Research Article   **Open Access**

Does Believing in a Religion Relate to Individuals' Mental Health? An Initial Study among Chinese College Students

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Abstract

Although there has been an increase in China's religious population in the past few decades, less than 15% of Chinese claim to belong to a religious group. In such a context, the association between religion or religiosity and mental health may be insignificant or even negative. Data from a 5-year panel study of college students (N=5,860) were used to examine the predictors for religiosity among Chinese college students and religion's effect on their mental health outcomes. The current study found that ethnic minority students, those with siblings, and those who are non–Communist Party members have a higher proportion than other groups among religious believers. While religious believers tended to have higher self-esteem and social support than non-believers, they were more likely to feel depressed and think about suicide.

Keywords: Religion; College students; Depression; Social support; Suicidal ideation

Introduction

Religion, an institutionalized belief in a supernatural being, is not popular in China compared with many other societies around the world. The word "religion," essentially a Western concept, was first introduced to China in 1890 [1]. Although there has been an increase in the religious population of China in the past few decades following the economic reform and open door policy of the 1980s, only a relatively small percentage of the population (less than 15%) claim to be religious believers [2]. In this context, religious belief is considered deviant. The current study aims to: (1) Identify predictors of religiosity among Chinese undergraduate students and (2) Examine religion's effect on their mental health outcomes.

Since the 1980s, the economic reform and open-door policy have brought Western culture and ideologies to China. At that time, Western religions, such as Christianity, began to revive in Chinese societies. As of 2005, in China there were more than 85,000 places of worship and other sites for religious activities, about 300,000 clergy members, 74 training centers for clergy, and more than 3,000 distinct religious organizations [3]. According to official statistics, there are more than 100 million religious adherents in Mainland China [4].

Previous sociological studies indicate that older adults are disproportionately more likely to be religious believers. However, some researchers have found a recent increase in the number of young, educated believers [5]. For example, a study conducted among college students in Beijing found that 13.4% of sampled students claimed to be religious [6]. Another study conducted in Shanghai found a similar percentage of college students to be religious believers, and the authors expected that, in the future, the proportion of students who are religious would become greater than those who are not [5]. These sociological studies of religion in China have concluded that religion is on the rise among Chinese college students. Thus, it is necessary for us to better understand the characteristics of those college students who are religious, as well as the mechanisms behind this phenomenon.

Western studies have indicated that religious involvement and spirituality are positively associated with mental health [7], but conflicting findings have also been documented. For example, in a recent study on British households, researchers found that people who have a spiritual understanding of life in the absence of a religious framework are vulnerable to mental disorders [8]. This is an illustration of the different roles played by religious involvement and spirituality. The effect of religious belief and spirituality on Chinese mental health is more complicated than might be expected. Generally, religion is a protective mental health factor in Western and many Eastern nations (e.g., South Korea, Algeria, Azerbaijan, Bosnia, Ethiopia, India, Indonesia, Kyrgyzstan, Nigeria, Pakistan, Russia, Serbia and some other nations covered by the World Values Surveys) [9,10]. But, in some nations, religion is often unrelated to suicide or depression, including China and Guatemala [9,10]. Nevertheless, essentially no rigorous work adequately explains why, in some nations in the world, religion has a negative effect or no effect on mental health.

Unlike previous research in Western states, the association between religious belief and mental health are under studied in China. In the existing literature, suicide ideation and depression are considered risk factors of believing in religion in China. Brown and Tierney [4] found a strong, negative relationship between religious participation and subjective well-being in China. Moreover, they found that male participants in religious activities had lower odds of reporting life satisfaction than did female participants. Another study found that, among those who attempted suicide in China, those with high religiosity scored higher on suicide intent than the ones with a lack of religious belief [11]. Scholars have found that culture-specific risk factors play an important role in rural suicides in China, but unfortunately, these culture-specific risk factors, especially domestic and religious values, have never been adequately investigated [12]. Therefore, in addition to identifying the predictors of religiosity among

Chinese undergraduate students, this paper examines how religious beliefs may affect individuals' mental health outcomes.

