different coping styles were determined using Spearman's rank correlation (Table 7). The results revealed a significant positive correlation between anxiety-depression ($r = 0.844, p < 0.001$), anxiety-PTSD ($r = 0.650, p < 0.001$), and depression-PTSD ($r = 0.676, p < 0.001$). Of all the avoidant coping methods, there was a moderately strong correlation between anxiety, depression, and PTSD and denial, behavioral disengagement, venting, and self-blame. Substance use had a moderately strong correlation with PTSD ($r = 0.564, p < 0.001$) and a fair correlation with anxiety ($r = 0.485, p < 0.001$) and depression ($r = 0.495, p < 0.001$). Of all the approaches to coping methods, we observed a fair to moderately strong correlation between positive reframing, planning coping, instrumental support, and emotional support with anxiety as well as depression and PTSD (Table 7). Acceptance had a fair correlation with anxiety, depression, and PTSD, whereas active coping had a weak correlation with all three psychological impairments. The coping score was significantly higher among academic staff as compared to non-academic staff. The academic staff had significantly higher coping scores for denial, substance use, behavioral disengagement, and venting as compared to non-academic staff, indicating the higher use of avoidant coping methods among academic staff (Table 3).

Table 7. Correlation between anxiety, depression, PTSD, and various coping methods.

Spearman's Rho	Anxiety	Depression	PTSD	SD	AC	D	SU	ES	IS	BD	V	PR	P	H	A	R	SB
Anxiety	1.000																
Depression	0.844	1.000															
PTSD	0.650	0.676	1.000														
SD	0.158	0.165	0.235	1.000													
AC	0.215	0.227	0.373	0.608	1.000												
D	0.521	0.534	0.630	0.345	0.405	1.000											
SU	0.485	0.495	0.564	0.241	0.347	0.703	1.000										
ES	0.495	0.511	0.567	0.437	0.513	0.665	0.611	1.000									
IS	0.489	0.484	0.570	0.407	0.508	0.636	0.595	0.692	1.000								
BD	0.519	0.561	0.628	0.350	0.440	0.749	0.680	0.722	0.679	1.000							
V	0.533	0.562	0.647	0.392	0.476	0.723	0.692	0.718	0.708	0.716	1.000						
PR	0.505	0.527	0.621	0.413	0.477	0.667	0.605	0.710	0.703	0.721	0.738	1.000					
P	0.518	0.495	0.634	0.416	0.527	0.628	0.533	0.681	0.703	0.663	0.684	0.759	1.000				
H	0.476	0.515	0.582	0.364	0.421	0.609	0.624	0.603	0.650	0.680	0.695	0.674	0.639	1.000			
A	0.361	0.377	0.489	0.448	0.506	0.462	0.395	0.539	0.595	0.509	0.567	0.639	0.681	0.595	1.000		
R	0.451	0.459	0.564	0.433	0.495	0.519	0.413	0.579	0.678	0.582	0.617	0.705	0.763	0.605	0.741	1.000	
SB	0.509	0.541	0.616	0.420	0.466	0.661	0.599	0.662	0.656	0.676	0.724	0.682	0.694	0.714	0.605	0.625	1.000

SD: self-distraction; AC: active coping; D: denial; SU: substance use; ES: use of emotional support; IS: use of instrumental support; BD: behavioral disengagement; V: venting; PR: positive reframing; P: planning; H: humor; A: acceptance; R: religion; SB: self-blame; PTSD: post-traumatic stress disorder.

As shown in Table 8, in the multiple regression model, an increased anxiety score was significantly linked with denial, religious/spiritual coping, as well as active coping. In cases of probable depression, it was observed that denial, behavioral disengagement, venting, religion/spiritual coping, and self-blame methods had a significant impact on the PHQ-9 scores. The coping methods that had a significant impact on PTSD were self-distraction, behavioral disengagement, venting, self-blame, and coping planning (Table 8).

Table 8. Impact of coping methods on psychological impairment among study participants.

