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RESEARCH ARTICLE

Immediate psychological responses and coping styles of tertiary school employees during the COVID-19 pandemic

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ABSTRACT

Background: The COVID-19 outbreak broadly affected not only the physical but also the psychological wellbeing of the people. However, few studies have been conducted concerning its psychological impact specifically on employees from the academe.

Objectives: To determine the psychological responses and coping styles of employees of the School of Health Sciences at the University of the Philippines - Manila during the COVID-19 pandemic. Specifically, this study sought to determine the association between participants' socio-demographic characteristics and their psychological responses, and between participants' psychological responses and their coping styles used.

Methodology: We employed a cross-sectional design and self-selection or volunteer sampling to recruit 46 academics and support staff employed during the COVID-19 pandemic. The data were collected in April 2020. Psychological responses were determined with the 10-item Kessler's Psychological Distress Scale. Coping styles were assessed with the short-form Cognitive Emotion Regulation Questionnaire. Likelihood ratio chi-square tests and Spearman rho tests were conducted to test the hypotheses. Statistical significance was determined at $p < .05$.

Results: The majority of participants reported low levels of psychological distress in the early stage of the pandemic (n=44; 95.65%). We found a statistically significant relationship between psychological responses and coping styles characterized by rumination ($rs = 0.454$; $P = 0.002$) and catastrophizing ($rs = 0.408$; $P = 0.005$).

Conclusions: Our study confirmed the significance of psychological responses during the COVID-19 pandemic and demonstrated a specific association with coping styles characterized by rumination and catastrophizing but are unsuitably less adaptive. Hence, the application of less adaptive techniques when psychologically distressed from the pandemic need to be corrected or modified.

Keywords: *COVID-19 pandemic, immediate psychological responses, coping styles, employees, college, University of the Philippines*

Introduction

The coronavirus disease 2019 (COVID-19) that emerged in Wuhan, China, in December 2019 has increased exponentially and spread globally in a short period of time [1,2]. The disease is caused by a novel coronavirus and was officially named severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) by the International Committee on Taxonomy of Viruses [3,4]. The global health threat from this disease has intensified as the number of positive cases and deaths continue to rise. On January 30, 2020, the World Health Organization (WHO) declared the outbreak as a Public Health Emergency of International Concern, emphasizing that early identification, isolation and treatment of cases, contact tracing, and social distancing measures are integral steps to limit the spread of the virus [5]. The spread of COVID-19, which is more contagious than SARS, has since been classified as a global pandemic, presenting a significant threat to global public health security [6,7].

The first COVID-19 case in the Philippines was reported on January 20, 2020 [8] which prompted immediate release on various memoranda and guidelines on precautionary and preventive measures, and management of the situation [9].

Nationwide class suspensions were ordered, including travel restrictions, prohibition of mass gatherings, and alternative/flexible work arrangements [10,11]. The dramatic increase of COVID-19 cases eventually put the country under the state of calamity [12,13]. The daily routines of students, employees, and all other community members were therefore significantly affected by this health threat and will remain so until the national or local government memoranda are lifted.

Multiple studies have shown that the emergence of a novel infectious disease and the public health measures instituted in response to the emergency (such as community quarantines) may provoke differing psychological responses. People are likely to fear contracting the disease, or may dread its consequences like feelings of helplessness, stigma, and even death [14]. When the avian influenza outbreak evoked public anxiety about food safety, people coped with these challenges through the power of collective consciousness and active cooperation with local government [15]. However, a study conducted within community health care settings showed significant rates of psychological morbidity in the general population during the outbreak. Psychological morbidity was associated with younger age, experiencing a high level of post-traumatic symptoms, and attendance at a specialized polyclinic unit known as a fever station where individuals presenting with any febrile condition were isolated and managed [16]. The application of different coping strategies such as self-blame, denial, and planning may be dependent on personal or experiential factors. Empirical evidence obtained during an Ebola outbreak suggests that survivors are likely to suffer psychological effects due to the traumatic course of the infection, the associated fear of death and the experience of witnessing others dying. They may also experience guilt or shame about transmitting infection, isolation, loss of loved ones, and frustration [17]. To cope with the COVID-19 pandemic, the WHO Department of Mental Health and Substance Use a statement to support mental and psychosocial well-being in the general public, which included advice on minimizing disease stigma, avoiding discrimination of any particular ethnicity or nationality, and avoiding potentially distressing information and news about the disease, especially from untrusted sources [18]. In addition to the psychological impact of the disease itself, research suggests that mitigation strategies such as quarantine may cause psychological distress [19], post-traumatic stress symptoms [20], depressive symptoms [21], low mood, irritability, and insomnia [22]. A more recent study revealed that quarantined individuals may feel fed up, and experience depression and anger [23]. A rapid evidence review found that negative psychological effects were associated with certain stressors experienced during quarantine, including longer quarantine duration, fearing for one's health or concern about infecting others, a sense of isolation, frustration, anxiety and anger about having inadequate supplies, and insufficient information provided by health authorities [24].