Why is religion in China that is so different than it is in the West? Durkheim argues that religion is the nature of the collective consciousness, and religious beliefs and rituals maintain social existence [13]. Durkheim and his followers' "moral community hypothesis" postulates that the relationship between individual level religiosity and the mental health of religious persons depends on the relative size or strength of their religious or moral community. According to this hypothesis, in the context of a state religion (as in many Muslim nations), religious individuals have their values and beliefs reinforced all around them. However, if only a few persons are religious, their moral community is absent or weak [14]. At the extreme, those who are religious (or in a religious minority) may be discriminated against, including being made targets of terrorist attacks. In China, religious persons are a small minority, making it unlikely that the general population shares their religious beliefs and practices. For this reason, in China the religious beliefs and practices of the small minority of religious persons may be, for example, subject to ridicule and even oppression, as being religious is still considered deviant. Therefore, we hypothesized that the protective influence of religion is diminished or absent in China since the general population is atheist and, as such, less likely to reinforce the religious beliefs and practices of the religious minority.

In this study, we tested the moral community hypothesis among Chinese college students to contribute the literature by providing empirical findings in a new social context. In sum, the purpose of this study is first to identify predictors of religiosity among Chinese college students and, second, to examine religion's effect on their mental health outcomes.

Method

The sample

Five-year pooled cross-sectional data (2007–2011) were used in the analysis. A survey-based questionnaire was distributed at a key university in Beijing, China. Each year since 2007, about 1,000 undergraduate students have been randomly selected from all four class years and 116 study majors to answer survey questions, including about their life attitudes, physical and mental health, and academic performance.

The inclusion and exclusion criteria

The following criteria had to meet to be included in the data analysis. First, the study had to include data explicitly on undergraduate students. Second, students who have answered the religiosity question are selected. Third, observations with missing information in key variables were excluded due to their questionable validity.

Dependent variables

"Believing in Religion" is a dichotomous variable, measured by the question: "Do you believe in a religion?" The response "Yes" is coded to 1 (believer), and "No" is coded to 0 (atheist). About 8.6% of the total respondents were believers and 91.4% were atheists, which is similar to what has been found among other populations in China.

Independent variables

We used a full-length questionnaire with a measure of religious belief and a number of demographic variables, such as grade, ethnicity, place of residence, parents' marital status, only-child status, and political affiliation. China has 56 ethnic groups, but a majority of the population is Han. Thus, we recoded the variable as "Han" and "minorities." "Place of residence" refers to the area where a student comes from, either rural or urban. Responses to parents' marital status were collapsed into "first marriage" and "remarried/divorced/ widowed." The one-child policy was put into practice in China beginning in 1979. Only-child status could be answered either "yes" or "no." The Chinese Communist Party is the governing political organization in China, so we used "political affiliation" to distinguish whether students were members of it.

Instruments

The mental health outcome variables were all measured by standardized Western-developed, double-translated, and Chinese-validated instruments. The Self-Esteem Scale (SES) [15] is one of the more widely used measures of self-esteem around the world. SES was developed to measure global attitudes toward the self through five positively worded and five negatively worded items [16]. Scores range from 0 to 40. A higher score indicates a higher level of self-esteem.

The Center for Epidemiologic Studies Depression Scale (CES-D; [17] is a scale of depression that is popularly used in general populations. The 20-item scale taps cognitive, affective, behavioral, and somatic symptoms associated with depression [16]. We reversed the four positively worded items (4, 8, 15, and 20). Students were asked to indicate the frequency of each of the 20 symptoms using a 4-point scale: 0 = "less than a day," 1 = "1 to 2 days," 2 = "3 to 4 days," and 3 = "5 to 7 days" during the past week [18]. Total scores range from 0 to 60. A higher score indicates a higher level of depression.

The Multidimensional Scale of Perceived Social Support (MSPSS; [19] is a scale comprising 12 positively worded items, and its total score ranges from 12 to 84. A higher score means a higher level of social support.

