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RESEARCH ARTICLE



Attitudes Toward Religion Scale: development and initial psychometric evaluation among Chinese college students

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ABSTRACT

The Attitudes Toward Religion Scale (ATRS) was developed to assess the level of interest in and position toward the five state-approved religions in China. Data were analysed across two samples of Chinese college students. With Sample 1 ($N = 278$), exploratory factor analyses were used to select the 10 ATRS items corresponding to two factors: Interest and Position. With Sample 2, confirmatory factor analyses ($N = 270$) cross-validated the two-factor oblique model as well as a bifactor model. Cronbach alphas of ATRS subscale scores in the two samples ranged from .75 to .85. ATRS-Interest and Position were both positively associated with number of close relationships with religious people. In addition, negative attitudes toward religion were associated with being religiously proselytised by strangers. Moreover, female students reported more favourable attitudes toward religion compared to their male counterparts. The overall results support ATRS as a psychometrically strong and promising measure.

KEYWORDS

attitude; religion; China; scale development

The study of psychology of religion can look very different across cultural contexts. According to a survey from the PEW Research Center, the religious population in the US has been declining over recent decades (Smith and Cooperman 2015). Meanwhile, China is trending in the opposite direction; although the majority of the Chinese population identifies as non-religious, there are increasing numbers of people converting to various world religions (Chen and Williams 2016; Lu 2014; Spickard 2014). Evaluating the attitude of Chinese people toward religion in general is an important prerequisite for further research on religion among Chinese people today.

Research measures on attitudes toward religion that fit with the Chinese cultural context are needed in order to conduct meaningful empirical research. Attitudes toward religion, which includes one's level of interest and positive–negative position, can be qualitatively different in areas like China where religious freedom is conditional (Fallman 2010; Qu 2011) compared to places such as the US, where religious freedom has existed for a long time. These complexities make the psychology of religion in China a difficult but increasingly interesting field of study. The aim of this study is to operationalise and develop an indigenous scale to measure the attitudes toward religion among the predominantly non-religious Chinese population who are in a religiously diverse context (Lu 2014).

Religious landscape and state atheism in China

Religious life in China is unique in its diversity, with five government-approved religions (i.e. Daoism, Buddhism, Protestantism, Catholicism and Islam) and numerous traditional folk religions (Yang 2012). Daoism and Buddhism both began roughly in the fourth century BCE. While Daoism is native to China, Buddhism is an import from India that appeared in China as early as the second century CE. Islam entered the country around the seventh century CE and its followers had become a significant minority group as early as the tenth century CE. Catholicism and Protestantism represent distinct affiliations in modern China although both can be traced back to Nestorian missionaries who brought Christianity into China during the seventh century CE.

In addition to China's religious landscape of diversity, there is also a recent history of state atheism (Marsh 2011). State atheism originated when the Communist Party of China took control of the government in 1949. The government mandated the anti-religious sentiments of orthodox Marxism, which culminated with an official ban on religious activity during the Cultural Revolution between 1966 and 1976. In spite of this ban, people continued practicing various religions away from the public eye (Yang 2012). After the Cultural Revolution, the comprehensive and dramatic social transition over the past decades in China made the situation more complicated. On the one hand, the conflicting values and moral crises within the rapid and comprehensive social change attracted people to pursue religious faith (Yang 2005). On the other hand, social factors such as rising living standards may have influenced people to reject institutional religions, a phenomenon noted by Norris and Inglehart (2011). Meanwhile, the state regulation of religion in the Reform Era was relaxed but not entirely lifted, as the state through various organs still exerts surveillance over people's religious lives (Fallman 2010; Qu 2011).

Based on available data, as of 2012, 6.8% of the 1.3 billion people in China were Buddhist, 2.3% were Christian, 0.5% were Muslim, and 0.9% practiced Daoism (Lu 2014). These statistics provide a sense of religious affiliations in China, with the caveat that they could be compromised due to the surveillance of religious lives. Although conditional religious freedom exists today, government officials and members of the Communist Party are not allowed to have any religious affiliation. Due to the complex religious situation in China, Yang (2006) used a triple-market model to classify religions into different types: a red market (officially permitted religions), a black market (officially banned religions), and a grey market (religions with an ambiguous legal/illegal status). Not surprisingly, the majority (89.6%) of the population do not identify as a member of any of the five states-approved religions.

Attitudes toward religion

It is important that the study of psychology of religion in China addresses the non-religious majority. Our definition of 'non-religious' is that the individual's belief systems do not adhere to the theological constructs of the five government-approved religions approved in China. Moreover, the attitudes toward religion in people's minds do not always correspond with how they officially identify religiously, and the pattern of practicing without believing is often seen among traditional Chinese beliefs (e.g. Yang 1961).

For those who believe in Western religions (e.g. Catholicism, Protestantism), the opposite phenomenon of believing without displaying through public affirmation or practice could also be the case. Thus, an important step beyond surveying religious statistics is to examine attitudes toward religion.

