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Call for Faith: Religiousness, Religious Coping and Psychological Disturbance of Chinese Christians During COVID-19

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Original Research

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Abstract

Objectives: This study is aimed at investigating the relationships between religious practice, religious coping strategies, and mental health among Chinese Christians in the context of the COVID-19 outbreak.

Methods: A total of 915 participants from several cities in China completed online questionnaires, including sociodemographic data, mental disorder history, and years as a Christian, as well as frequency of weekly religious practice, Religious Coping Scale, the Patient Health Questionnaire-9 (PHQ-9), and the Generalized Anxiety Disorder scale (GAD-7).

Results: The result of multivariate analysis indicated that during the COVID-19 pandemic, among Chinese Christians without a history of mental disorder, negative religious coping were associated with depression, and anxiety symptoms. Among Chinese Christians with a history of mental disorders, comorbidity with 1 mental disorder, comorbidity with 2 or more mental disorders, negative religious coping, and positive religious coping were associated with depression symptoms. Comorbidity with 2 or more mental disorders, negative religious coping, and positive religious coping were associated with anxiety symptoms.

Conclusion: Christians with a previous history of mental illness are more likely to experience anxiety during the epidemic. In the future, mental health services during disasters may put more attention on certain religious groups and provide more spiritual care to maintain their well-being accordingly.

Introduction

The pandemic of coronavirus disease- 2019 (COVID-19) has significantly increased psychological disturbances in terms of quarantines and lockdowns, economic crises, social isolation, and uncertainty. Research suggests that stringent policy would minimize transmission and death during a pandemic, however, higher policy stringency was associated with higher mean psychological distress scores and lower life evaluations.[1]

When facing a crisis, humans tend to turn to faith to seek comfort and explanations; for example, previous research claimed that 90% of Americans turned to religion to cope with the psychological impact of the 9/ 11 terrorist attack.[2] People turn to religion to cope with adversity. They pray for relief, understanding, hope, and love, as well as strength, comfort, courage, and perseverance.[3] Research has documented that struggles with cancer, loss of family members, or suffering from severe illness are correlated with heightened religiosity.[4,5] Recent research also shows that adversity in the form of disasters causes people to use their religion more intensively.[6,7] Religious beliefs and practices are known to help individuals cope with psychological disturbances and are associated with less anxiety and greater hope.

Francesco and his colleagues emphasized the importance of spirituality in the midst of uncertainty and crisis during the coronavirus pandemic.[8] Religious practice can help individuals reduce stress and anxiety in times of hardship through prayer, meditation, reading, and reciting scriptures, as well as centering prayer, listening to inspirational programs, or reading uplifting literature that nourishes the spirit.[9] Many religious believers treat personal religious activities as a way to strengthen their faith and relationship with God.[10]

To provide integrated and holistic care for individuals under the threat of COVID-19, individuals, groups, and churches try to supply spiritual and religious resources to cope with the impact of COVID-19. A previous study found that the Spiritual Hotline Project, which was intended to provide spiritual and religious assistance to people with different cultural backgrounds, was able to provide spiritual comfort and care to different parts of the world with different religious affiliations.[11] Another study found that spiritual care addressed the provision of compassion and empathy as a means of coping for families, patients, and healthcare workers during the COVID-19 pandemic.[12] These studies imply that religion provides not only comfort but also effective strategies for believers to cope with stresses and find peace during the COVID-19 pandemic. Previous researchers have claimed that positive religious coping implies a secure

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relationship with God, which can help believers find meaning in life and build a better sense of connection with others, whereas negative religious coping reflects an insecure relationship with God, a shadowed or barren view of the world and significant religious struggles in life.[13] Studies have consistently suggested that positive religious coping strategies (e.g., religious purification/ forgiveness, seeking support from clergy/ members, and spiritual connection) have been associated with psychological adjustment variables such as self-esteem, life satisfaction, and quality of life, while negative religious coping strategies (e.g., spiritual discontent, interpersonal religious discontent, and passive religious deferral) have consistently been related to more depressive symptoms.[14,15]