Much of the research into the psychological responses to infectious disease outbreaks has focused on the experiences of laboratory-confirmed cases, health care workers, and disease survivors. Relatively few studies have examined the psychological effects in non-infected groups, and studies from the Philippines are particularly scarce. A study by Wang *et al.* [25] showed that some groups, including women and students, were more likely to develop stress, anxiety, and depression. Another study observed high prevalence of anxiety among college students during the COVID-19 pandemic [26]. This is explained on the possible effects of virus on their studies, future employment, distancing from quarantine, worsening interpersonal communication, increasing number of cases, shortage of supplies on protective equipment, and living conditions.

The University of the Philippines Manila School of Health Sciences (UPM-SHS) is a degree-granting unit of the University of the Philippines (UP) Manila, which has three campuses located outside of Metropolitan Manila. The main campus is located in the municipality of Palo, Leyte, while its two satellite campuses are in Baler, Aurora, and Koronadal City, South Cotabato. The school implements a unique ladderized program that integrates the training of midwives, nurses, and doctors into one sequential curriculum. The curriculum is community-based and intends to produce graduate doctors, nurses and midwives who will serve in rural, remote, and underserved areas of the Philippines. The academic and administrative operations of the school conform to guidance and directives from the UP Manila or the UP System administration. In times of emergency and in the event of disasters such as the COVID-19 crisis, the decision to suspend classes or office operations are based on issuances from the national government, LGUs, and university authorities [27,28]. The UP Manila chancellor approves the suspension or cancellation of classes and office operations based on the dean's recommendation and in consultation with the different school sectors.

To our knowledge, there have been very few published reports to date on the psychological responses and coping styles of non-infected persons during the COVID-19 crisis in

The Philippines. The UPM-SHS with its three campuses from Luzon, Visayas, and Mindanao has no records of employees positive with COVID-19 as of this writing. This study is therefore likely one of the first studies to capture these psychological impacts and coping styles used among employees in an academic setting in the Philippines during the early period of COVID-19 pandemic. Results of this study may assist universities and labor and employment agencies to develop strategies and policies to promote psychological well-being and prevent negative psychological effects among employees during communicable disease outbreaks.

Aims

This study aimed to document the psychological responses and coping styles of employees of the UPM-SHS during the COVID-19 pandemic. Furthermore, this study sought to determine associations between socio-demographic characteristics and psychological responses of the participants, as well as the association between their psychological responses and specific coping styles used. We tested the following hypotheses:

1. There is an association between socio-demographic characteristics and psychological responses;
2. There is an association between psychological responses and coping styles.

Methodology

Study Setting

The study was conducted in the University of the Philippines Manila School of Health Sciences. This is a distant unit of UP Manila with three campuses – main campus in Palo, Leyte and two extension campuses in Baler, Aurora and Koronadal City, South Cotabato. The school offers stepladder curriculum from Diploma in Midwifery program, Bachelor of Science in Nursing, to its top program, Doctor of Medicine. The Doctor of Medicine program is only offered at its main campus.

Study Design and Participants

This study employed an analytic cross-sectional design. We used self-selection or volunteer sampling to have academic and support staff at the UPM-SHS as part of the study, inviting them regardless of their position, employment status, or length of work experience. Participants included faculty members, administrative staff, and research, extension, and professional staff (REPS).