Historical and political influences have led different generations of Chinese people to hold different attitudes toward religion. Some have lived through the religious ban during Cultural Revolution, while others were born into an environment with conditional religious freedom. Moreover, not all people have the same kind of exposure to the diversity of religion in China. In some rural settings, an entire village may share a single religious orientation. For example, some villages in rural Yunnan were influenced by missionaries and have been Christian for several generations. Additionally, certain ethnic groups are born into a particular religious culture, such as members of the Hui group, who are born as Muslims. Due to these differences across generations and regions, the sampling of participants to study attitudes toward religion can be a challenge.

Attitudes toward religion among college students

College students are a segment of the Chinese population that has more opportunities to be exposed to various religions because they gather from various regions and settings. They are also at a critical stage in forming their identity and discerning their career path as emerging adults. Publicly practicing a religion can have a great influence on a student's future career.

The reason that religious affiliations may impact career paths is due to the state atheism of China. In China, anyone who wants to work in a government post, a particularly desirable occupation for graduates, must subscribe to the state approved system of beliefs – atheism. Holding any other religion increases the risk of discrimination, especially before one is established in his or her career. The stakes involved in practicing a religion are higher than in the US. Because the college years are such a pivotal juncture, it would make most logical sense to start the study of attitudes toward religion by developing a measure indigenously from Chinese college students.

There is little research on the attitudes toward religion of Chinese people. Most of the existing studies have been conducted with college student samples. For example, one study surveyed over 2000 college students in the Wuhan area (Xu and Chen 2012). Findings indicated that approximately 80% of these participants identified as non-religious. However, it was interesting that the researchers found 26% of these participants to hold an ambivalent (half-belief, half-doubt) attitude toward religion. Another study (Sun and Li, 2013) that surveyed college students in the Beijing area found the top three religions non-religious students were most interested in were Buddhism (32%), Protestantism (18%), and Daoism (10%). Among the student sample survey, 16% indicated being interested in various religions, 20% indicated openness to becoming a Christian under appropriate circumstances, and 25% indicated that they were not absolutely against becoming a Christian. In a study with students at Zhejiang University (Ren 2012), 55% of the students believe that having a religion can have a positive impact on their social life, whereas 36% of the students thought that religion would not have any impact on their life. When asked if they were willing to become

friends with someone who was religious, 99% of the students indicated either ‘yes’ or ‘neutral’. In a study with over 1000 Shanxi college students (Ren 2012), participant attitudes toward religion included ‘only positive’ (23%), ‘neither positive or negative’ (20%), ‘only negative’ (4%) and ‘not sure’ (52%). Similar findings were replicated in a study in Hunan (Zhao and Liu 2015). The dimensions of interest level and positive–negative positions were examined across these attitudinal studies. In sum, these studies showed that Chinese college students’ attitudes toward religion included some interest in exploring, and their overall positions were not very negative. However, there was a tone of ambivalence, which could be due to their limited exposure to and understanding of various religions.

Limited culturally-sensitive religious measures

Currently there is no satisfactory way to measure attitudes toward religion in China (Liu and Koenig 2013; Wang, Zhang and Cao 2017). The few measures of religious attitudes that do exist tend to be translations of Western scales (e.g. Tiliopoulos, Francis, and Jiang 2013) and address a single religion from a Judeo-Christian perspective instead of the construct of religiosity as a whole (e.g. Francis et al. 2013, 2007; Khan, Watson, and Habib 2005). Due to the political constraints, diverse religious landscape, and non-religious majority in China, it would make most sense to examine attitudes toward religion in this population with a focus broadly on the main world religions as opposed to a single one. Non-religious people with little education about different religions tend to view the world as a dichotomy between religious and non-religious, rather than focusing on a specific religion (e.g. Christianity, Buddhism, Islam). Therefore, if we want to learn about the attitudes of the majority of people in China, we should approach those attitudes the same way that they do, which is to look at religion as a general construct incorporating the five state-approved religions. So, we are starting our studies on attitudes toward religion with these same broad strokes, and we will build on this foundation with later studies into specific religions.

This article seeks to provide a measure of attitudes toward religion for Chinese contexts that is rooted in rigorous qualitative and quantitative research. Rather than translating items from English and importing Western notions of religion, this research project is conducted in Mandarin with Chinese populations. It draws on local understandings of religion, which are grounded in contemporary and historical sociopolitical realities.

Development of the Attitudes Toward Religion Scale

This article introduces the new ATRS that measures the general attitudes individuals have toward the five government-recognised religions. According to Myers’ (1993) definition, attitude is a kind of evaluative reaction of a person on whether he or she likes or dislikes something. Thus, we developed items to measure two dimensions – interest level (high or low) and position (positive or negative) – that reflect the attitudinal strength and direction, respectively. The psychometric properties of this scale were also examined.