Model	Unstandardized Coefficients		Standardized Coefficients	95% CI for B		Sig.
	B	SE	Beta	Lower Bound	Upper Bound	
Regression model for probable anxiety						
Self-distraction	−0.142	0.173	−0.040	−0.482	0.197	0.411
Active coping	−0.472	0.176	−0.138	−0.818	−0.127	0.007 *
Denial	0.447	0.190	0.140	0.074	0.820	0.019 *
Substance use	0.291	0.178	0.091	−0.058	0.640	0.102
Emotional support	0.200	0.198	0.061	−0.190	0.589	0.315
Instrumental support	0.105	0.191	0.033	−0.270	0.479	0.584
Behavioural disengagement	0.253	0.207	0.078	−0.153	0.660	0.222
Venting	0.289	0.212	0.090	−0.128	0.706	0.174
Positive reframing	−0.039	0.198	−0.013	−0.427	0.349	0.844
Planning	0.374	0.224	0.115	−0.065	0.814	0.095
Humour	0.200	0.196	0.060	−0.185	0.585	0.307
Acceptance	−0.276	0.170	−0.093	−0.609	0.058	0.105
Religion	0.476	0.188	0.162	0.107	0.845	0.012 *
Self-blame	0.364	0.197	0.112	−0.024	0.752	0.066
Regression model for probable depression						
Self-distraction	−0.346	0.227	−0.072	−0.791	0.100	0.128
Active coping	−0.408	0.230	−0.089	−0.861	0.045	0.077
Denial	0.570	0.249	0.133	0.081	1.059	0.022 *
Substance use	0.333	0.233	0.077	−0.125	0.790	0.153
Emotional support	0.220	0.260	0.050	−0.291	0.730	0.398
Instrumental support	−0.091	0.250	−0.021	−0.582	0.401	0.717
Behavioural disengagement	0.547	0.271	0.126	0.014	1.080	0.044 *
Venting	0.613	0.278	0.143	0.067	1.160	0.028 *
Positive reframing	0.086	0.259	0.021	−0.423	0.595	0.741
Planning	−0.061	0.293	−0.014	−0.638	0.516	0.835
Humour	0.324	0.257	0.072	−0.181	0.828	0.208
Acceptance	−0.231	0.222	−0.058	−0.668	0.206	0.299
Religion	0.637	0.246	0.161	0.153	1.121	0.010 *
Self-blame	0.695	0.259	0.159	0.187	1.203	0.007 *
Regression model for probable PTSD						
Self-distraction	−1.426	0.517	−0.117	−2.442	−0.409	0.006 *
Active coping	0.571	0.526	0.049	−0.462	1.605	0.278
Denial	1.813	0.568	0.165	0.697	2.930	0.002 *
Substance use	0.544	0.532	0.049	−0.500	1.589	0.306
Emotional support	−0.365	0.593	−0.033	−1.531	0.801	0.538
Instrumental support	−0.357	0.571	−0.033	−1.478	0.764	0.532

Table 8. Cont.

Model	Unstandardized Coefficients		Standardized Coefficients	95% CI for B		Sig.
	B	SE	Beta	Lower Bound	Upper Bound	
Behavioural disengagement	1.716	0.620	0.155	0.499	2.933	0.006 *
Venting	1.640	0.635	0.149	0.392	2.888	0.010 *
Positive reframing	−0.297	0.591	−0.028	−1.459	0.865	0.615
Planning	2.078	0.670	0.185	0.761	3.394	0.002 *
Humour	0.892	0.586	0.077	−0.260	2.044	0.129
Acceptance	−0.070	0.508	−0.007	−1.068	0.927	0.890
Religion	0.955	0.563	0.095	−0.151	2.060	0.090
Self-blame	1.298	0.590	0.116	0.138	2.458	0.028 *

CI: confidence interval; PTSD: post-traumatic stress disorder; SE: standard error; * significant at $p < 0.05$.

4. Discussion

This is the first study of its kind to evaluate the extent of probable anxiety, depression, PTSD, and coping mechanisms among academic and non-academic staff at a higher educational institute in Saudi Arabia. The findings of the current study indicated that more than half of the faculty members had probable anxiety and depression at varying levels, with 5.4% and 6% of study participants having a severe classification, respectively. Approximately one-fourth of the study population had an IES-R score within the range consistent with probable post-traumatic stress disorder (PTSD), and nearly 22% of staff had an alarmingly high score of ≥ 37 . Higher anxiety symptom scores were observed among females, participants with a history of COVID-19 infection, and employees with less job experience. On the other hand, female gender and those with less experience demonstrated higher depressive symptoms scores. Higher PTSD scores were observed among females, academic staff, and individuals with higher levels of education but less experience. The approach to coping was more prevalent, but still, a considerable proportion of study participants were found to adopt avoidant coping strategies. Active coping, acceptance, and religious coping were the common coping strategies in this study. However, avoidant copings such as denial, substance use, behavioral disengagement, and venting were more profound among academic staff as compared to non-academic staff. Taken together, these findings indicate a high prevalence of probable anxiety, depression, and PTSD among academic and non-academic staff during the COVID-19 pandemic.