There were 51 UPM-SHS employees. Excluding the research team, 46 agreed to participate in the study. A standardized recruitment letter was sent out on behalf of the principal investigator and distributed through emails. The survey was primarily conducted online through Google forms due to restrictions associated with the COVID-19 pandemic. The email containing the survey link was accompanied by a cover letter explaining in detail the purpose, benefits, and risks associated with the study. Participants were given the opportunity to ask questions and seek clarification about participating in the study, using the researcher contact details provided in the cover letter. Participants were encouraged to forward the survey link to other UPM-SHS staff. When a participant did not have access to an adequate internet connection, or a computer or mobile device to complete the survey online, a researcher conducted the survey in person. Likewise, informed consent was obtained, and the participants were encouraged to ask questions and clarifications before proceeding to the actual survey. Appropriate protective measures were taken to protect participants and researchers against infection with COVID-19. In all cases, participation was entirely voluntary and participants could withdraw at any time during the study without adverse consequence to their employment or professional status. Withdrawn data was discarded while preserving participants' anonymity and confidentiality.

Instruments

The questionnaire was composed of three parts. The first part assessed participants' socio-demographic characteristics, including their age, gender, religion, staff classification, monthly income, and length of work experience. The researchers identified these characteristics through literatures.

The second part examined participants' psychological responses with the 10-item Kessler Psychological Distress Scale [29]. Participants were asked how often they experienced emotional disturbances and feelings of anxiety and depression in the most recent 4-week period of community quarantine for COVID-19. Items were rated on a five-point Likert scale (1 = none of the time to 5 = all of the time). The scale has been demonstrated to have good internal consistency, with Cronbach's alpha ranging from 0.83 to 0.93 [30,31,32].

The third part assessed participants' coping styles during the COVID-19 pandemic with the 18-item short-form of the Cognitive Emotion Regulation Questionnaire (CERQ), which measures nine distinct dimensions: self-blame, acceptance, rumination, positive refocusing, refocus on planning, positive

reappraisal, putting into perspective, catastrophizing, and other-blame [33]. Participants were specifically asked about their thoughts when they experienced negative or unpleasant feelings during the COVID-19 pandemic. Items were rated on a five-point Likert scale (1=almost never to 5 = almost always). The instrument's internal consistency is generally acceptable, with Cronbach's alpha ranging from 0.68 to 0.82 [34]. Because of the high internal consistency, short form, and can be easily understood, the researchers selected these two 10-item Kessler Psychological Distress Scale and the 18-item CERQ.

Data Collection and Analysis

Approval to conduct the study at UPM-SHS was obtained from the school's administrative level. All participants gave informed consent via e-mail response, proceeding to the online survey portal or in person. Participants were free to complete the survey at their convenience, e.g. at home, their office, or any location where they have privacy, comfort, and a good internet connection. For the in-person surveys, the researcher verbally provided the participant with detailed information about the study. Participants were invited to attend the meeting in an isolated and well-lit campus location with open air circulation, but sufficient privacy. Only one participant and one researcher were present in the room. Both the participant and the researcher wore face masks and face shields and sat 1-2 meters apart. Both also washed or disinfected their hands with alcohol-based sanitizer before meeting. The chairs and tables used were disinfected afterwards. As UPM-SHS staff members, participants and researchers would have also been subject to temperature (fever) checks, asked wear a mask at all times and washed their hands upon entering the campus. The survey took approximately 10-15 minutes to complete. Responses were checked for completeness and accuracy. The data were collected in April 2020.

The survey responses were coded and analyzed by researchers who were blind to the participants' identities. Only the principal investigator had the access to identifiable online survey responses. The data were processed and analyzed with the Statistical Package for Social Sciences software program (SPSS version 21). Descriptive statistics included frequency counts, percentages, weighted arithmetic means, and standard deviations. Likelihood ratio chi-square test was used to determine the association between participants' demographic profiles and psychological responses since these were categorical variables. Spearman Rho correlatio was used to determine the association between psychological responses and coping styles of the participants. These variables were derived from response categories in Likert scales that have a rank order of which the Spearman rho which is also a non-parametric test best suits for analysis. Statistical significance was determined at $p < .05$.

Ethical Considerations of the Study

Ethics clearance was secured from the UP Manila Review Ethics Board (UPMREB 2020-409-01). We also obtained administrative clearance from the school. All participants gave prior and informed consent signifying their voluntary participation to take part in the study. Participants in the online survey were not required to provide their name on the consent form, however, if they did so, it signified their full consent to participate in the study. Participants were reassured that referral to a professional psychologist or psychiatrist could be made at their request, for instance, if completion of the survey (online or in person) caused them psychological discomfort or distress. The principal investigator contacted the Department of Psychiatry and Behavioral Medicine of the Eastern Visayas Regional Medical Center (EVRMC) – the largest government tertiary hospital of Region VIII and the school's base hospital for clinical affiliation – to recruit psychiatry residents to provide in person, online, or phone consultation or counseling services for participants who request such support.