To explore construct validity and develop a nomological network with interrelated constructs, we examined the association between ATRS scores and measures of

personality factors (i.e. logical vs affective; locus of control; traditionalism vs modernity, and diversity thinking), mental health (i.e. happiness, life satisfaction), and social desirability. We chose these variables because prior research has found that attitudes toward religion can be related to personality factors (Bourke, Francis, and Robbins 2007) and mental health (Francis et al. 2007). These specific variables were chosen due to how they may relate to one's attitudes toward religion. On a surface level, religions can appear lacking in logic from a strictly scientific perspective due to attributing control to a higher supernatural power. In addition, some religions (e.g. Buddhism and Daoism) are more in line with traditional Chinese values, and others (e.g. Catholicism and Protestantism) more with modern Western values; therefore, whether a person is open to diverse thinking may be associated with their attitudes toward religion. Also, a person's psychological need and state (e.g. happiness and life satisfaction) can also relate to how they perceive religion as a potential pathway to the meaning of life. Social desirability has been found to be associated with religious orientation through a meta-analysis (Trimble 1997). More specifically, individuals with religious affiliations score higher on social desirability than nonreligious people (Ellis and Smith 1991). Thus, different types of social desirability were used in this study to examine their relationships with attitudes toward religion. However, there are no theoretical models offering direct framework for specific hypotheses. Thus, the examinations are exploratory in nature.

We also compared participants' attitudes toward religion across various demographic variables (i.e. religious and political affiliation, gender). Whether a person has a religious affiliation is closely linked to one's attitudes toward religion. That is, one is likely to be a religious person because he/she is interested and has a positive attitude toward religion. Also, due to the conditional religious freedom in China where government officials and members of the Communist Party are not allowed to have any religious affiliation, it is important to examine how attitudes toward religion are associated with one's political affiliations. Gender is a common variable that has been used when studying attitudes toward religion. For example, females have been found to be more favourable toward religion than males (Miller and Stark 2002).

Method

Participants

Participants included 548 college students in Mainland China. The majority (79%) were undergraduate students. In terms of academic areas, 30% were humanities majors, 23% were science majors, 27% were engineering majors, and 20% were medical students. Of the participants, 195 were male, 348 were female, and five did not report their gender. The age range was 18- to 45-years-old ($M = 21.18$; $SD = 2.80$). The vast majority of the participants (510 [93%]) reported no religious belief, and the remaining participants included eight Buddhists, eight Christians, two Catholics, three Muslims, one follower of folk religions, three followers of other religions, and 13 who did not answer. In terms of participants' location, 32% were from Beijing, 18% were from Tianjin, 18% were from Henan, 9% were from Guangdong, and 5% were from Zhejiang, with the remaining scattered among various provinces. As for the type of hometown participants grew up in, 66% were from

urban locations, while 34% were from rural locations. The dominant ethnic group was Han (94%), and the remaining 6% were from minority ethnic groups. Communist youth was the predominant political orientation (79%); 15% of the remaining participants were members of the Chinese Communist Party, and 6% reported no political affiliation.

Item development

Items were constructed by a team consisting of two master's level Chinese psychology graduates, one Chinese psychology postdoctoral scholar, and one US psychology professor originally from Taiwan. Item construction consisted of two phases: open questions survey and expert review.

In the first phase of item construction, we utilised responses to two open question surveys collected from 141 participants to establish themes and inform the development of scale items. These two open questions were 'What do you think is the value and meaning of having a religious belief?' and 'Do you have a religious belief? What are your reasons for having or not having one?' Following Braun and Clarke's (2006) guidelines, we used thematic analysis to examine the responses to the open questions. Our analysis of open ended responses included the following steps: (1) breaking down each participant's response into a number of descriptors that captured the key elements in their statements; (2) creating categories that reflect groupings of the descriptors; (3) comparing and consolidating the categories that the four researchers generated separately; (4) utilising the content of themes and descriptors to create items on two attitudinal dimensions – interest (low-high) and position (negative–positive). A total of 93 items were created in the initial round. All four members of the team rated the appropriateness of each item. These items were also reviewed to ensure that they were clear, concise, readable, distinct, and reflective of the scale's purpose as suggested by Worthington and Whittaker (2006). Through the process of reviewing and revising the items, 23 items remained in the initial item pool after removing those that were redundant, unclear, and irrelevant.

In the second phase, three researchers in the field of psychology of religion (one with a specialty in Buddhism, one in Christianity, and one in measurement) were asked to categorise the items into domains and to determine the extent to which the pool of 23 items: (1) reflected attitudes toward religion (relevancy); and (2) were clearly and simply written (clarity). The experts were also instructed to freely edit any of the items, suggest new items, and provide any additional feedback to improve the scale. Based on the experts' feedback, we re-examined and modified items, deleted a few items, and also added some new items. The final item pool for the scale consisted of 23 items.

