

# Toward the Scientific Study of Polytheism: Beyond Forced-Choice Measures of Religious Belief

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*This article argues that zero-sum, forced-choice approaches to measuring religious belief do not work well outside of the Abrahamic world. Positive-sum approaches to measuring religious beliefs (in the plural) are better suited to the study of polytheistic societies. Using results from a nationally representative survey conducted in 2011 Taiwan, we demonstrate that in a polytheistic society like Taiwan, religious belief is not zero sum. We also contrast our results with those of the Taiwan Social Change Survey (TSCS), and seek to show that our positive-sum approach to measuring religious beliefs can help us better understand the disparate causes and consequences of different religious beliefs in polytheistic societies. The challenge of Christocentrism in quantitative studies of religion is also discussed.*

**Keywords:** *polytheism, religious belief survey research, measurement, Taiwan, Buddhism, Taoism, ancestor worship, folk religion.*

## INTRODUCTION

About half of the world's population believes in an Abrahamic religion—Christianity, Judaism, or Islam. They generally view themselves as monotheistic, believing in just one God. The other half of the world's population does not view themselves as monotheistic. Many of them are polytheistic, simultaneously believing in multiple gods, often from distinct religious traditions. Most polytheists reside in the non-Western world.

The scientific study of religion, however, focuses overwhelmingly on monotheistic religions in general, and Christianity in particular. Less attention is paid to polytheism and the non-West. Smilde and May (2010:14) reported that between 1978 and 2007, over half of all substantive articles published in sociology of religion journals were about Christianity. And in a more focused review of articles published in the *Sociology of Religion* and the *Journal for the Scientific Study of Religion* between 2001 and 2008, Poulson and Campbell (2010:38) found that 82 percent dealt with Christianity. As Cadge, Levitt, and Smilde (2011:441) recently lamented, there is an urgent need for the field to move “beyond Christocentrism.”

*Note:* Upon publication, the survey data presented in this article will be made publicly and freely available at [dataverse.com](http://dataverse.com) for transparency and replication purposes.

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This article argues that there is a major methodological challenge for those who wish to take up the call to move beyond Christocentrism in quantitative studies of religion in polytheistic societies. Following Smith's (2010:585) critique of "mindless bean count[ing]" in quantitative scholarship, we call our problem "mindless measurement" in survey design. Zhai and Woodberry (2011) have recently noted that most academic surveys collected outside of the West have few questions about religion other than a single religious belief item. They are right. And even this one question is generally flawed. Following survey practices in the West, these non-Western surveys generally force respondents to choose a single religious belief from a list of religions, an approach that can do violence to the realities of religious life in polytheistic societies. While this single-choice approach may work fairly well in the largely monotheistic West, where belief largely equates with belonging/affiliation with one particular religion and place of worship, it is much less likely to work well in the more polytheistic non-West. If one simultaneously believes in more than one God or set of religious practices, how does one respond when forced to choose one over the other? And what meaning can scholars of religion ascribe to the results from such survey questions?

We are far from the first scholars to raise questions about conceptual stretching in studies of non-Western religions (see, e.g., Fitzgerald 2000; Traphagan 2005). And we will not join in the interrogation of the meanings of monotheism and polytheism (e.g., Weber [1920] 1993).

Our goal is instead more modest: to suggest one methodological solution for survey researchers studying the non-West. If religious belief is to be the primary religion measure in scientific surveys conducted outside of the Abrahamic world, it should cease being a forced-choice question. Instead, respondents should be separately asked the degree to which they believe in or practice each of the most common religions in the area. By allowing beliefs in different religions to vary independently, rather than treating them as zero sum, scholars should be able to develop a more nuanced understanding of the nature of religion in polytheistic societies.

We make our argument using the case study of Taiwan, beginning with a brief overview of polytheism there, followed by a review of how survey researchers in Taiwan have sought to measure religious belief. We choose Taiwan for several reasons: (1) its religious life includes mostly polytheistic but also monotheistic religions, (2) the Taiwan Social Change Survey (TSCS), conducted by Academia Sinica since 1985, is the largest general social survey series in the world and is very professionally done, making it a "most difficult case" to make our argument, and (3) because we believe that the TSCS suffers from the "mindless measurement" problem we describe, repeatedly using the classic Western forced-choice zero-sum approach to measuring religious belief. This methodological approach, furthermore, has led the TSCS to suggest a decline in Taiwanese belief in Buddhism over the past several decades, an empirical result we find problematic.