The National Comorbidity Survey (NCS-Kessler; [20] is the scale through which all participates were asked about their general suicidal ideation with the question, "Have you ever thought about committing suicide?" Each individual was also queried about serious suicide ideation, suicide plans, and suicide attempts, items taken directly from the NCS, with one minor addition to the item suicide plan [21]. We recoded this variable as dichotomous, with any positive response to any of the seven items being coded as 1 ("have suicidal ideation") and all negative responses to the seven items being coded as 0 ("have no suicidal ideation").

Reliability and validity test

The Cronbach's coefficient alpha estimate for each psychological scale was high.

The Self-Esteem Scale score had an estimate of 0.787 (95% CI = 0.779, 0.795). The Center for Epidemiologic Studies Depression Scale score had an estimate of 0.903 (95% CI = 0.899, 0.906). The Multidimensional Scale of Perceived Social Support score had an estimate of 0.906 (95% CI = 0.903, 0.910). The National Comorbidity Survey score had an estimate of 0.876 (95% CI = 0.903, 0.832). Each result indicates good internal consistency reliability. For each scale, the

corrected item-total correlations were higher than the expected 0.30, and all the correlation coefficient values were statistically significant (p<0.001).

With exploratory factor analysis (EFA), using the varimax-rotation procedure, the construct validity of each questionnaire in current study can be tested [22]. If a questionnaire is constructing valid, all items together represent the underlying construct. Results of Bartlett's Test of Sphericity and the Kaiser-Meyer-Olkin (KMO) test for the Self-Esteem Scale ($\chi 2$ = 15646.734, p<0.001 and the KMO = 0.864), the Center for Epidemiologic Studies Depression Scale ($\chi 2$ = 42920.034, p<0.001 and the KMO = 0.940), the Multidimensional Scale of Perceived Social Support ($\chi 2$ = 36851.420, p<0.001 and the KMO = 0.916), and the National Comorbidity Survey ($\chi 2$ = 425.988, p<0.001 and the KMO = 0.772) showed that the present sample was well suited for factor analysis. Based on the output of the factor analysis with extracted factors, we can conclude that most of the items had adequate loadings on the proposed original factors [23].

Results

Descriptive presentation of the sample

The total sample size was 5,860, and it was roughly evenly distributed among the five-year period. The age range of Chinese college students is from 18 to 22, with very few exceptions. Among the sample, 2,175 are males (37.1%) and 3,685 are females (62.9%). This gender proportion is an accurate reflection of the student body of the university under study.

Table 1 illustrates the characteristic distribution of the sample with gender comparisons, including $\chi 2$ and P value and the percentage used in this study. Most of the sample was ethnic Han (87.2%); only a minority of the sample belonged to an ethnic minority (12.8%), and females made up a larger share of the minority population. More than half (60.7%) of the sample live in urban areas. Almost every participant's (92.5%) parents were in their first marriage. Regarding only-child status as a unique Chinese policy, more than half (67.7%) of the sample were the only child in their family. In addition, most of the individuals (81.8%) were non–Communist Party members, and among the non-Communist Party members, 82.3% were female. "Believing in religion" indicated whether a student believed in any religion. Only a small portion of the sample (8.6%) claimed to be believers. "Religious belief" included Catholicism (5.4%), Protestantism (18.5%), Judaism (0.4%), Islam (16.1%), Taoism (1.4%), Buddhism (51.5%) and others (6.8%). These showed us that religion is not popular in Chinese societies, as only 8.6% of Chinese college students claimed to believe in a religion, with a slightly proportional difference between the male and female. Most believers believe in Buddhism, which has two thousand years of history in China.