Materials

Attitudes Toward Religion Scale (ATRS-Initial)

The ATRS-Initial included 23 items that measure the attitudes that people have regarding religion. Each item was rated on a 6-point Likert scale. The instructions to participants were: *The following sentences describe some people's attitudes toward religion. Religion includes Protestantism, Daoism, Buddhism, Islam, Catholicism, etc. Please use 1 (strongly disagree) to 6 (strongly agree) to express your level of agreement with each sentence. There is no right or wrong answer. Please answer the following questions honestly and openly.*

Other measures used to examine validity

Multidimensional Social Desirability for Chinese Adults

The Multidimensional Social Desirability for Chinese Adults (MSD-CA) (Li et al. 2012) is a 35-item self-report measure rated on a Likert scale of 1 = *not at all true of me* to 4 = *mostly true of me*. The measure comprises two dimensions: degree of awareness (unconscious vs conscious) and content (egoistic bias vs moralistic bias); these two dimensions sub-divide into four subscales: Self-Deceptive Enhancement (SDE), Self-Deceptive Denial (SDD), Agency Management (AM) and Communion Management (CM). The unconscious subscales reflect self-deceptive biases. SDE taps into the unconscious egoistic bias, in which a sample item is 'I am always rational.' SDD taps into the unconscious moralistic bias, in which a reversed sample item is 'I always feel jealous of other people's luck.' The conscious subscales reflect impression management. AM taps into the conscious egoistic bias, in which a sample item is 'I always fulfil my promises.' CM taps into the conscious moralistic bias, in which a sample item is 'I think individuals should be accepted by society.' The split-half reliability was .84, and the test-retest reliability over a six-month period was .74 (Li et al. 2012). The Cronbach alphas for subscales were .64 for SDE, .73 for SDD, .69 for AM, and .76 for CM. The Cronbach alpha of the composite MSD-CA scores was .85 (Li et al. 2012).

The Life Satisfaction Scale

The Life Satisfaction Scale (LSS) (Lu 1998) measures both the overall level of satisfaction in life as well as the level of satisfaction in seven life domains (home life, career, health, family finances, home environment, social life and leisure). This scale includes eight items, and is rated on an 11-point Likert Scale ranging from 1 = *very unsatisfied* to 11 = *very satisfied*. Higher scores indicate higher levels of life satisfaction. The construct validity of the LSS is supported by its positive correlation with happiness (Lu 1998). The LSS scores yielded a Cronbach alpha of .86 in a community sample from Taiwan (Lu 1998).

Chinese Happiness Inventory

The Chinese Happiness Inventory (CHI) uses 10 items to measure subjective well-being or perceived level of happiness according to three dimensions – positive affect, absence of negative affect, and life satisfaction (Lu 2006). Participants choose one of four statements that are scored from 0–3 with higher scores indicating higher levels of subjective well-being or happiness. The items cover 10 domains (life, the meaning of life, feeling of accomplishment from work and school, happy memories, happiness, life satisfaction, energy, the future, joy and excitement and understanding of the meaning of life): Sample items include the following options for the 'Life' domain: 0 = *I'm just wasting time*, 1 = *I like my life*, 2 = *I like my life very much*, and 3 = *I love my life*. Cronbach alpha was calculated at .87 in a sample from Mainland China and Taiwan (Lu 2006) and .90 in a Taiwanese sample (Lu et al. 2006).

Cross-cultural (Chinese) Personality Assessment Inventory-2

The Cross-cultural (Chinese) Personality Assessment Inventory-2 (CPAI-2) (Yung et al. 2000) is a measure of 510 items consisting of 22 personality scales, 12 clinical scales, and three validity scales. For the purposes of this study the following personality subscales

were used: logical vs affective orientation; locus of control; traditionalism vs modernity, and diversity of thinking. Logical vs affective orientation (10 items) measures whether people tend to engage in logical and sophisticated thinking; a sample item is 'Before I make a decision, I will always analyse all the pros and cons.' Higher scores indicate a more logical thinking style. Locus of control (10 items) measures whether people think their lives are controlled by themselves or by external forces such as fate; a sample item is 'I believe that all things are predetermined in destiny.' Higher scores indicate more of an external locus of control. Traditionalism vs modernity (15 items) measures whether people endorse traditional Chinese values such as filial piety and chastity. Higher scores indicate more support for traditional values. Diversity of thinking (10 items) measures whether people enjoy new experiences and ideas; a sample item is 'I am interested in deep understanding of customs and habits of different places.' Higher scores indicate greater openness. Participants are given the option of choosing 'Fits' or 'Does not fit' for each item. The CPAI-2 yielded an average Cronbach alpha of .70 in a sample from Mainland China (Yung et al. 2000).

Procedure

The study was conducted as an online survey through Qualtrics. After presenting the consent information describing the study, participants were provided with access to the survey. Participants were remunerated ¥25 (RMB, Chinese Yuan) through Alipay for completing the survey, which took around 15 minutes. During Phase 1, a total of 141 participants completed an open question survey regarding their attitudes toward religion. During Phase 2, a total of 548 participants completed an online survey in the following order: CPAI-2, CHI, LSS, ATRS, MSD-CA, and finally a section for demographic information.