We then introduce the results of our own nationally representative survey of Taiwanese, conducted in the fall of 2011, that uses a positive-sum approach of separate measures for each of the major Taiwanese religious traditions. Our new data allow us to demonstrate that in a polytheistic society like Taiwan, religious belief is not zero sum like it may be in the Abrahamic world. We also seek to show that our positive-sum approach to measuring religious beliefs can help us better understand the disparate causes and consequences of different religious beliefs in polytheistic societies.

### POLYTHEISM IN TAIWAN

At Taipei's Mengjia Longshan Temple (艋舺龍山寺), Taiwanese worship many gods under one roof. There are six gods in the Main Hall (see Figure 1), and 18 more in the Rear Hall. As in most temples in Taiwan, the 24 gods are an assortment of Buddhist, Taoist, and folk deities

Figure 1  
Mengjia Longshan Temple in Taipei, 2011



Photo courtesy of Bernard Gagnon and Wikimedia Commons.

like Matsu (媽祖), the goddess of the sea. Most worshippers will light incense and propitiate gods of different religious traditions during a single visit. The temple is *not* a shared space for separate religious services or practices.<sup>1</sup> Few worshippers restrict their grace seeking to the gods of a single religious tradition, as those differences are often irrelevant to them. Most Taiwanese are polytheistic.

Taiwan has a long and rich history of coexisting religions. Ninety-eight percent of Taiwanese are Han. Like their Chinese neighbors, therefore, most Taiwanese practice a mixture of traditional Chinese religions: Buddhism, Taoism, folk religion, and ancestor worship. Although numerous aspects of Confucianism are found in daily life, Confucianism is omitted from this list because there is little organized veneration of Confucius. Annual rites are carried out on his “birthday,” but only by a small elite of Confucian scholars and devotees; there is no equivalent ceremony at the popular level. Ancestor worship is sometimes mistakenly attributed to Confucius, but Chinese were sacrificing to and venerating their ancestors long before Confucius was born. With its this-worldly emphasis, Confucianism is thus better understood as a humanist philosophy, not as a religion (Chan 1963:14–18).

*Hanchuan* (漢傳), the Chinese variety of Buddhism, could strictly be said to be nontheistic, as the Buddha did not claim to be supernatural. But in practice there are a variety of different Buddhas and other supernatural beings as well as relics, holy water, and other practices involving supernatural forces. Most Buddhists in Taiwan are converts from folk religion, and some will occasionally make pilgrimages to famous folk temples, participate in or commission a ritual

<sup>1</sup> It thus differs fundamentally from the phenomena of the sharing of shrines recently debated in anthropology (e.g., Albera 2008; Hayden 2002).

conducted by a Daoist priest, or occasionally make sacrifices to folk deities. Clerics, while not approving, tolerate such behavior.

Buddhism was mostly blended with folk religion until Buddha's Light (*Foguang Shan* 佛光山) was established in 1967. In the 1980s, several other groups came to prominence: Tzu-chi (Compassionate Relief Foundation 慈濟功德會), Dharma Drum Mountain (法鼓山), and Chung-tai Shan (中台山). All have very impressive headquarters scattered around Taiwan that attract both worshippers and visitors. Over the past three decades, a number of Buddhist groups have also emerged that practice reasonably "pure" forms of Buddhism. Folk religion/Taoism, by contrast, consists of a *mélange* of deities including personages from Buddhism, divination, communication with spirits, various rituals performed by Daoist priests, and "ancestor worship," with practitioners attempting to manipulate supernatural forces to their advantage.