The principal investigator contacted participants through various means, including online platforms and personal meetings. As a UPM-SHS employee, the principal investigator was aware of employee details that were relevant to selection for this study. Possible risks in this study include breach of confidentiality and the potential damage resulting from such a breach. To minimize this risk, we implemented strict practices to avoid disclosure of private information and maintain participant confidentiality for the entire duration of the study. Hard copies of the survey were retained securely by the principal investigator. Likewise, only the principal investigator had the access to the raw data from the online surveys, which were stored securely for the duration of the study and subsequently deleted. Participants did not receive remuneration or any other form of reimbursement for taking part in the study. The researchers declare no conflict of interest with respect to participant selection. All data were used solely for the purpose of this study.

Results

Forty-six employees participated in this study. More than half of them were male (52.17%). More than a third of

Table 1. *Frequency and Percentage Distribution of the Socio - Demographic Characteristics of the Participants*

Variables	Category	Frequency (%)
Age	30 years old and below 31 to 40 years old 41 to 50 years old 51 to 60 years old 61 years old and above	3 (6.52%) 16 (34.78%) 8 (17.39%) 14 (30.43%) 5 (10.87%)
Sex	Male Female	24 (52.17%) 22 (47.83%)
Religion	Roman Catholic Islamic Protestant Iglesia Ni Cristo Born Again Christian Baptist	34 (73.91%) - -2 (4.35%) 3 (6.52%) 4 (8.7%) 3 (6.52%)
Staff Classification	Faculty - Permanent Faculty - Temporary Admin Staff - Permanent Admin Staff - Temporary Admin Staff - Contractual REPS	5 (10.87%) 17 (36.96%) 18 (39.13%) 2 (4.35%) 3 (6.52%) 1 (2.17%)
Monthly Income	P10,000 and less More than P10,000 to P20,000 More than P20,000 to P30,000 More than P30,000 to P40,000 More than P40,000 to P50,000 More than P50,000	- 14 (30.43%) 6 (13.04%) 10 (21.74%) 8 (17.39%) 8 (17.39%)
Work Experience	less than 1 year More than 1 year to 5 years More than 5 years to 10 years More than 10 years to 15 years More than 15 years to 20 years More than 20 years	- 1 (2.17%) 11 (23.91%) 10 (21.74%) 9 (19.57%) 15 (32.61%)

**Total number of respondents is 46*

participants were between 31 to 40-year old (34.78%), most participants were Roman Catholics (73.91%), and the most commonly reported employment classification was permanent administrative staff (39.13%). Participants most commonly earned between P10,000 and P20,000 / month (30.43%), and a fairly high proportion had more than 20 years of work experience (32.61%). Table 1 presents a summary of the participants' demographic characteristics.

Details about the participants' psychological responses to the COVID-19 pandemic are shown in Table 2. Results from the Kessler Psychological Distress Scale revealed that the largest proportion of responses in Q3 to Q7 and Q9 to Q10 was None of the time, scoring one point on the scale. A little of the time, scoring two points, received the largest proportion of responses in Q1 and Q2. None of the time and A little of the time received equally large proportions of responses in Q8. These responses indicate they were more likely to be well. Hence, the vast majority of participants did not report any response signifying psychological distress (n = 38, 82.61%), although a few respondents reported they were likely experiencing a mild mental disorder (n = 6, 13.04%). A report of one participant was likely to have a moderate mental disorder (2.17%), and another one likely to have a severe mental disorder (2.17%).

Table 3 shows the coping styles used as reported by participants during the COVID-19 pandemic. Reports of the scale were tallied according to its item. Items were categorized into nine dimensions so that each dimension is consisted of two items. The three dimensions of the Cognitive Emotion Regulation Questionnaire that participants most frequently reported (median score = 4) were refocus on planning, positive reappraisal, and putting into perspective. Acceptance