Mental health issues are one of the leading impediments to academic success [29]. Compared to other professions, university academic staff demonstrate less job satisfaction and mental health, attributable to the number of students, workload, and imbalance of work-life [30–32]. In this context, it is quite imperative to ascertain the psychological health of internal stakeholders (students and staff) of educational institutes, particularly during natural disasters. Numerous studies have indicated the adverse impact of COVID-19 on students in Saudi Arabia [7,10,15,33]. However, there is a dearth of investigations ascertaining the psychological impact of COVID-19 on university staff. We found only one study by Alhazmi et al., conducted in 2021, where the authors indicated the prevalence of anxiety at 58.2% among school and university teachers. The subgroup analysis revealed that out of the 209 university teachers included in their study, probable anxiety was prevalent among 119 participants (56.9%) [13]. This prevalence of probable anxiety coincides with the proportion found in our study (58.2%).

The prevalence of anxiety symptoms varied across the studies due to various factors, including the study population, the timing of data collection, and variations in the scales used for the estimation of anxiety. A recent systematic review of 22 studies indicated a prevalence of probable anxiety ranging from 11% to 99.1%. However, the pooled prevalence from 12 studies was 36.3%, with higher heterogeneity [7]. A meta-analysis of 66 studies

indicated a prevalence of anxiety of 31.9% during the COVID-19 pandemic [34]. Another meta-analysis of 173 studies conducted during the early pandemic phase found that the COVID-19 pandemic had distinct negative impacts on the mental health of the general population [35]. It is important to note that the prevalence of probable anxiety among university staff is comparatively higher than that among students [7] and the general population [36,37] in Saudi Arabia during the COVID-19 pandemic. Similar findings have been confirmed by another Malaysian study, where the authors reported a higher prevalence of probable dysfunctional anxiety estimated by the Coronavirus Anxiety Scale (CAS) among private university staff (2.2%) compared to students (0.6%) [38]. Alarming, more than one-third of the study population met the criteria for probable depression. We did not come across any study evaluating depressive symptoms among staff at any educational institute in Saudi Arabia. However, studies from other countries indicated a prevalence of probable depression ranging from 17.6% [39] to 91% [40]. A meta-analysis of eight studies revealed the pooled prevalence of probable depression at 59.9% during the COVID-19 pandemic [7]. These findings indicate that university staff, whether academic or non-academic, should be considered a vulnerable group for major mental health problems such as anxiety and depression. A careful assessment and facilitation should be arranged for the university staff during such a crisis to ensure an effective continuation of work.

Our analysis showed a high proportion of probable PTSD among study participants; approximately 22% of the population had a PTSD score >37 . It is important to note that we did not come across any study evaluating the probable PTSD among university staff in Saudi Arabia. However, other studies on university students in Saudi Arabia have indicated an incidence of probable PTSD ranging from 20% to 23% during the COVID-19 pandemic [7,41]. The prevalence of probable PTSD reported in our study also aligns with a meta-analysis of studies from China, the USA, and France, where the authors reported the pooled prevalence at 23% among university students during the COVID-19 pandemic [42]. However, Fan et al. measured the severity of probable PTSD by using the IES-R scale among university and college teachers in China and indicated that the overall incidence of probable PTSD was as high as 24.55% [43]. A Spanish study on teachers working in pre-schools to universities reported the prevalence of probable stress as 50.6% by using the DASS-21 scale [11]. The prevalence reported in the Spanish study is more than twice what was reported in our analysis, and it might be associated with variations in the study population and different assessment scales. A study from Jordan investigated probable distress among university teachers by using the Kessler Distress Scale (K10). The authors found that 69.6% of university teachers had varying degrees of distress during the pandemic, whereas 31.4% had severe stress [44]. Another study from the United Arab Emirates (UAE) estimated probable distress through the General Health Questionnaire (GHQ-12) and reported that 57.4% of university faculty members and 52.3% of university staff had at least mild probable psychiatric problems during the COVID-19 pandemic [45]. It is impetuous to mention that the variations in the incidence of stress and other psychological outcomes across the published literature are primarily attributed to the different questionnaires used for the assessment of mental health. Taken together, these findings, along with the results of our study, underscore a high prevalence of probable stress among university staff. Since the data on the impact of the event on the mental health of university staff are scarce, not only in Saudi Arabia but also globally, the findings of this study will have pivotal implications for health and educational authorities. The high prevalence of probable stress, even more than 2 years after an impact event, calls for immediate measures.