China is 1 of the world's most populous counties, as well as the least religious country in the world.[16,17] However, in recent decades, religion is becoming a prominent force in many people's lives in China. Official documents suggest that approximately 200 million people identify themselves as religious believers in China.[18] Among this number, 38 million were Christians by 2018, and the population is growing rapidly.[19] Previous studies suggest that Chinese Christians have some specific characteristics in contrast to Buddhism and Taoism believers; that is, Christians tend to more frequently participate in religious activities, are more organized, and take their religious belief more seriously.[20] On the other hand, even though Christianity is usually regarded as a foreign religion, it is drawing some Chinese traditions as well, including those of self-cultivation in Daoist and Buddhist aspirations to transcendence and world salvation.[21]

Empirical studies of which most were sampled in Western countries suggest that religiousness or religiosity could have positive effects on health, as well as a protective factor against mental problems.[22] However, few studies found that religion in China may have a negative association with the mental health of religious believers. For example, a study found 17 (23%) out of the 74 suicide attempts sampled from 6 hospitals, were people with religious beliefs. This rate was higher than that of the general population.[23] Another study found that religious believers were at a higher risk of depression and suicidality than atheists during the COVID-19 pandemic, yet it is unclear whether they suffered from mental health problems because they faced stress caused by the pandemic, or they turned to religion to cope with their mental health problems caused by personal or environmental difficulties.[24] Even though this is a complicated topic, we may be able to further understand this topic by exploring whether religious believers with and without a history of mental disorders differed significantly in their mental health status as well as religious coping mechanisms during the COVID-19 pandemic.

There is a dearth of studies examining the role of religious coping in terms of its relation to psychopathology in Asian countries. Giving the rising number of Christians in China, it is worthy to investigate the mental health status of Chinese Christians with and without mental disorder history during the pandemic, and to understand the relationship among religious practice, religious coping strategies, and mental health. It may also help us to build resilience and maintain public health under such global crises in the future.

Methods

Participants and procedure

The Clinical Research Ethics Committee of the corresponding author's institute approved this study. The participants were at least 18 years old and identified as Christian. Detailed description of the demographic data is presented in Table 1.

Sample and setting

The data were collected through an anonymous, Internet-based survey platform between February 25, 2020, and March 5, 2020, from 1000 participants aged 18 - 65 years. The researchers posted a description of the study's objectives and benefits, a confidentiality guarantee, the consent form, and contact information. Individuals who self-identified as Christian were recruited for the current research and were provided with informed consent material, including the topics of the survey and their rights as potential participants. To protect their confidentiality, the participants agreed to participate in the research via a typed response rather than typing their name on the online consent form. The average time to complete the questionnaire was approximately 6 minutes. The other baseline characteristics of the cohort are presented in Table 1.

Assessments and measurement

Sociodemographic characteristics

The sociodemographic questions sought information regarding age, sex, education, family religious background, mental disorder history, income, and occupation.

Generalized anxiety disorder (GAD-7)

The 7-item Generalized Anxiety Disorder-7 scale was used to measure generalized anxiety symptoms in the previous 2 weeks on a 4-point scale from 0 (not at all) to 3 (every day). This scale has been used to evaluate symptoms of depression in the context of the COVID-19 pandemic by many other researchers in China.[25,26] The scores on the GAD-7 range from 0 to 21; scores of 5, 10, and 15 represent mild, moderate, and severe anxiety symptoms, respectively. Higher scores indicate more symptoms. The measure demonstrated adequate internal consistency with Cronbach's alpha = 0.918. The current study defined participants whose score was above 4 as having anxiety symptoms (GAD-7 score > 4).[25]

Patient health questionnaire-9 (PHQ-9)

Depression was assessed with the PHQ-9. The PHQ-9 yields a continuous measure of the frequency of symptoms of depression in the previous 2 weeks. This scale has been used to evaluate symptoms of depression in the context of the COVID-19 pandemic by many other researchers in China.[27,28] Each of the 9 items o it is rated on a scale from 0 (not at all) to 3 (every day). The PHQ-9 total score ranged from 0 to 27 with 5 categories of severity: minimal (0 – 4), mild (5 – 9), moderate (10 – 14), moderately severe (15 – 19) and severe (20 – 27). In the current study, the Cronbach's alpha of the scale was 0.895. The current study defined participants whose score was above 4 as having depressive symptoms (PHQ-9 score > 4).[29]

Religious practice

Religious practice was measured with 4 single-item questions inquiring about years of religion, number of daily prayers, frequency of reading scripture, and frequency of church activities before the COVID-19 pandemic.