Table 2. *Psychological Responses of the Participants*

Questions	NT	LT	ST	MT	AT	Median	Description
	1	2	3	4	5		
	Frequency						
How often did you feel tired out for no good reason?	12 (26.09%)	25 (54.35%)	7 (15.22%)	2 (4.35%)	-	2	A Little of the Time
How often did you feel nervous?	16 (34.78%)	24 (52.17%)	3 (6.52%)	3 (6.52%)	-	2	A Little of the Time
how often did you feel so nervous that nothing could calm you down?	35 (76.09%)	8 (17.39%)	3 (6.52%)	-	-	1	None of the Time
How often did you feel hopeless?	31 (67.39%)	11 (23.91%)	2 (4.35%)	2 (4.35%)	-	1	None of the Time
How often did you feel restless or fidgety?	28 (60.87%)	13 (28.26%)	4 (8.7%)	1 (2.17%)	-	1	None of the Time
How often did you feel so restless you could not sit still?	36 (78.26%)	8 (17.39%)	2 (4.35%)	-	-	1	None of the Time
How often did you feel depressed?	33 (71.74%)	10 (21.74%)	3 (6.52%)	-	-	1	None of the Time
How often did you feel that everything was an effort?	18 (39.13%)	18 (39.13%)	7 (15.22%)	3 (6.52%)	-	2	A Little of the Time
How often did you feel so sad that nothing could cheer you up?	33 (71.74%)	10 (21.74%)	3 (6.52%)	-	-	1	None of the Time
How often did you feel worthless?	34 (73.91%)	8 (17.39%)	2 (4.35%)	2 (4.35%)	-	1	None of the Time

Note: NT – None of the time, LT – A little of the time, ST – Some of the time, MT – Most of the time, AT – All of the time

Kessler Psychological Distress Scoring	Description	Frequency
10 to 19	Likely to be well	38 (82.61%)
20 to 24	likely to have a mild mental disorder	6 (13.04%)
25 to 29	Likely to have a moderate mental disorder	1 (2.17%)
30 to 50	Likely to have a severe mental disorder	1 (2.17%)

and positive refocusing were two additional dimensions that were regularly applied by participants (median score = 3). The remaining coping styles were only applied "sometimes" (median score = 2), including self-blame, other-blame, focus on thought/rumination, and catastrophizing.

Table 4 presents the association between participants' socio-demographic characteristics and their immediate psychological responses to the COVID-19 pandemic. Likelihood ratio chi-square tests were used to look for potential associations between these categorical variables. The table demonstrates that there is no statistically significant relationship between any of the socio-demographic characteristics and the psychological responses measured with the Kessler Psychological Distress Scale. Hence, hypothesis 1 is not supported. However, this can be explained further due to its small sample size and the large contingency tables.

Table 5 presents the Spearman Rho correlations to examine whether a relationship exists between participants' immediate psychological responses to the COVID-19 pandemic and their coping styles. We found a statistically

Table 3. *Coping Style of the Respondents*

Statements	AN	S	R	O	AA	Median	Description
	1	2	3	4	5		
	Frequency						
I feel that I am the one who is responsible for what has happened.	23 (50%)	18 (39.13%)	1 (2.17%)	3 (6.52%)	1 (2.17%)	2	Sometimes
I think that basically the cause must lie within myself.	22 (47.83%)	22 (47.83%)	1 (2.17%)	1 (2.17%)	-	2	Sometimes
I think that I have to accept that this has happened.	4 (8.7%)	13 (28.26%)	16 (34.78%)	4 (8.7%)	9 (19.57%)	3	Regularly
I think that I have to accept the situation.	3 (6.52%)	9 (19.57%)	16 (34.78%)	5 (10.87%)	13 (28.26%)	3	Regularly
I often think about how I feel about what I have experienced.	9 (19.57%)	18 (39.13%)	12 (26.09%)	6 (13.04%)	1 (2.17%)	2	Sometimes
I am preoccupied with what I think and feel about what I have experienced.	14 (30.43%)	22 (47.83%)	4 (8.7%)	5 (10.87%)	1 (2.17%)	2	Sometimes
I think of pleasant things that have nothing to do with it.	9 (19.57%)	14 (30.43%)	14 (30.43%)	5 (10.87%)	4 (8.7%)	3	Regularly
I think of something nice instead of what has happened.	4 (8.7%)	7 (15.22%)	15 (32.61%)	8 (17.39%)	12 (26.09%)	3	Regularly
I think about how to change the situation.	3 (6.52%)	11 (23.91%)	10 (21.74%)	15 (32.61%)	7 (15.22%)	3	Regularly
I think about a plan of what I can do best.	1 (2.17%)	6 (13.04%)	8 (17.39%)	16 (34.78%)	15 (32.61%)	4	Often
I think I can learn something from the situation.	1 (2.17%)	4 (8.7%)	8 (17.39%)	13 (28.26%)	20 (43.48%)	4	Often
I think that I can become a stronger person as a result of what has happened.	1 (2.17%)	6 (13.04%)	7 (15.22%)	15 (32.61%)	17 (36.96%)	4	Often
I think that it hasn't been too bad compared to other things.	2 (4.35%)	11 (23.91%)	12 (26.09%)	13 (28.26%)	8 (17.39%)	3	Regularly
I tell myself that there are worse things in life.	3 (6.52%)	16 (34.78%)	7 (15.22%)	11 (23.91%)	9 (19.57%)	3	Regularly
I keep thinking about how terrible it is what I have experienced.	13 (28.26%)	24 (52.17%)	6 (13.04%)	3 (6.52%)	-	2	Sometimes
I continually think how horrible the situation has been.	16 (34.78%)	22 (47.83%)	3 (6.52%)	3 (6.52%)	2 (4.35%)	2	Sometimes
I feel that others are responsible for what has happened.	11 (23.91%)	28 (60.87%)	1 (2.17%)	3 (6.52%)	3 (6.52%)	2	Sometimes
I feel that basically the cause lies with others.	12 (26.09%)	26 (56.52%)	2 (4.35%)	3 (6.52%)	3 (6.52%)	2	Sometimes