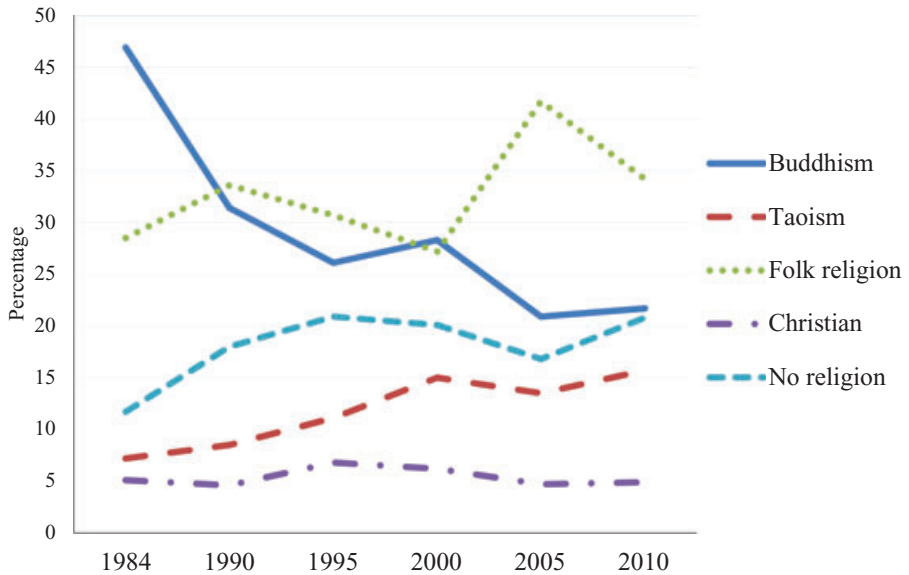
The core of folk religion is propitiation of the dead. This includes sacrifice to the ancestors, selecting auspicious burial sites (which is the main thrust of *fengshui* 風水), warding off "ghosts" (*gui* 鬼) or malevolent spirits, and worshipping a pantheon of gods. Ahern (1981) argues that this pantheon was a mirror image of China's premodern political structure, with a supernatural being at each level, from the Jade Emperor (*Yu Huang* 玉皇) down to the local earth god, the village "sheriff," and the kitchen god, whose jurisdiction was the individual household. There were gods at every functional level and for a wide variety of human activities, sources of threat, and occupations.

Moreover, new gods are constantly created. Gods, ghosts, and ancestors are simply different manifestations of each other. Unless lacking offspring, when a person dies s/he becomes an ancestor. In any case, the deceased's spirit needs to be supplied with goods from the world of the living, which is done by burning spirit money and presenting offerings. If the spirit receives these sacrifices, s/he is appeased. If not, the spirit becomes a hungry ghost, whose ability to wreak vengeance surpasses the good an ancestor can render. Occasionally, someone will find an untended burial site, clean it up, and burn some incense and perhaps paper money for the spirit. If, following this, good things happen to the person, s/he may interpret it as the spirit being *ling* (靈) or efficacious, able to bestow supernatural help. As news of this good fortune spreads, the spirit's reputation grows, and it is elevated to a *youying gong* (有應公), a god who answers requests. It may remain a local deity, exclusive to a single village, or it may spread more widely. It all depends on the *quid pro quo* principle. If sacrificed to as an ancestor, the good that the spirit does will flow privately, to the descendants. Should the descendants neglect the ancestor, however, the spirit becomes a public being, assisting anyone who makes sacrifices to it (Baity 1975; Wolf 1974; see also Potter 1970).

A visit to a folk temple will find a variety of gods on display. The main deity, to whom the temple is dedicated, will occupy the center of the main altar, but may be surrounded by other deities. Still other gods will be represented at other altars, and there may be murals or statues of still others at various temples. Among the deities found in folk temples are those from Taoism, e.g., the Eight Immortals, and Guanyin (觀音), the major deity in Taiwanese Buddhism aside from the Buddha himself (BBC 1977).

By contrast, Taiwanese Christians should be monotheistic. Christianity came into Taiwan in the early 19th century. The various Christian denominations practice relatively unadulterated forms and stand as discrete systems. Catholics worked mainly with aborigines on the east coast, and Presbyterians with both Han and aborigines in the northwest and southwest. In the early 20th century, two other denominations entered Taiwan, the Holiness Church from Japan, and an indigenous Chinese group, the Assembly Hall Church (aka the local church). A number of other denominations came with the retreat of Chiang Kai-shek's forces to Taiwan in the late 1940s. Christians grew in numbers in the 1950s (Kuo 2008:35–54) and 1960s, but in the past three decades church memberships have dropped. About 5 percent of Taiwan's population today self-identifies as Christian (Zhang and Fu 2006:117). Among Christians, Catholics and Presbyterians are the most prominent and active in philanthropy.

Figure 2  
Religious belief in Taiwan over time



Source: Taiwan Social Change Surveys.

Question prompt: "Which religion do you currently believe in?"

#### MEASURING RELIGIOUS BELIEF IN TAIWAN: A QUARTER-CENTURY OF SURVEY RESEARCH

The 1984 first wave of the TSCS included the single-choice question: "What religion do you currently believe in?" (您目前信什麼教?) It, or slight variants of it (e.g., 請問您目前信仰的宗教是?), has been asked in the TSCS ever since. Figure 2 displays the percentage of people choosing each of the major response categories in the 26 years since then. Perhaps the most striking thing about the figure is the substantial decline in belief in Buddhism, from 47 percent in 1984 to less than half of that, 22 percent, in 2010. Meanwhile, those choosing belief in folk religions and Taoism have increased.