Years of religion was measured with an item asking participants to rate their years as a Christian: less than 1 year, 1 to 5 years, 6 to 10 years, 11 to 15 years, or more than 15 years. The number of daily prayers was measured with an item asking participants to rate the number of times they prayed daily: never, less than 3 times, 3 to 5 times, or more than 5 times. Reading scripture was measured with

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Table 1. Demographic information and group difference between participants with and without mental disorder history

		Mental disorder history		χ^2/T	*P*
		No (n = 504)	Yes (n = 411)		
Gender	Male	201	164	0.000	1
	Female	303	247		
Age	18 < Age ≤ 24	88	63	1.951	0.745
	25 < Age ≤ 30	129	119		
	31< Age ≤ 40	160	133		
	41< Age ≤ 50	67	52		
	Above 51	60	44		
Occupation	Student	83	56	6.742	0.345
	Middle and senior manager and civil servant	42	48		
	Official junior	78	73		
	Professional staff	79	54		
	Labor worker	32	33		
	Liberal professional	149	113		
	No job	41	34		
Income	Below 1000 yuan	90	73	8.565	0.128
	1001 - 3000 yuan	108	74		
	3001 - 5000 yuan	106	108		
	5001 - 7000 yuan	91	57		
	7001 - 10000 yuan	48	52		
	10001 yuan	61	47		
Marital status	Single	194	169	3.377	0.185
	Married or cohabiting	289	216		
	Divorced or widowed	21	26		
Education	Middle school and below	75	51	2.526	0.471
	High school	111	106		
	University	243	197		
	Master's degree or above	75	57		
Church activity	Never	57	47	3.599	0.308
	Rare per month	93	96		
	Once per week	197	153		
	Several times per week	157	115		
Reading Bible	Never	142	141	5.582	0.119
	10 minutes	140	119		
	Dozens of minutes	169	116		
	1 hour	53	35		
Frequency of praying per day	Never	48	51	2.662	0.447
	Less than 3 times per day	262	215		
	3 - 5 times per day	138	107		
	5 times above	56	38		
Years of conversion as a Christian	Below 1 year	41	33	23.188	0.000
	1 – 5 years	98	124		
	6 – 10 years	104	91		
	11 – 15 years	73	63		
	Above 15 years	188	100		
Anxiety	No	396	187	107.109	0.000
	Yes	108	224		
Depression	No	354	138	122.407	0.000
	Yes	150	273		
Religious Coping	Positive coping	23.77 ± 4.74	23.03 + 4.47	2.383	0.017
	Negative coping	13.00 ± 3.885	15.14 ± 4.375	− 7.723	0.000

Note: The official exchange rate was approximately US$ = 6.99 yuan. COVID-19, Novel coronavirus (2019-nCoV)–infected pneumonia.

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an item asking participants to rate the number of times they read scripture daily: very few minutes, approximately 10 minutes, dozens of minutes, or more than 1 hour. Frequency of church activities before the COVID-19 pandemic was measured with an item asking participants to rate the frequency of participation in church activity: never, very few times, once per week, or several times per week.

Religious coping

The Brief-RCOPE is a 14-item self-report questionnaire that measures religious coping with major life stressors, including 2 subscales: negative religious coping methods (negative RCOPE) and positive religious coping methods (positive RCOPE).[15] The scale was administered to assess Chinese Christians' religious coping during the COVID-19. It has been proven to be a reliable and valid instrument for Chinese immigrant Christians.[30] The items are rated on a 4-point scale ranging from 1 = not at all, to 4 = a great deal. A higher score on the positive subscale indicates a higher level of positive religious coping, whereas a higher score on the negative subscale indicates a higher level of negative religious coping. The internal consistency of the Brief-RCOPE determined by Cronbach's alpha was 0.802. The Cronbach's alpha was 0.919 for the active positive subscale and 0.823 for the negative coping subscale.