Variables	Total (n=5,860)	Male (n=2,175)	Female (n=3,685)	χ2	p
Years in school					
Freshmen and Sophomores	3213 (55.8%)	1202 (56.6%)	2011 (55.4%)	0.91	0.34
Juniors and Seniors	2542 (44.2%)	920 (43.4%)	1622 (44.6%)		
Ethnicity					
Han	3364 (87.2%)	1278 (88.9%)	2086 (86.2%)	5.93	0.02
Minority	495 (12.8%)	160 (11.1%)	335 (13.8%)		
Residence place					
Urban	2333 (60.7%)	795 (55.6%)	1538 (63.7%)	24.40	0.00
Rural	1511 (39.3%)	634 (44.4%)	877 (36.3%)		
Parents' Marital Status					
First Marriage	3509 (92.5%)	1295 (91.6%)	2214 (93.0%)	2.50	0.11
Remarried Divorce Widowed	286 (7.5%)	119 (8.4%)	167 (7.0%)		
Only-Child Status					
Only-Child	2608 (67.7%)	927 (64.7%)	1681 (69.5%)	9.43	0.00
Not Only-Child	1242 (32.3%)	505 (35.3%)	737 (30.5%)		
Political Affiliation					
Communist Party	1060 (18.2%)	411 (19.1%)	649 (17.7%)	1.59	0.21
Non-Communist Party	4754 (81.8%)	1745 (80.9%)	3009 (82.3%)		
Believing in Religion					
Yes	503 (8.6%)	181 (8.3%)	322 (8.7%)	0.29	0.59

No	5357 (91.4%)	1994 (91.7%)	3363 (91.3%)		
Religion Belief					
Catholicism	27 (5.4%)	8 (4.4%)	19 (5.9%)		
Protestantism	93 (18.5%)	43 (23.8%)	50 (15.5%)		
Judaism	2 (0.4%)	2 (1.1%)	0 (0.0%)		
Islamism	81 (16.1%)	21 (11.6%)	60 (18.6%)	22.28	0.00
Taoism	7 (1.4%)	6 (3.3%)	1 (0.3%)		
Buddhism	259 (51.5%)	85 (47.0%)	174 (54.0%)		
Others	34 (6.8%)	16 (8.8%)	18 (5.6%)		

Table 1: Demographic characteristics of the sample with gender comparisons.

Characteristics of believers and atheists

As Table 2 shows, gender, year in school place of residence, and parent's marital status had no significant effect on religious belief; but ethnicity, only-child status and political affiliation were significantly associated with religious belief. In other words, although religious believers were a small minority of each group, there was a somewhat higher proportion of believers among ethnic minorities than among the Han (20.2% vs. 6.9%), among students with siblings than those without (10.9% vs. 7.4%), and among non–Communist Party members than among Communist Party members (9.3% vs. 5.5%).

Variables	Believers (n=503)	Atheists (n=5,357)	χ^2/t	p
Gender				
Male	181 (36.0%)	1992 (37.2%)	0.29	0.59
Female	322 (64.0%)	3362 (62.8%)		
Year in School				
Freshmen and Sophomores	291 (58.9%)	2924 (55.3%)	2.35	0.13
Juniors and Seniors	203 (41.1%)	2361 (44.7%)		
Ethnicity				
Han	231 (69.8%)	3136 (88.8%)	7.65	0
Minority	100 (30.2%)	395 (11.2%)		
Residence Place				
Urban	207 (63.3%)	2128 (60.5%)	1.02	0.31
Rural	120 (36.7%)	1392 (39.5%)		
Parents' Marital Status				
First Marriage	292 (90.4%)	3219 (92.7%)	2.16	0.14
Remarried Divorce Widowed	31 (9.6%)	255 (7.3%)		
Only-Child Status				
Only-Child	192 (58.7%)	2418 (68.6%)	13.32	0
Not Only-Child	135 (41.3%)	1108 (31.4%)		
Political Affiliation				
Communist Party	58 (11.6%)	1002 (18.8%)	16.11	0

Non-Communist Party	442 (88.4%)	4314 (81.2%)		
Self-Esteem (SE)	3.89±0.18	3.82±0.05	2.05	0.04
Depression (CES-D)	10.81±0.48	10.40±0.14	3.03	0
Social Support (MSPSS)	12.56±0.56	11.75±0.16	2.14	0.03
Suicidal Ideation (NCS)				
Have Suicidal Ideation	109 (21.7%)	1007 (18.8%)	2.44	0.07
Have No Suicidal Ideation	394 (78.3%)	4350 (81.2%)		

Table 2: Religion distribution on selected variables in the sample.