Results

Our Phase 2 sample was randomly divided into two subsamples to conduct factor analyses. The first sample ($N = 278$) was used for exploratory factor analysis (EFA) to select the scale items. The second sample ($N = 270$) was used for confirmatory factor analyses (CFA) to cross-validate the factor structure results from the EFA. The reliability and validity analyses were conducted with the full sample.

Item selection – exploratory factor analysis

We first conducted an EFA for item selection with sample 1 ($N = 278$). The Kaiser-Meyer-Olkin measure of sampling adequacy for the initial EFA was .93, and Bartlett's test of sphericity [$\chi^2(253) = 3206.37, p < .001$] indicated that the correlation matrix was appropriate for factor analysis. To determine the number of factors, we conducted a parallel analysis and a scree plot. The first two eigenvalues from the actual data set (i.e. 9.28, 1.99) were higher than those from the random data in the parallel analysis (i.e. 1.66, 1.54). However, the third eigenvalue from the actual data set (i.e. 1.42) was lower than the random data in the parallel analysis (i.e. 1.44). This resulted in the selection of a two-factor model that accounted for 49% of the variance. A two-factor solution was also suggested through a scree plot. Next, we conducted principal axis factor analysis on

the 23 items with a two-factor solution using an oblique (Promax) rotation, allowing for the factors to correlate with each other. The two factors yielded through EFA were generally consistent with the two categories used when developing the item pool: *Interest* in religion and *Position* on religion. Among the 23 items in the pool for the factor analysis, 10 were selected based on the following criteria: (1) one factor loading greater than .40 (Netemeyer, Bearden, and Sharma 2003); (2) cross-loading less than .25; (3) content consistency and representation across items in each factor; and (4) five items representing each factor with the goal of developing a brief measure. In other words, items that did not meet the .40/.25 criteria were first removed, and then the content of remaining items in each factor were reviewed with the goal of keeping no more than five items for each factor. Another EFA using principal factor was conducted with the 10 selected items. A two-factor solution accounted for 60% of the total variance explained before rotation. After the oblique rotation, all factor loadings exceeded .40 on the respective factor, and no item had a cross-loading of over .25 on another factor. Each of the items representing the two factors and their factor loadings, communality estimate, mean, and standard deviation are presented in Table 1.

Cross-validation – confirmatory factor analysis

After completion of an EFA, a CFA was conducted with sample 2 ($N = 270$) using Mplus 7 to cross-validate the measurement qualities of the ATRS. The CFA model constrained the 10 ATRS items (based on the EFA results) to load onto their corresponding factors. The two factors (i.e. Interest and Position) were permitted to correlate with one another. The range of absolute values for standardised factor loadings were: .58 to .81 for Interest, and .48 to .74 for Position. The fit statistics for this model were: $SBS\chi^2(34, N = 270) = 70.75, p < .001, CFI = .949, SRMR = .048, RMSEA = .063$ (90% Confidence Interval .042-.084). Based on the general guidelines (Hu and Bentler 1999), the CFI, SRMR, and RMSEA all indicated good data to model fit. In addition to the two-factor oblique model, we also conducted CFA on three

Table 1. Exploratory factor analysis – items, factor loadings, means, and standard deviations for the ATRS.

	Factors				
	1	2	h^2	Mean	S.D.
Interest					
18. I am not that interested in religion	.84	-.01	.69	4.17	1.35
7. I wish I could discuss religion with others more [r]	-.74	-.02	.56	2.66	1.18
21. I don't think that religion is very suitable for me	.71	.04	.54	4.33	1.18
3. I've never considered or planned to have religious faith	.67	.09	.53	4.27	1.50
5. I like to think about issues related to religion [r]	-.64	.01	.40	2.86	1.36
Position					
14. I think that religion is pointless [r]	-.10	.88	.67	2.68	1.21
9. I'm against having any contact with religion [r]	.11	.70	.61	3.08	1.32
4. I think that religion is beneficial to society	.00	-.61	.37	3.79	0.97
13. I like the religious believers around me	-.10	-.56	.39	3.45	1.14
11. I think that religion restricts people's thinking [r]	.14	.47	.33	3.64	1.27

Note: Final 10 ATRS items. [r] = reversed items. Highest factor loadings are in bold. $N = 278$ participants. Factor 1 = Interest (lack of); Factor 2 = Position (negative). h^2 = item communalities at extraction. Cronbach alphas were .85 for Interest and .81 for Position. Each item was rated on a 6-point Likert Scale (1 = *strongly disagree*, 6 = *strongly agree*). These ATRS items were translated from Chinese to English following the three-step procedure suggested by Brislin (1980).

competing models: two-factor orthogonal model, bifactor model, and one-factor model. Results of the fit indices for all the four models are shown in [Table 2](#).