Statistical analyses

The current research used the χ^2 or Fisher's exact test to investigate group differences for the categorical variables and variance analysis for the quantitative variables. Descriptive statistics were used to analyze all demographic and study variables using SPSS version 22.0 (IBM Corp., Armonk, New York USA).

Out of the participants without a history of mental disorder, a multivariate logistic regression analysis was applied to identify factors related to depression or anxiety (i.e., with symptoms/ without symptoms). Factors examined included age, gender, income, and years of conversion as a Christian, as well as occupation, education, and marital status. Other factors examined were: church activity, frequency of praying per day, reading bible, and areligious coping. Of the participants with a history of mental disorders, a multivariate logistic regression analysis to identify factors related to depression or anxiety (i.e., with symptoms/ without symptoms) was performed. Factors examined included age, gender, income, and mental disorder commodities or not, as well as years of conversion as a Christian, occupation, education, and marital status. Other factors examined were church activity, frequency of praying per day, reading bible, and religious coping. Multivariate models were developed using the forward selection (likelihood ratio) method, and *P*-values of less than 0.05 were considered statistically significant.

Results

Basic characteristics

Of the 504 participants without a history of mental disorder, 39.9% (201/ 504) were male, 38.5% (194/ 504) were single, 4.2% (21/ 504) were divorced or widowed, and 57.5% (289/ 504) were married or cohabiting with partners. Regarding education, 14.9% (75/ 504) had an education of middle school or below, 22% (111/ 504) had a high school education, 48.2% (243/ 504) had an undergraduate education, and 14.9% (75/ 504) had an educational level of master's degree or above. Other details of the information are summarized in Table 1.

Of the 411 participants with a history of mental disorder, 39.9% (164/ 411) were male, 41.1% (169/ 411) were single, and 6.3% (26/ 411) were divorced or widowed, with 52.6% (216/ 411) married or cohabiting with partners. Regarding education,12.4% (51/ 411) had an education of middle school or below, 25.8% (106/ 411) had a high school education, 47.9% (197/ 411) had an undergraduate education, and 13.9% (57/ 411) had an educational level of master's degree or above. Other details of the information are summarized in Table 1.

The prevalence of depression or anxiety

Overall, among participants without a history of mental disorders, 29.8% (150/ 504) of them had obvious symptoms of depression, and 21.4% (108/ 504) had obvious symptoms of anxiety.

Among participants with a history of mental disorders, 66.4% (273/ 411) of them had obvious symptoms of depression, and 54.5% (224/ 411) had obvious symptoms of anxiety.

Factors associated with depression or anxiety among participants without history of mental disorder

The multivariate analysis results (see Table 2) suggested that negative religious coping (odds ratio [OR] = 1.113, 95% CI 1.052 - 1.176) were associated with depression, and negative religious coping (odds ratio [OR] = 1.155, 95% CI 1.085 - 1.229) were associated with anxiety symptoms).

Factors associated with depression or anxiety among participants with history of mental disorder

The multivariate analysis results (see Table 3) suggested that comorbidity with 1 mental disorder (odds ratio [OR] = 2.121, 95% CI 1.156 - 3.895), comorbidity with 2 or more mental disorders (odds ratio [OR] = 2.591, 95% CI 1.289 - 5.208), negative religious coping (odds ratio [OR] = 1.071, 95% CI 1.013 - 1.132), and positive religious coping (odds ratio [OR] = 0.933, 95% CI 0.874 - 0.997) were associated with depression symptoms. The multivariate analysis results (see Table 3) suggested that comorbidity with 2 or more mental disorders (odds ratio [OR] = 2.537, 95% CI 1.320 - 4.878), negative religious coping (odds ratio [OR] = 1.163, 95% CI 1.099 - 1.231), and positive religious coping (odds ratio [OR] = 0.921, 95% CI 0.864 - 0.982) were associated with anxiety symptoms.