Note: AN – Almost never, S – Sometimes, R – Regularly, O – Often, AA – Almost Always

Dimensions	Median	Description
Self-blame	2	Sometimes
Acceptance	3	Regularly
Focus on thought/rumination	2	Sometimes
Positive refocusing	3	Regularly
Refocus on planning	4	Often
Positive reappraisal	4	Often
Putting into perspective	4	Often
Catastrophizing	2	Sometimes
Other-blame	2	Sometimes

Table 4. *Likelihood Ration Chi-Square Test: Correlation between Socio-Demographic Characteristics of the Participants and Psychological Responses*

Category	Psychological Responses				LR Value	P-value
	Well	Mild	Moderate	Severe		
30 years old and below	2 (66.67%)	1 (33.33%)	-	-	6.801	0.870
31 to 40 years old	13 (81.25%)	2 (12.5%)	1 (6.25%)	-		
41 to 50 years old	7 (87.5%)	1 (12.5%)	-	-		
51 to 60 years old	11 (78.57%)	2 (14.29%)	-	1 (7.14%)		
61 years old and above	5 (100%)	-	-	-		
Male	20 (83.33%)	3 (12.5%)	1 (4.17%)	-	2.791	0.425
Female	18 (81.82%)	3 (13.64%)	-	1 (4.55%)		
Roman Catholic	27 (79.41%)	5 (14.71%)	1 (2.94%)	1 (2.94%)	0.566	0.966
Protestant	3 (100%)	-	-	-		
Iglesia Ni Cristo	3 (100%)	-	-	-		
Born Again Christian	3 (100%)	-	-	-		
Baptist	2 (66.67%)	1 (33.33%)	-	-		
Faculty - Permanent	5 (100%)	-	-	-	0.002	0.906
Faculty - Temporary	13 (76.47%)	3 (17.65%)	1 (5.88%)	-		
Admin Staff - Permanent	15 (83.33%)	2 (11.11%)	-	1 (5.56%)		
Admin Staff - Temporary	1 (50%)	1 (50%)	-	-		
Admin Staff - Contractual	3 (100%)	-	-	-		
REPS	1 (100%)	-	-	-		
More than P10,000 to P20,000	11 (78.57%)	3 (21.43%)	-	-	0.010	0.339
More than P20,000 to P30,000	5 (83.33%)	1 (16.67%)	-	-		
More than P30,000 to P40,000	9 (90%)	-	-	1 (10%)		
More than P40,000 to P50,000	5 (62.5%)	2 (25%)	1 (12.5%)	-		
More than P50,000	8 (100%)	-	-	-		
More than 1 year to 5 years	1 (100%)	-	-	-	6.206	0.339
More than 5 years to 10 years	9 (81.82%)	1 (9.09%)	1 (9.09%)	-		
More than 10 years to 15 years	9 (90%)	1 (10%)	-	-		
More than 15 years to 20 years	7 (77.78%)	2 (22.22%)	-	-		
More than 20 years	12 (80%)	2 (13.33%)	-	1 (6.67%)		

***Correlation is significant at the 5% level*

significant positive relationship between psychological responses and the coping style dimensions of focus on thought/rumination (rs = 0.454, p = 0.002) and catastrophizing (rs = 0.408, p = 0.005). It indicates that when these coping styles are employed more frequently, psychological distress increases moderately. Hypothesis 2 is therefore supported.