Specifically, among believers, the proportion of females was 28% higher than the proportion of males; freshmen and sophomores included more believers (17.8% higher) than juniors and seniors; and, compared to rural areas, there were more believers in urban areas. In addition, if we regard divorce, remarriage and widowhood as an anomalous marital status, the percent of this anomalous marital status among believers was 9.6%—lower than first marriage marital status, but 2.3% higher than anomalous marital status among the atheist sample. China is a multi-ethnic country, and minorities have their own cultures. For example, members of the Hui ethnicity believe in Islam; this is a reason why ethnicity was significantly associated with religious belief (p<0.001). The P value of one-child status was smaller than 0.01, which means it had a significant effect on religious belief. A larger proportion of both believers and atheists had "only child" status; however, believers tended to have more children in their families than did atheists. Political affiliation (p<0.001) was another variable that was significantly associated with religious belief. The percent of non–Communist Party members was larger than Communist Party members in both the believer and atheist samples, and atheists were more likely to be Communist Party members than were believers. Believers had higher self-esteem (p = 0.004), depression (p<0.001), and social support (p = 0.03) than did atheists. There was also more suicidal ideation among believers (21.7%) than atheists (18.8%).

Major factors related to believing in religion

Binary logistic regression models were used to measure the relationship between religious belief and other factors, including personal (gender, ethnicity), family (place of residence, parents' marital status), social (only-child status, political affiliation), and psychological (self-esteem, depression, social support, and suicidal ideation). In the binary logistic regression model, we included ethnicity (p<0.001), place of residence (p<0.001), parents' marital status (p<0.01), only-child status (p <0.01), political affiliation (p<0.001), depression (p<0.1), and suicidal ideation (p<0.1), which significantly related to believing in religion. Ethnicity (B = -0.865), parents' marital status (B = -0.465), only-child status (B = -0.388), and political affiliation (B = -0.581) were negatively correlated with religious belief, but place of residence (B = 0.459), depression (B = 0.010), and suicidal ideation (B = 0.114) were positively correlated with religious belief. Specifically, a higher percentage of atheists among Chinese college students had following characteristics: Han ethnicity, rural residence, parents' in a first marriage, only-child status, and Communist Party membership; and a higher percentage of believers had these characteristics: minority ethnicity, urban residence, parents remarried/divorce/widowed, not an only child, and non-Communist Party member. The regression model also indicated that, compared with atheists, a slightly higher percentage of believers had depression and suicidal ideation.

Study Variables	Categorical Variables	B	Wald	Sig.	Exp(B)
(Constant)		-1.878	12.049	0.001	0.153
Gender	Male = 1	-0.051	0.256	0.613	0.950
	Female = 0				
Ethnicity	Han = 1	-0.865	41.243	0.000	0.421
	Minority = 0				
Residence place	Urban = 1	0.459	11.399	0.001	1.582
	Rural = 0				
Parents' Marital Status	First Marriage = 1	-0.465	9.822	0.002	1.592
	Remarried Divorce Widowed = 0				
Only-Child Status	Only-Child = 1	-0.388	7.915	0.005	0.678
	Not Only-Child = 0				

Political Affiliation	Communist Party = 1	-0.581	15.470	0.000	0.560
	Non- Communist Party = 0				
Self-Esteem (SE)		-0.003	0.902	0.342	0.997
Depression (CES-D)		0.010	2.868	0.090	1.010
Social Support (MSPSS)		-0.006	1.693	0.193	0.994
Suicidal Ideation (NCS)	Have Suicidal Ideation = 1	0.114	8.910	0.034	1.120
	Have No Suicidal Ideation = 0				
Note: Dependent variable: Believing in Religion (believers=1, atheists=0); Hosmor Lemeshow=10.730, df=8, sig=0.217.					

Table 3: Major factors related to believing in religion: A binary logistic regression analysis.