Discussion

In the current study, among the participants without a history of mental disorder, 29.8% reported they had obvious symptoms of depression, and 21.4% had obvious anxiety symptoms during the COVID-19 pandemic. While 66.4% of the participants with mental disorder history reported obvious symptoms of depression, and 54.5% have obvious symptoms of anxiety. These differences suggest that the prevalence of anxiety and depression is high among participants with history of mental disorder in Chinese Christians. The present study also identified factors related to the mental health of Chinese Christians with history of mental disorder during the COVID-19. Regarding issues of vulnerability, people with more mental illness are more vulnerable to developing depressive and anxiety symptoms in times of crisis.[31,32] Individuals with a history of mental illness may altered perceptions of personal control and perceived self-efficacy, which weakens their ability to cope with the chronic stress of the COVID-19 pandemic.

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Table 2. Logistic regression analysis of the influencing factors of depression and anxiety among participants without mental disorder history (n = 504)

		Depression			Anxiety		
Variables		*P* value	Odds ratio (OR)	95% Confidence interval (CI)	*P* value	Odds ratio (OR)	95% Confidence interval (CI)
Gender	Male	Reference			Reference		
	Female	0.607	0.888	(0.564 – 1.397)	0.689	0.902	(0.544 – 1.987)
Age	18 < Age ≤ 24	Reference			Reference		
	25 < Age ≤ 30	0.041	2.231	(1.033 – 4.818)	0.519	1.318	(0.569 – 3.055)
	31 < Age ≤ 40	0.249	1.682	(0.695 – 4.072)	0.594	0.764	(0.284 – 2.054)
	41 < Age ≤ 50	0.191	1.988	(0.710 – 5.565)	0.930	0.951	(0.305 – 2.960)
	Above 51	0.745	1.215	(0.377 – 3.919)	0.913	0.934	(0.274 – 3.189)
Income	1001 – 3000	Reference				Reference	
	Below 1000 yuan	0.804	0.911	(0.437 – 1.901)	0.694	1.172	(0.532 – 2.583)
	3001 – 5000 yuan	0.749	0.895	(0.453 – 1.767)	0.057	0.461	(0.208 – 1.022)
	5001 – 7000 yuan	0.018	0.390	(0.178 – 0.851)	0.170	0.557	(0.241 - 1.285)
	7001 – 10000 yuan	0.105	0.451	(0.172 – 1.182)	0.678	0.807	(0.293 - 2.222)
	10001 yuan	0.828	0.902	(0.354 – 2.298)	0.656	0.791	(0.293 - 2.215)
Years of conversion as a Christian	Below 1 year	Reference				Reference	
	1 – 5 years	0.392	1.520	(0.583 – 3.957)	0.953	0.969	(0.338 - 2.775)
	6 - 10 years	0.095	2.311	(0.864 - 6.184)	0.533	1.406	(0.482 - 4.100)
	11 - 15 years	0.607	1.328	(0.451 - 3.915)	0.516	1.463	(0.465 - 4.603)
	Above 15 years	0.533	1.362	(0.515 -3.600)	0.560	1.362	(0.482 - 3.850)
Church activity	Never	Reference				Reference	
	Rare per month	0.205	1.705	(0.747 - 3.890)	0.414	1.470	(0.563 - 3.711)
	Once per week	0.363	1.428	(0.663 - 3.078)	0.345	1.521	(0.637 - 3.630)
	Several times per week	0.605	1.253	(0.532 - 2.953)	0.836	1.108	(0.419 - 2.928)
Frequency of praying per day	Less than 3 times per day	Reference				Reference	
	Never	0.178	1.718	(0.781 - 3.777)	0.306	1.544	(0.672 - 3.545)
	3 - 5 times per day	0.351	1.286	(0.758 - 2.180)	0.126	1.575	(0.880 - 2.820)
	5 times above	0.393	0.677	(0.276 - 1.658)	0.875	0.926	(0.354 - 2.422)
Reading Bible	Never	Reference				Reference	
	10 minutes	0.193	1.518	(0.810 - 2.847)	0.519	0.800	(0.407 - 1.575)
	Dozens of minutes	0.684	1.148	(0.591 - 2.228)	0.257	0.656	(0.316 - 1.360)
	1 hour	0.078	0.376	(0.127 - 1.115)	0.139	0.445	(0.152 - 1.300)
Marital status	Single	Reference				Reference	
	Married or cohabiting	0.111	0.630	(0.357 - 1.111)	0.109	0.598	(0.319 - 1.122)
	Divorced or widowed	0.503	0.632	(0.165 - 2.419)	0.237	0.362	(0.067 - 1.949)
Education	Middle school and below	Reference				Reference	
	High School	0.359	1.448	(0.657 - 3.189)	0.610	1.243	(0.539 - 2.868)
	University	0.566	1.268	(0.563 - 2.854)	0.760	0.874	(0.368 - 2.078)
	Master's degree or above	0.920	1.053	(0.383 - 2.895)	0.505	1.435	(0.496 - 4.150)
Occupation	Student	Reference				Reference	
Middle and senior manager and Civil servant		0.807	1.296	(0.337 - 4.986)	0.055	3.383	(0.972 - 11.771)
	Official junior	0.756	1.164	(0.447 - 3.031)	0.260	1.861	(0.632 - 5.481)
	Professional staff	0.495	0.712	(0.269 - 1.886)	0.605	1.339	(0.443 - 4.043)
	Labor worker	0.191	0.418	(0.113 - 1.545)	0.839	1.169	(0.258 - 5.902)
	Liberal professional	0.393	0.671	(0.269 - 1.676)	0.146	2.146	(0.780 - 5.902)