Validity

To examine the construct validity of the ATRS, we conducted correlations between ATRS subscale scores as well as with other study variables (see [Table 3](#)). There was a strong correlation ($r = .56$) between the two ATRS subscale scores; more specifically, being interested in religion was positively associated with having a positive position on religion. There were some weak to moderate correlations between ATRS subscale scores and other personality and well-being variables. ATRS-Interest scores were positively correlated with having a logical thinking style and happiness. ATRS-Position scores were significantly correlated with three personality variables, two social desirability variables, and two psychological well-being variables. Having a positive position toward religion was associated with a more logical style, diverse thinking personality, and adherence to modern values. Moreover, positive position toward religion was associated with two social desirability dimensions (i.e. AM, CM) that were more on the conscious level. In other words, those who reported a more positive position toward religion demonstrated higher social desirability related to impression management. ATRS-Position scores were significantly and positively correlated with happiness and life satisfaction. These findings remain unchanged when we only included non-religious participants and accounted for social desirability.

Reliability

The internal consistency reliability for the ATRS subscale scores were all adequate. The ATRS-Interest scores had Cronbach alpha of .85 in Sample 1 and .81 in Sample 2. The split-half reliability for ATRS-Interest scores were .81 in Sample 1 and .83 in Sample 2. The ATRS-Position scores had Cronbach alpha of .84 in Sample 1 and .75 in Sample 2. The split-half reliability for ATRS-Position scores were .80 in Sample 1 and .74 in Sample 2.

Reference of religion

Although the ATRS is designed to measure people's attitudes toward religion in general without specifying a particular religion, in this study we incorporated an item that asked about respondents' referenced religion. More specifically, we listed the five

Table 2. Goodness-of-fit indicators for the competing models of the 10-item ATRS.

Model	MLR χ^2	df	CFI	RMSEA [CI]	SRMR	AIC
Two-factor oblique	70.75	34	.949	.063 [.042–.084]	.048	7498.60
Two-factor orthogonal	140.52	35	.853	.106 [.088–.124]	.179	7575.18
Bifactor	32.68	25	.989	.034 [.000–.063]	.034	7472.17
One-factor	185.21	35	.791	.126 [.109–.144]	.086	7630.33

Note: $N = 270$ participants. ATRS = Attitude Towards Religion Scale; CFI = comparative fit index; RMSEA = root-mean-square error of approximation; CI = confidence interval for RMSEA; SRMR = standardised root-mean-square residual; AIC = Akaike Information Criteria.

Table 3. Means, standards deviations, and correlations of study variables (N = 548).

Variables	1	2	3	4	5	6	7	8	9	10	11	12	Mean	SD
1. ATRS-Int	.84												13.84	4.99
2. ATRS-Pos	.56***	.79											19.11	4.14
3. CPAI2-DIV	.11*	.23***	.59										8.38	1.57
4. CPAI2-L_A	.17***	.09*	.33***	.54									7.39	1.91
5. CPAI2-I_E	-.03	-.04	.10*	.13**	.53								5.57	1.94
6. CPAI2-T_M	.07	-.10*	-.32***	-.04	-.09*	.57							4.01	2.36
7. CSD-SDE	-.04	-.07	.06	.28***	.18***	.07	.55						16.25	2.19
8. CSD-SDD	-.06	.01	.09*	.06	.21***	.03	.29***	.65					22.69	3.14
9. CSD-AM	.06	.12**	.14**	.17***	.08	.01	.33***	.09*	.63				23.71	2.62
10. CSD-CM	-.04	.09*	.10*	.10*	.08	.05	.37***	.23***	.65***	.69			30.80	3.28
11. CHI	.11**	.10*	.23***	.27***	.21***	.06	.29***	.24***	.17***	.21***	.84		15.02	4.72
12. LSS	.02	.17***	.17***	.12	.17***	.03	.28***	.22***	.16***	.21***	.50***	.87	59.30	13.64

Note: * $p < .05$, ** $p < .01$, *** $p < .001$. Cronbach's alpha coefficients are presented in bold across the diagonal. ATRS-Int = Interest, ATRS-Pos = Position, CPAI2-DIV = Diversity of Thinking, CPAI2-L_A = Logical vs Affective Orientation; CPAI2-I_E = Internal vs External Locus of Control; CPAI2-T_M = Traditionalism vs Modernity, CSD-SDE = Self-Deceptive Enhancement, CSD-SDD = Self-Deceptive Denial, CSD-AM = Agency Management, CSD-CM = Communion Management, CHI = Chinese Happiness Inventory, and LSS = Life Satisfaction Scale.

government recognised religions and asked the participants to indicate which religion (s) they had in mind when responding to the ATRS. It appeared that Buddhism (36%) and Protestantism (34%) were the two most salient religions for the participants when they were answering the ATRS question items. Islam followed, being referenced on average at 16%, whereas Taoism and Catholicism were both only referenced at 7% each. The extent to which participants thought of Protestantism was not related to either ATRS-Interest ($r = .01, p = .78$) and ATRS-Position ($r = -.02, p = .58$), nor did it moderate any of the relations between ATRS-Interest, ATRS-Position and personality variables.