Do these TSCS survey results reflect real changes in Taiwanese religious practices over the past quarter-century? We are skeptical. Given secularization and recent scandals in the Taiwanese Buddhist community, some decrease in belief in Buddhism is possible. However, we see it as more likely that what has changed is not so much religious belief but a redefining of religious categories, so that when forced to choose a single "belief" (信仰), respondents more readily distinguish themselves from increasingly institutionalized Buddhist groups who have recently received significant media scrutiny.

In the popular mind, Buddhism, Taoism, folk religion, and ancestor worship were all parts of a single whole until the formal Buddhist groups became prominent. As mentioned above, along with folk deities, Guanyin (a major Buddhist deity) was a popular object of worship in folk temples as were various Daoist deities. Homes had altars with gods on one side, ancestors on the other, and the evening meal was set out on a table in front of the altar where the spiritual essence of the food was offered to both before the family ate its physical essence. This whole could be labeled folk religion, ancestor worship, Taoism, or Buddhism; for all but small minorities of purist practitioners, such religious boundaries were indistinct and imprecise. So, before the separate presence of formal Buddhist groups was felt, when people were asked which religion they believed in, they tended to answer "Buddhism."



It is, of course, possible that there has been a decline in followers of Buddhism. Secularization is a possibility, but it is unlikely that the resulting *decline* in belief in Buddhism would necessarily be accompanied by an *increase* in belief in folk religion or Taoism. There were also Buddhist scandals: the abbot of the Vulture Peak group was accused of improper behavior with a woman; the abbot of Buddha's Light endorsed a fervent Buddhist candidate for the presidency in 1996; and the abbot of Chung-tai spoke out strongly against Democratic Progressive Party (DPP) political candidates in the 2000 and 2004 elections (Chiu 2004).

The effects of these scandals varied from group to group. Interviews of Vulture Peak members and other Taiwanese found that the scandal was seen as generated by a disgruntled former member and had no noticeable effect on the group's popularity. After the endorsed candidate did very poorly in the 1996 election, Buddha's Light briefly closed its monastery, a very popular pilgrimage site and tourist attraction, though it later reopened, and there were no serious repercussions for the abbot (Laliberté 2004). The effects of the Chung-tai abbot's actions were perhaps more serious, as there was also controversy over the way Chung-tai procured the land upon which its headquarters monastery was built as well as the cost of the monastery itself, some \$700 million (U.S). Precise information on the effects these incidents had on membership is lacking, however, because the only sources of membership figures are through surveys and from the groups themselves; the former take place only every few years, and the latter are designed to flatter and are not finely tuned enough to allow one to make an unbiased judgment.

As the precipitous drop in belief in Buddhism suggested by the TSCS took place when membership in formal Buddhist groups was rapidly increasing (Schak 2007), there is a more plausible explanation. This change in self-identification is not a function of disaffection with Buddhism in general but of redefinition. Even though Guanyin continues to be worshipped in folk temples and folk practitioners may occasionally attend a Buddhist ritual or ceremony, people now know that Buddhism is not the same as folk religion. So members of formal Buddhist groups now identify themselves as Buddhists while those practicing folk religion identify themselves as such or as Taoists. In short, if belief in Buddhism had been measured independently of belief in other religions, we doubt there would be evidence of such a decline in belief in Buddhism.

#### METHODS AND MEASURES

Marie Cornwall (2011:ii) has noted that while readily available large-scale surveys like the TSCS can help us better understand non-Western religions, they can also "constrain . . . conceptual innovation." We therefore designed and implemented our own survey to put our idea to the test.

From November 17 through November 28, 2011, 556 Taiwanese respondents took an online Chinese-language Internet survey hosted by the Palo Alto, California, based survey company YouGov. Utilizing 2009 ROC Ministry of Interior (MOI) statistics, the sample was first matched to the full Taiwanese population on the basis of age, gender, region, and education level, leaving a sample size of 500. The sample was then weighted on the basis of age, gender (49.78 percent male), education, and ethnicity (75 percent *Minnanren*, 12 percent *Kejiaren*, 11 percent *Waishengren*, and 2 percent Aborigine).<sup>2</sup> To our knowledge, our survey is the first to use "sample matching" Internet survey sampling methodology for social science research in Taiwan.<sup>3</sup>

We chose to conduct our survey on the Internet for three primary reasons, all having to do with measurement. First, completing a survey in the privacy of one's home on a personal computer

<sup>2</sup> The general population figures for ethnicity came from the Taiwan Social Change Survey (TSCS), as the MOI does not measure ethnicity.