(*Continued*)

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Table 2. (*Continued*)

Variables		Depression			Anxiety		
		P value	Odds ratio (OR)	95% Confidence interval (CI)	*P* value	Odds ratio (OR)	95% Confidence interval (CI)
	No job	0.582	1.342	(0.472 - 3.818)	0.146	2.379	(0.739 - 7.661)
Coping	Religious positive coping	0.940	0.998	(0.941 - 1.058)	0.616	1.018	(0.950 - 1.091)
	Religious negative coping	0.000	1.113	(1.052 - 1.176)	0.000	1.155	(1.085 - 1.229)
	Constant	0.001	0.046			0.000	0.018

Note. The official exchange rate was approximately US$ = 6.99 yuan. COVID-19, Novel coronavirus (2019-nCoV)–infected pneumonia.

Table 3. Logistic regression analysis of the influencing factors of depression and anxiety among participants with mental disorder history (n = 411)

Variables		Depression			Anxiety		
		P value	Odds ratio (OR)	95% Confidence (CI)	*P* value	Odds ratio (OR)	95% Confidence (CI)
Gender	Male	Reference			Reference		
	Female	0.378	1.260	(0.754 - 2.106)	0.462	1.206	(0.732 - 1.987)
Age	18 < Age ≤ 24	Reference			Reference		
	25 < Age ≤ 30	0.853	1.097	(0.411 - 2.927)	0.722	1.175	(0.484 - 2.854)
	31 < Age ≤ 40	0.821	0.885	(0.309 - 2.539)	0.685	1.221	(0.465 - 3.203)
	41 < Age ≤ 50	0.753	0.817	(0.232 - 2.878)	0.650	1.317	(0.401 - 4.328)
	Above 51	0.796	0.847	(0.239 - 3.002)	0.217	0.467	(0.139 - 1.564)
Income	1001 - 3000	Reference				Reference	
	Below 1000 yuan	0.097	0.472	(0.195 - 1.146)	0.059	0.429	(0.178 - 1.034)
	3001 - 5000 yuan	0.691	0.858	(0.402 - 1.830)	0.169	0.601	(0.291 - 1.242)
	5001 - 7000 yuan	0.854	0.916	(0.362 - 2.317)	0.398	0.680	(0.278 - 1.665)
	7001 - 10000 yuan	0.074	0.423	(0.165 - 1.088)	0.060	0.415	(0.166 - 1.037)
	10001 yuan	0.050	0.364	(0.133 - 1.000)	0.077	0.403	(0.147 - 1.103)
Years of conversion as a Christian	Less than 1 year	Reference				Reference	
	1 - 5 years	0.862	0.914	(0.334 - 2.507)	0.900	0.941	(0.365 - 2.426)
	6 - 10 years	0.767	0.848	(0.286 - 2.521)	0.448	0.668	(0.236 - 1.893)
	11 - 15 years	0.694	1.259	(0.399 - 3.980)	0.458	1.519	(0.504 - 4.577)
	Above 15 years	0.900	1.072	(0.363 - 3.167)	0.386	1.581	(0.562 - 4.545)
Church activity	Never	Reference				Reference	
	Rare per month	0.057	2.312	(0.975 - 5.481)	0.199	1.743	(0.747 - 4.069)
	Once per week	0.071	2.198	(0.934 - 5.174)	0.734	1.158	(0.497 - 2.697)
	Several times per week	0.401	1.492	(0.586 - 3.796)	0.780	0.875	(0.344 - 2.225)