ATRS and exposure to religious others

We also examined whether ATRS subscale scores were associated with the number of family members (i.e. father, mother, paternal grandfather, paternal grandmother, maternal grandfather, maternal grandmother) and close relationships (e.g. friends, romantic partner, other relatives) who were religious. Results indicated that both ATRS subscale scores were positive correlated with the number of religious relatives (ATRS-Interest: $r = .13, p < .001$; ATRS-Position: $r = .11, p < .01$). Similarly, both ATRS subscale scores were positively correlated with the number of close relationships with religious people (ATRS-Interest: $r = .21, p < .001$; ATRS-Position: $r = .19, p < .001$). In sum, attitudes toward religion were associated with whether people had been exposed to religion through having close relationships with religious people.

In addition, we examined the association between different channels of religious exposure (i.e. talking to friend and relatives, reading religious materials, attending religious events, and being proselytised or preached to by strangers) and ATRS scores. Results indicated that ATRS-Interest had significant positive correlations with the first three types of exposures (People: $r = .20, p < .001$; Reading: $r = .09, p < .05$; Events: $r = .18, p < .001$), but a marginally significant negative correlation with being proselytised ($r = -.08, p = .05$). ATRS-Position was positively correlated with the first three types of exposures (People: $r = .17, p < .001$; Reading: $r = .11, p < .05$; Events: $r = .09, p < .05$), but negatively correlated with being proselytised ($r = -.13, p < .01$). It appears that college students in this sample have negative reactions toward being religiously proselytised by strangers.

Comparing ATRS scores by demographic variables

Overall, the participants' score for ATRS-Interest ($M = 13.84, S.D. = 4.99$) is significantly below the midpoint (17.5), $t(547) = 17.18, p < .001$, but their score for ATRS-Position ($M = 19.11, S.D. = 4.14$) is significantly above the midpoint, $t(547) = 9.09, p < .001$. ATRS subscale scores were compared across different demographic variables including religious belief, gender, home type, political orientation, and academic major. Not surprisingly, religious participants ($M = 20.84, S.D. = 4.50$) were much more interested in religion [$t(533) = 7.56, p < .001$] than non-religious participants ($M = 13.46, S.D. = 4.78$). Religious participants ($M = 22.16, S.D. = 3.58$) also had a more positive view [$t(533) = 3.83, p < .001$] toward religion than non-religious participants ($M = 18.93, S.D. = 4.14$). There were significant differences on ATRS-

Position scores for gender and political affiliation. Female students ($M = 19.45$, $S.D. = 3.83$) reported more positive attitudes toward religion [$F(2,541) = 7.39$, $p = .007$] compared to their male counterparts ($M = 18.45$, $S.D. = 4.63$). However, there were no gender difference on the interest level toward religion [$F(1,541) = 0.14$, $p = .71$]. Students who were part of the Communist party ($M = 17.94$, $S.D. = 4.13$) reported less positive attitudes toward religion [$F(2,540) = 5.37$, $p = .005$] compared to those who identified as Communist youth ($M = 19.39$, $S.D. = 3.95$). However, there were no differences across political affiliations on the interest level toward religion [$F(2,540) = 0.35$, $p = .70$]. There were no significant differences on either ATRS-Interest or ATRS-Position scores for home type or academic major. These findings remain unchanged when we included only non-religious participants and accounted for social desirability.

Discussion

Psychometric properties

The aim of this study was to develop a relevant scale to measure attitudes toward religion among a Chinese population that is predominantly non-religious. The psychometric properties of the 10-item ATRS were evaluated in two samples of college students in Mainland China. Results indicated that the ATRS is a promising measure with strong psychometrics properties. The internal consistency reliability coefficients for the ATRS subscale scores were all adequate ranging from .75 to .85, which are above the .70 suggested criterion (Nunnally 1978) for consistency and below the .90 criterion (DeVellis 2012) for redundancy. The EFA and CFA both demonstrated a factor structure with strong loadings of the 10 items loading onto two attitudinal factors – Interest and Position. A CFA comparison with competing models indicated that the two-factor oblique model and the bifactor model were both appropriate. The two subscales had a strong correlation, yet not too high so that they could each be viewed measuring unique and separate aspects of attitudes toward religion. Thus, both the subscale and total scores of the ATRS can be used.