Coping strategies are the cognitive and behavioral mechanisms or practices to improve resilience from stressful events and negative psychological or physical outcomes [46]. The coping strategies can be stratified into various groups, including adaptive/maladaptive, problem- or emotion-focused, and avoidant or approach coping [47]. Unfortunately, the data on coping strategies among university staff are scarce, particularly in Saudi Arabia. Our analysis revealed that the participants adopted more approachable coping mechanisms as compared to avoidant copings, where active coping, religious/spiritual coping, and

acceptance were the most commonly adopted methods. The predominance of active coping and acceptance has also been observed in another study conducted among university students in Saudi Arabia [7]. Likewise, active and religious coping was also observed among the adult Saudi population, and these mechanisms were found to be associated with compliance with precautionary measures against COVID-19 [48]. Another study from Malaysia investigated the coping mechanisms among private university staff and reported active coping, acceptance, and positive reframing as commonly adopted coping strategies [38]. The use of spiritual copings among the respondents of our study is aligned with other studies among teachers in Ecuador, Malaysia, and Ghana [38,49,50]. The high level of spiritual coping among participants may possibly be related to the location of the study. Saudi Arabia is an Islamic nation regarded as one of the world's most religious regions. Therefore, religious interventions are widely utilized in challenging or life-threatening circumstances, as evident in our study.

Coping approaches are considered favorable methods to combat psychological issues and predict improved social functioning among people with severe PTSD. On the other hand, avoidant copings are related to distress and negative affectivity [51]. Fortunately, the scores for approach copings were higher than avoidant copings in our study. However, a considerable proportion of respondents, particularly academic staff, adopted self-distraction, denial, venting, behavioral disengagement, and substance use in this study. In this context, the proportion of participants in this study who practiced avoidant coping strategies should not be disregarded. Negative coping behaviors are linked with psychological deterioration, as these mechanisms dispel stress temporarily but may cause the re-emergence of anxiety and depression at later stages of life. It is worth noting that individuals with advanced age (>50 years), female gender, less working experience, and a history of COVID-19 infection had higher scores for avoidant copings in this study. The high prevalence of avoidant coping styles among elderly people might be attributed to the age-related accumulation of losses, including loss of physical rigor, loved ones, strength, and social life among the elderly population [52]. Various other studies have also indicated the frequent use of avoidant copings among females [53,54] and these findings coincide with our results. It is worth noting that academic staff indicated significantly higher scores for four avoidant facets, including denial, substance use, behavior disengagement, and venting, as compared to non-academic staff. It might be associated with higher symptoms scores for probable anxiety, depression, and PTSD among academic staff than non-academic staff. However, additional research is required to establish the relationship between coping styles, job descriptions, and psychological outcomes. Identification of coping patterns is pivotal to facilitating support systems. Our findings necessitate the need for culturally sensitive mental health services at educational institutes that could leverage natural positive coping behaviors among staff as well as students. These participatory models have been practiced in the education sector to improve the psychological well-being of students and staff [55,56].

Our analysis indicated that certain demographic features of study participants were linked with psychological outcomes during the COVID-19 pandemic. The occurrence of probable anxiety, depression, and PTSD was more prevalent among females as compared to males. These findings are consistent with other national and international studies [7,45,49,57]. Since females seem to opt for more avoidance approaches to cope with psychological ailments [45], special attention should be directed to this population. The participants who had a history of COVID-19 were significantly more anxious than those who were not infected. These findings corroborate the results of Alhazmi et al. [13]. In addition, participants who were primarily involved in teaching and research (academic staff) and had high qualifications but less experience indicated higher scores for probable anxiety, depression, and PTSD. The relationship between teaching experience and higher qualifications with psychological outcomes has been well discussed in the literature, even before the pandemic [7,58,59]. As previously discussed, it is necessary to note that the demographic characteristics of the study participants are also related to coping behaviors.

In this context, it is necessary to identify high-risk groups in order to formulate timely interventions in academic institutions during such crises.

Several pre-pandemic studies have shown a prevalence of probable anxiety, depression, and stress among university teachers during their careers [60–62]. Recent evidence has also suggested the worsening of the mental health of faculty members during COVID-19 as compared to the pre-pandemic era [12]. Several longitudinal studies have shown a decline in mental health during the COVID-19 pandemic compared to the pre-pandemic period [63,64]. A recent longitudinal study has also indicated adverse effects of the COVID-19 pandemic among young adults, particularly during the second year of the pandemic [65]. The technostress among university staff has been linked to various objective and subjective factors. The COVID-19 pandemic has severely impacted pedagogy in educational institutes, which may interfere with the mental health of the staff. Several other factors, such as fear of contagion, risk perception, lack of technical support, uncertainties in remote teaching, and hurdles to accomplishing career goals, may also contribute to the mental health of the university staff. It is worth noting that mental health has been incorporated into the United Nations (UN) Sustainable Development Goals (SDGs) in September 2023. Currently, the UN endorses mental health as a global development priority and encourages all organizations to develop action plans, specific indicators, and implementation and follow-up guidelines [66].