Frequency of praying per day	Less than 3 times per day	Reference				Reference	
	Never	0.141	0.540	(0.238 - 1.226)	0.028	0.415	(0.190 - 0.908)
	3 - 5 times per day	0.306	0.735	(0.408 - 1.324)	0.882	1.045	(0.587 - 1.860)
	5 times above	0.542	1.331	(0.531 - 3.340)	0.822	1.113	(0.437 - 2.834)
Reading Bible	Reference	Reference				Reference	
	10 minutes	0.420	0.751	(0.375 - 1.504)	0.365	0.736	(0.380 - 1.427)
	Dozens of minutes	0.295	0.704	(0.334 - 1.485)	0.868	0.941	(0.458 - 1.933)
	1 hour	0.111	0.706	(0.249 - 2.001)	0.207	0.513	(0.182 - 1.446)
Marital status	Single	Reference				Reference	
	Married or cohabiting	0.271	0.695	(0.364 - 1.328)	0.627	0.860	(0.468 - 1.580)
	Divorced or widowed	0.730	1.219	(0.397 - 3.738)	0.396	1.630	(0.527 - 5.044)

(*Continued*)

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Table 3. (*Continued*)

Variables		Depression			Anxiety		
		P value	Odds ratio (OR)	95% Confidence (CI)	*P* value	Odds ratio (OR)	95% Confidence (CI)
Mental disorder	1 mental disorder	Reference			Reference		
	Comorbidities with 2 mental disorders	0.015	2.121	(1.156 - 3.895)	0.051	1.743	(0.997 - 3.049)
	Comorbidities with 3 or more mental disorders	0.008	2.591	(1.289 - 5.208)	0.005	2.537	(1.320 - 4.878)
Education	Middle school and below	Reference				Reference	
	High School	0.360	1.471	(0.644 - 3.361)	0.513	0.757	(0.329 - 1.742)
	University	0.314	1.517	(0.674 - 3.418)	0.972	1.015	(0.448 - 2.299)
	Master's degree or above	0.392	0.631	(0.220 - 1.810)	0.304	0.573	(0.198 - 1.656)
Occupation	Student	Reference				Reference	
	Middle and senior manager and Civil servant	0.706	1.296	(0.337 - 4.986)	0.592	1.428	(0.388 - 5.257)
	Official junior	0.826	1.152	(0.327 - 4.051)	0.823	1.147	(0.344 - 4.225)
	Professional staff	0.922	0.940	(0.272 - 3.251)	0.700	1.267	(0.360 - 4.226)
	Labor worker	0.422	0.562	(0.138 - 2.297)	0.603	0.691	(0.171 - 2.787)
	Liberal professional	0.613	0.740	(0.230 - 2.380)	0.665	0.777	(0.248 - 2.436)
	No job	0.238	2.262	(0.583 - 8.772)	0.178	2.358	(0.677 - 8.217)
Coping	Religious positive coping	0.039	0.933	(0.874 - 0.997)	0.012	0.921	(0.864 - 0.982)
	Religious negative coping	0.016	1.071	(1.013 - 1.132)	0.000	1.163	(1.099 - 1.231)
	Constant	0.298	2.946			0.945	1.072

Note: The official exchange rate was approximately US$ = 6.99 yuan. COVID-19, Novel coronavirus (2019-nCoV)–infected pneumonia.