ATRS interest level and attitudinal position

Participants in the study seemed to be disinterested in religion ($M = 2.6$ on a 1–6 point scale). This is consistent with studies find that in US and Western samples, college students are the least religious group and that people's interest in religion grows as they age (Putnam, Campbell, and Garrett 2012). However, despite their lack of interest in religion, our college student sample still showed a relatively positive view toward religion ($M = 3.8$ on a 1–6 point scale in which 3.5 indicated neutral). These findings might be explained by the practical, as opposed to transcendent or salvific, motivations of traditional Chinese religious practices. According to sociologist Xiaotong Fei (1947), traditional rural, agrarian Chinese society involved unpredictable changes in weather patterns, natural disasters, and epidemics. In response to these risks to their welfare and livelihood, people sought out gods and spirits to help them with these issues related to their daily needs. These practical motives for religious practice can be seen in Chinese

proverbs such as ‘Bless if you worship, but you won’t be blamed for not worshipping’ and ‘Never burn incense when all is well, but clasp Buddha’s feet when in distress.’ Thus, the Chinese people may have respect for religion while remaining disinterested due to practical utilitarian considerations.

Factors associated with ATRS

While Western scholars have found attitudes toward religion to be related to conservative values (Putnam, Campbell, and Garrett 2012), results from our Chinese college sample indicated that those who had a more positive attitude toward religion were somewhat more likely to be logical, open to diversity, and opposed to traditional values. One possible explanation is that because the Chinese government propagates atheism, a positive view of religion might require participants to challenge social norms and mainstream ideology.

It has been well documented that religious beliefs are linked with greater happiness and life satisfaction in American samples (e.g. Putnam, Campbell, and Garrett 2012). These findings were replicated in our sample, as students with a happy and satisfied life were more likely to be interested in religion and have a positive opinion toward it. However, since most of our participants were non-religious, these results do not indicate whether or not happy and satisfied people are more likely to seek out or even convert to a religion.

Attitudes toward religion was also found to be associated with an individual’s type of exposure to religion (Lewis and Maltby 2000). College students who had parental figures, friends, or significant others who were religious demonstrated stronger interest and more positive attitudes toward religion while those who experienced being proselytised by a stranger were more likely to have a negative impression of religion.

Demographic comparisons of gender and political affiliation

A comparison of several demographic dimensions revealed that, overall, female college students held more positive attitudes toward religion than male students. Though this is consistent with findings from Western studies (Miller and Stark 2002), a recent Chinese nationwide religion survey indicated that the attitudes toward religion of women varied by their social status (Jin and Qiu 2010).

The association between political affiliation and attitudes toward religion in this study was in line with findings from previous studies (e.g. Chen 2004; Wang, Chen, and Li 2014). In general, students who were part of the Communist party have less positive attitudes toward religion than those who identified as Communist youth. Further, the results indicate that students’ education in Communism, family environment, and personal interest play an important role on their positional attitudes toward religion (Kang and Cao 2015).

Implications

The development of the ATRS offers a tool to systematically assess for attitudes toward religion in China, where the majority of the population identifies as non-religious. This scale could be used to provide a more nuanced understanding of various sociocultural, political, and psychological factors associated with the Chinese religiosity. This is

particularly important given that religious affiliation among Chinese people has been increasing over the years (Chen and Williams 2016; Spickard 2014). Moreover, from a clinical perspective, a better understanding of people's attitudes toward religion can be helpful in determining the most appropriate interventions to help people cope with challenges such as terminal illness, and other major life transitions as well as spiritual and other types of existential crises.

Limitations

Although this study has potential to make a contribution to the field of psychology of religion research in China, there are a few limitations to note. First, this measure focuses on religion in general as opposed to a specific religion. In designing the scale for general non-religious individuals, we did not want to limit the measure to a specific religion. To address this issue, we asked about and accounted for the religion(s) that respondents had in mind. Second, we listed the five religions in a fixed order in the instructions for the ATRS, with Protestantism being first. This could potentially have a priming effect on which religion participants had in mind; thus, we also examined results controlling for the effects of that potential priming. Third, the results of this study are based on college student samples; therefore, generalisation of the findings to other populations is limited.

Future studies

The development of the ATRS provides opportunities for future research in this area. Some future directions include examination of other factors that may predict one's attitude toward religion. Large-scale surveys with different Chinese populations across age groups and occupations may provide a better sense of the attitudes toward religion of varying groups. It would also be interesting to see if there are any trends or generational differences in attitudes toward religions. To extend the research to other populations, it would be important to examine the psychometric properties of the ATRS across different populations beyond Chinese college students, such as older populations, adults in general, and terminal patients. It would also be interesting to examine the different types of interest-position combinations (e.g. high-interest/positive-position, low-interest/positive-position) and to gain a better understanding of underlying factors associated with the types. Longitudinal or experimental studies could also be utilised to examine whether attitudes toward religion change over time due to certain factors. In addition, although this study starts by examining a general attitude toward religion, future studies can investigate nuanced differences in attitudes toward specific religions. Lastly, a mixed methods approach could utilise qualitative interviews to gain better insights into why people hold certain attitudes toward religion.

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