Discussion

The purpose of this study was to determine the psychological responses and coping styles of employees of the UP Manila School of Health Sciences at during the COVID-19

Table 5. *Spearman Rho: Correlation between Psychological Responses and Coping Styles of the Participants*

Coping Styles	Correlation Coefficient	Description	P-value
Self-blame Acceptance	0.237 0.167	Direct and Weak Correlation Direct and Weak Correlation	0.112 0.267
Focus on thought/rumination	***0.454***	***Direct and Moderate Correlation***	***0.002****
Positive refocusing Refocus on planning Positive reappraisal Putting into perspective	0.000 -0.015 -0.140 -0.238	Direct and Very Correlation Inverse and Very Weak Correlation Inverse and Weak Correlation Inverse and Weak Correlation	0.999 0.920 0.352 0.111
Catastrophizing	***0.408***	***Direct and Moderate Correlation***	***0.005****
Other-blame	0.129	Direct and Weak Correlation	0.391

Note: Correlation coefficient values: ±0.76 – ±0.99 Very Strong; ±0.51 – ±0.75 Strong; ±0.26 – ±0.50 Moderate; ±0.11 – ±0.25 Weak; ±0.01 – ±0.10 Very Weak
***Correlation is significant at the 5% level*

pandemic at around the period when community quarantine just been enforced and the increasing number of COVID-19 cases had just started. To the best of our knowledge, this is the first study to examine the immediate psychological responses among academic and support staff in the Philippines during the COVID-19 pandemic. The existing literature on epidemics or outbreaks indicates that these events affect individuals and groups not only physiologically but also psychologically [35-38]. Our study revealed that despite the threat of COVID-19, the restrictions on their daily activities and the modifications to their work routines, the vast majority of employees did not suffer psychological distress. Most of the employees surveyed had a low probability of developing severe mental illness. This trend may in part be explained by the geographic location of the study. The three campuses of the UP Manila School of Health Sciences are located in areas identified by the health department as low risk for COVID-19 or less likely to experience an upsurge in cases [39]. In addition, the school is a training facility for health professions, and faculty members are health and medical professionals. It can therefore be expected that employees are well-informed about the disease and the preventive and protective measures, based on research and clinical or scientific data [40,41]. However, we cannot discount the possibility that psychological distress was minimal because the data were obtained in the early stages of the pandemic. Other studies have reported similar results when exposure to the pandemic had been short [25,42]. Nevertheless, specific psychological strategies and precautionary measures remain essential to prevent the development of mental health problems. Contrary to our results, some studies have indicated that the majority of people experienced some form of psychological distress from COVID-19 [43,44]. Furthermore, individuals who are at risk of infection or suspected of being infected report a higher degree of psychological distress than those who are less likely to be infected [45].

Infectious disease outbreaks have mental health consequences that require effective coping [46]. The cognitive emotion regulation strategies that are essential elements for coping with stressful events like the COVID-19 pandemic can be categorized as adaptive or maladaptive. We found that academic employees and support staff regularly employ strategies of acceptance, positive refocusing, refocus on planning, positive reappraisal, and putting into perspective to cope with the COVID-19 pandemic. These are considered to be adaptive strategies, where individuals experience effective emotion regulation. On the other hand, we found evidence that some employees occasionally use self-blame, rumination, catastrophizing, and other-blame to cope with the COVID-19 pandemic. These less adaptive strategies may lead to the development of psychopathological manifestations [47]. Self-blame indicates that one has an assumption as being responsible of what had happened. Rumination is the tendency to self-review one's feelings or thoughts that had influenced with what had happened. Catastrophizing is the intensified negative thoughts of what happened while other-blame is the shifting of the blame towards the others of what had happened [33,47]. The uncertainty associated with the disease in terms of available treatment, cure, or vaccination may have contributed to the occurrence of maladaptive coping mechanisms. This trend could further be exacerbated by constant television and radio news reports, and by social media providing local and global updates on the COVID-19 pandemic. Nevertheless, individuals can perceive any situation as beneficial, have the capacity to overcome difficult situations and develop resilience [48].