As hypothesized, the present study suggests that religious coping strategies played a significant role in Chinese Christians' well-being during the COVID-19 pandemic. In line with other studies, our study found that religious believers who had more severe anxiety and depressive symptoms reported applying negative religious coping strategies to a significantly higher extent.[33] This result remained consistent among participants with or without a history of mental disorder. These findings indicate that negative religious coping styles determine the psychological well-being of Chinese Christians in the face of the COVID-19 pandemic. The findings support those of other studies that have emphasized the importance of negative religious coping strategies in increasing psychological disturbances, which may imply that the disaster was interpreted by religious believers as resulting from the punishment of God, which could lead to spiritual disturbance and may contribute to a higher risk of psychological problems.[13,14,33]

The current study found that positive religious coping is negatively correlated with depressive symptoms and anxiety symptoms of Chinese Christians who have a history of mental disorders during the COVID-19 pandemic. Previous research suggests that those who adopt positive religious coping methods reflect a secure relationship with God, and their religious belief plays a fundamental role in their view of the world.[34] Besides, these factors may help Chinese Christians obtain a sense of spiritual connectedness with God and function as an important resource when they are facing major life difficulties.[35]

In recent decades, national surveys have revealed that the total number of patients with mood disorders in China is hiking.[36] This phenomenon may be the result of drastic social changes, clash of traditional and modern culture, as well as growing income disparities.[37] More and more people are seeking comfort and support from psychological counseling and therapy, or religion, which undoubtedly provides a way out for people with psychological traumas and disorders.[19] Our study found that the experience of positive religious coping was negatively associated with mood disorders among those with a history of mental disorders. This suggests that positive religious coping may help them through difficult years in their lives and be an important coping resource.

Interestingly, church participation and bible reading were not associated with mood disorders. This reflects that religious activities may bring more of a sense of participation, community belonging, and social support. Previous research has found that these behaviors are protective factors for believer's mental health.[38–40] However, in our current study, we did not find these correlations, which may be due to the impact of the pandemic and the inability to participate in these activities, affecting the protective effect of these daily routine protective factors on individuals.

Our study reveals that, it is important to pay attention to Christians who had mental disorder histories during the COVID-19 pandemic. Providing more spiritual care, promoting positive religious coping, as well as reducing negative religious coping is crucial to their wellbeing under chronic stress. Regarding Christians with no mental disorder history, reducing their negative religious coping is important to their mental health.

Conclusion

Negative religious coping is significantly associated with anxiety and depression, while positive religious coping significantly reduces the level of depression among Chinese Christian believers among with a history of mental disorder. Adopting positive religious coping resources and reducing negative religious coping can be effective in improving the mental health of Christians under the chronic stress of the COVID-19 epidemic. Furthermore, Christians with a history of mental disorder were more susceptible

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to anxiety and depression during the pandemic; therefore, more attention needs to be given to this group. In the future, mental health services during disasters should pay more attention to religious and spiritual care.

Limitations

A limitation of the study design was that depression and anxiety, social demographic data, as well as coping strategies were measured by self-report instruments; this may have caused some bias. It is important for future studies to also use other forms of data collection, such as interviews, expert judgments, or experiments. Another limitation is that the study measured religious coping and the religious practices of individuals. The lack of measurement of participants' religious emotion in this study is a limitation of this paper. In future studies, both religious behavior and religious emotion should be taken into consideration. Other limitations include the fact that the study used a single item to measure religious behavior rather than a full assessment scale, which may affect the reliability of the study; this issue should be improved in future studies. Furthermore, the study had a cross-sectional design. Therefore, no conclusions can be drawn regarding the causality or temporal order of the variables. To resolve these cause-and-effect issues, longitudinal research is needed. Meanwhile, the current study did not involve non-religious people, therefore differences in mental health status during the pandemic could not be assessed between religious and non-religious people. The results could only imply the correlation between mental wellbeing, the time duration of being a Christian, and religious practice under the stress of COVID-19. At the same time, for those Christians with a history of mental disorders, it is not clear whether their seeking for religion is related to their own psychological problems. Future research needs to collect more data and explore further about this topic.

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