It is important to note that our study provides a psychological assessment of the university staff at a time when all the restrictive measures have been relaxed and educational activities have been normalized. However, a considerable proportion of respondents demonstrated higher scores for probable anxiety, depression, and PTSD. Similar findings have been reported in a Spanish study, where a high percentage of probable anxiety, stress, and depression was observed among teachers when the schools and universities reopened [11]. It was interesting to note that psychological symptomatology rates in this Spanish study were comparatively higher than another study conducted on the general population residing in the same area [67]. The high prevalence of probable psychological issues among staff even after the reopening of universities might be linked to the emotional experience they have gone through during the lockdown period, the uncertainty about contagion in the university, and managing their workload from home. Existing evidence confirms a high risk of probable psychological issues in the post-pandemic era [68]. In this context, a continuum of psychological assessment in a longitudinal manner should be considered for the general population as well as high-risk groups such as healthcare professionals, students, and staff at educational institutes. Moreover, there is a need to develop a contingency plan at universities to manage natural disasters in order to maintain the continuity of the educational process. The radical transformation from curriculum to pedagogy, from teachers to students, and from learning to assessment, along with such contingency planning, will aid in improving the psychological health of university staff and students. Since psychological issues among university faculty are associated with instructors being less accessible to students for pedagogical involvement, teaching flexibility and instructor participation in decision making appear to be important solutions to this issue. Rather than simply returning to the traditional teaching-learning process, the practical experience gained during the COVID-19 pandemic can be used to improve teaching methods. Although remote education is far from perfect when utilized alone, it could be used as a supplement to increase the potential of both online and in situ learning.

5. Study Limitations

The findings of the present study should be discussed in light of a few shortcomings. The self-reported nature of the questionnaire might be linked to reporting bias or misreporting. The cross-sectional study design limits the assessment of mental health to a specific time. There is a possibility of variable results if data were collected at the time when peak restrictive measures were imposed. Due to the cross-sectional design of the study, we are unable to distinguish between the observed associations caused by the pandemic and those that existed prior to the pandemic. Convenient sampling is another limitation, and there

is a possibility of selection bias in the current study. There were fewer samples from the sub-campuses of the university, and our data provide psychological assessment for university staff in the Jouf region only. The generalizability of the findings to other parts of the country is limited due to data collection from one educational institute. Nevertheless, given the similar policies related to the transitioning of the educational process across the country, the generalizability of the results can be expected in other parts of Saudi Arabia. The low response rate in this study might be associated with hesitation among university staff to disclose their psychological health, as the survey was distributed to official university emails by investigators and higher management. This study did not capture data on the discipline of education or the nationality of the staff, and these factors may be associated with specific psychological outcomes. Moreover, previous history of psychiatric disorders may be linked to the current mental health of the study participants [57]. This information is not included in the current study, but it should be considered in future research. Furthermore, psychological disorders were not clinically diagnosed in this study. The diagnostic gold standard in psychiatry is the clinical interview. However, it is common for research of this nature to employ validated depression and anxiety symptom questionnaires [69]. In addition, cutoff scores for scales used to assess probable anxiety, depression, and PTSD in Saudi Arabia must be validated. Group sizes should be considered important factors that may impact the inferential statistics, as small group sizes can generate uncertain differences. Moreover, the effect sizes of the comparisons were small, which should also be considered while interpreting the results. Last but not least, further evaluation of the participants is not possible due to the anonymized nature of the data collection. Despite this, our study is the first large-scale analysis (capturing nearly a quarter of staff), providing valuable insights into psychological health and the coping strategies adopted by staff in the Saudi Arabian higher education sector.

6. Conclusions

Our study shows alarming levels of symptoms of anxiety, depression, and PTSD among the staff of a large tertiary-level educational institute in Saudi Arabia during the COVID-19 pandemic. The prevalence of probable psychological outcomes was higher among females, individuals with a history of COVID-19 infection, academic staff, and individuals with higher qualifications and fewer years of experience. Positive coping (approach coping) strategies were more prevalent, but a large proportion of study participants also opted for avoidant coping. These findings necessitate the need for active and proactive measures to safeguard mental health and improve the psychological resilience of university staff. Since universities are responsible for providing high standards of education to reshape society, effective maneuvers should be implemented to protect the psychological well-being of the university staff.

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Informed Consent Statement: A consent to participate in this study was obtained from all respondents.

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