Several studies conducted in other countries have demonstrated significant associations between socio-demographic characteristics and the experience of psychological distress brought on by the outbreak of COVID-19. Higher rates of distress have been reported in women [25,49], younger age groups [49,50], those with lower income [50], lower education level [51], and those who are unemployed [52]. Possible reasons for these depicted hormonal effects, more vulnerable to stress and stronger socialized emotional experience among women [25,49], easy access of information which could overfed them and led them to stress among the younger ones [49], and those who are economically disadvantaged and had low acquisition of information are seen among unemployed, with low income or low educational level [51,52]. Conversely, we found no significant association between psychological responses to COVID-19 and the surveyed employees' socio-demographic characteristics such age, gender, religion, employment status, work experience, or monthly income. Similar results were obtained in a recent study conducted in China [35]. However, a wide range of factor can influence responses to stressful events such as the COVID-19 pandemic. Several of the most recent studies report that the development of psychological distress about the pandemic can be linked to the presence of pre-existing medical and mental health conditions [53,54], beliefs about the dangers and threat of the disease [53], exposure to and risk of becoming infected [42], level of psychological flexibility [55], basic needs not being met and prolonged quarantine [56], insufficient information about COVID-19 [56,57], and availability of social support [57].

In line with results from research conducted in other countries, we observed a significant association between employees' psychological responses to the COVID-19 pandemic and the coping styles they used. Specifically, the degree of psychological distress was moderately associated with two specific cognitive emotion regulation dimensions: focus on thought/rumination and catastrophizing. Catastrophizing is the tendency to intensify negative thoughts about what happened, while rumination describes repetitive reflection on one's feelings and thoughts associated with what happened [47]. These dimensions reflect maladaptive cognitive emotion regulation to the stressful event. Thus, the more frequently these maladaptive strategies are used, the greater the tendency for the individual to develop mental health problems [58]. Our results identify a need for further research to validate our findings involving greater number of participants or further studies that will help address maladaptive strategies for employees during infectious disease outbreaks.

To date an international body of literature has provided evidence of the psychological impact of the COVID-19 pandemic on health care providers and in the general population, but research on the psychological effects of COVID-19 on academic employees and support staff is scarce. In a crisis like a global pandemic, everyone should be considered at risk of developing psychiatric symptoms or maladjustment behaviors such as anxiety or depression. Our findings have significant implications. By investigating psychological responses in the early stage of the COVID-19 pandemic, we can develop guidance for employment agencies and institutions on the development of protective psychological measures and strategies for psychological preparedness such as programs or guidelines in promoting mental health, or available consultation centers or hotlines where employees may ask for psychological assistance. Likewise, there is a need to further explore favorable factors such as self-reflection, self-awareness, or preparedness examination that may assist individuals to respond positively or to adopt adaptive coping strategies to this kind of stressful event. Although our findings failed to determine risk factors or predictors of psychological distress to COVID-19 in our sample, the literature highlights various high-risk socio-demographic groups. These groups may benefit from immediate psychological interventions that help individuals to apply coping styles that are adaptive and beneficial.

Life continues and work routines must be maintained despite the COVID-19 pandemic. Authorities or managers therefore need to address the immediate psychological needs of employees. This includes assisting employees with the adjustment to the new normal, providing accurate and factual information regarding the course of the disease and the evolution of the pandemic, promoting self-awareness and enhancing adaptive or coping strategies in times of crisis.

Limitations of the Study

First, we used self-report questionnaires to assess immediate psychological responses and coping styles. Self-report measures may not accurately capture the full spectrum of responses and coping behaviors of participants. Second, due to the small sample size and the non-probability technique used, results are not generalizable. Replication of this work in larger samples such as greater number of employees, or other specific population groups as well as the general population is advisable. Third, the cross-sectional design and the test statistics used did not allow us to draw causal links between the variables of interest. This issue could be addressed by further studies using research designs that will determine the cause and effects of the variables of interest. Further, complementing the quantitative data collection with a qualitative exploration of participants' responses can explain the mechanism by which

a cause-effect relationship exists. Notwithstanding these limitations, our study has made a significant contribution to our understanding of the psychological responses and coping styles in the early stage of the COVID-19 pandemic.

Conclusions

In the early stage of the COVID-19 pandemic, the majority of participants reported low levels of psychological distress. However, we observed a statistically significant relationship between the degree of psychological distress and the use of coping styles characterized by rumination and catastrophizing which are unsuitably less adaptive means. These findings suggest that although participants were more likely to be well in the early stage of the pandemic, their application of less adaptive techniques when distressed need to be modified and the more adaptive or healthier techniques need to be acquired.

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