Discussion

In this study, we found that about 8.6% of the sampled students were religious believers, while it has previously been estimated that the proportion of religious college students in China is between 3% and 20% [24]. Thus, religion is still a rare social practice in today's China, although the percentage has risen in the past three decades [2]. Ethnic minorities in China have their own beliefs, but they also include only a small a number of believers. It is worth mentioning that although religious believers were a small minority group, they have shown some characteristics that related to demographic and social structure variables. For example, not being only child and having parents who were not in a first marriage correlated with greater likelihood of having a religious belief. The percent of non–Communist Party members was larger than Communist Party members in the believer sample. It might be because the Chinese Communist Party is the ruling organization in the country, and Party members are not supposed to be religious.

Conflicting social values originating from culture-specific considerations, diversified religions, and the influence of foreign cultures has made many Chinese college students frustrated. While students gradually gain independent consciousness and self-esteem, they are in a period of experiencing psychological distress as well. Table 2 shows that believers have higher self-esteem and social support, but their self-control is not strong enough for them to handle their lives. They hope religious ideas can help them adjust their unbalanced mentality and free them from psychological distress. As Max Weber said: "The religious believer can make himself sure of his state of grace either in that he feels himself to be the vessel of the Holy Spirit or the tool of the divine will". Religion comes from people's fear about inner restlessness, panic, depression, and constant negative emotions.

Recent studies have found that religion may serve as a psychological and social resource for coping with stress [25]. However, our empirical analysis of the data on Chinese college students finds that a larger percentage of those with religious beliefs have higher scores on depression and suicidal ideation than atheist students. It indicates that believing in a religion does not protect religious individuals in the context where religious individuals are a small minority of the population. As shown in Table 3, religious believers are more likely to be depressed and think of suicide than non-believers. On the other hand, believers tend to score higher on self-esteem and social support than non-believers. While this finding is in line with what has been documented in the West, another finding is unique to China: in China, religion/religiosity is not a factor protecting against suicide or mental disorder. Previous research has found that believing in a religion in China, an atheist country, is still considered as a deviant behavior. Those people who believe in a religion might experience psychological strains which caused by their religious beliefs that conflict with the mainstream culture in the larger society [26]. In Chinese societies, Buddhist and Taoist believe in metempsychosis, or the rebirth of the soul at death in another body, either human or animal [11]. This might account for the association between religiosity and suicide in China, but further empirical studies are needed to verify this claim.

Findings in this study support the moral community hypothesis as well as previous studies' conclusions among different samples in Chinese societies. First, we have found a similar percentage of Chinese college students who identify as religious [6,24]. Second, we found that being religious is associated with certain aspects mental health and social behavior, such as self-esteem and social support [7,27,28]. Finally, a positive relation between religious belief and depression and suicidal ideation has been found in several other studies with Chinese samples [4,11,12]. Thus, this unique finding about Chinese culture is further confirmed by this study, which supports the moral community hypothesis that religious believers in China are more likely to feel depressed than are non-believers due to the social status of religion in today's China.

Conclusion

It is important to note that this study was based on cross-sectional data gathered at one point in time, which did not permit any cause-and-effect conclusions to be drawn. In addition, there were limitations in the measurement of religion/religiosity. First, the paper employed a singular, one-item measure of religion, but there are a number of religious subgroups among Buddhists and Christians in contemporary China. Future work is needed to see whether the associations found would be replicated among these subgroups. Also, this one-item measure of religion did not distinguish religiosity from spirituality, yet they are two separate concepts [25]. For example, someone asked whether they believe in a religion would reply "no," though he or she could still be very spiritual. Second, according to Koenig, McCullough, and Larson's 2001 book on religion and health, there are at least 18 broad measures of religiosity. Often, results on the association between religion and mental health are not consistent across all measures. Thus, there is need for future work on other measures, such as religious coping (e.g., "My religion provides strength and comfort") and

religious importance (e.g., "My religion is very important/not important at all important"), and the frequency of religious practices (e.g., prayer, meditation, attendance at church). The current findings in this research may provide a stimulus for future studies on this topic.

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