<sup>3</sup> For more on sample matching, see Rivers (2011). Also, Eric Yu at National Chengchi University has been developing a similar methodology to conduct election surveys on the Internet.

Table 1: Descriptive statistics (means, standard deviations, and zero-order correlations)

	Mean	SD	1	2	3	4	5	6
Christianity	44.87	25.69	–	.045	.100*	.132*	–.011	.186**
Folk religion	51.49	26.52		–	.664**	.616**	.555**	.077
Taoism	54.86	26.41			–	.587**	.531**	.145**
Buddhism	63.30	25.49				–	.677**	.197**
Ancestor worship	70.85	25.51					–	.088*
Religious practice	42.27	29.92						–

$N = 500$ ; \*\*  $p < .01$ ; \*  $p < .05$ .

reduces response biases common to telephone and face-to-face interviews. For instance, the telephone polls that track voting behavior in Taiwan appear to suffer from systematic response biases. All the major Taiwan pollsters are partisan, so it is likely that they encounter higher refusal rates from respondents of the other political camp, perhaps explaining why “green” camp (i.e., DPP) polls tend to paint a rosy picture of support for their candidates, while “blue” camp (i.e., the Kuomintang and People’s First Party) polls tend to favor blue candidates.

Second, self-presentation effects, whereby respondents adjust their responses depending upon how they wish to be seen by others (and themselves), are also likely greater in face-to-face and telephone interviews than in Internet surveys. For example, in the 2010 Taiwan Election and Democratization Study (TEDS) conducted in Taipei, when interviewed in person by a woman, Taiwanese men reported greater coolness toward Chen Shuibian, a corrupt and recently jailed politician, than when interviewed by a man.<sup>4</sup> Perhaps they wished to convey an image of uprightness more before women than before men. Presumably, such self-presentation effects are reduced when answering survey questions alone in front of a computer.

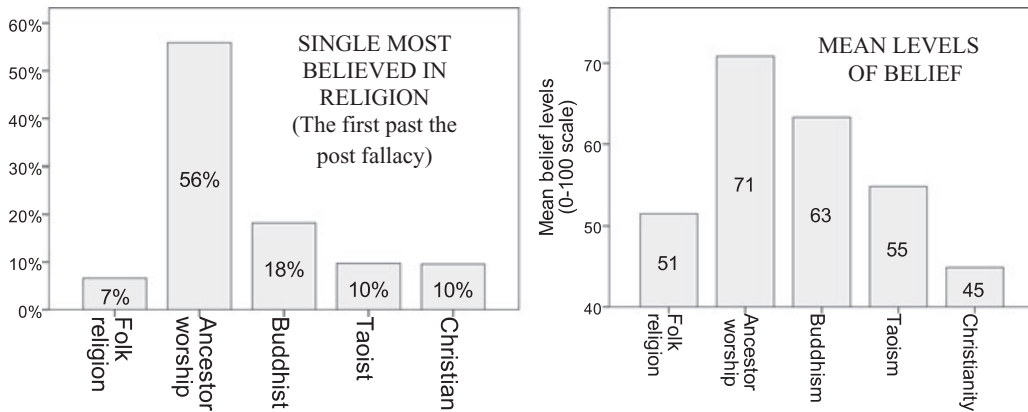
Third, the computer interface allows for easier use of Likert-type rating scales. Most of our survey questions were on seven-point agree-disagree scales, 11-point cool-to-warm feeling thermometers, and even 101-point “placement rulers,” whereby respondents placed items on anchored unnumbered rulers. Such Likert scales are much more time consuming and difficult to use over the telephone or even in person than on the Internet. That is one reason why telephone surveys so often use “yes/no” or “agree/disagree” questions, producing binary variables of limited use for correlational research. By using the Internet and boosting the variability of our variables, we are able to reduce measurement error and increase the likelihood that the true associations among our variables can become apparent.

To measure the degree of their belief in each of five major Taiwanese religious traditions, we asked participants to drag and drop each onto a single “highly skeptical” (強烈懷疑) to “resolutely believe” (堅定信仰) 0–100 placement ruler on the basis of the degree of their belief or disbelief in that religion (您信仰下列宗教嗎? 請依據您信仰它們的程度, 將這些宗教拖曳到量尺上). Placement rulers have a number of advantages over standard rating grids. First and foremost, they encourage participants to think about the extent of their belief in each religious tradition in direct relationship to each other, promoting greater dispersion, and, hopefully, much less straight-lining of responses. Second, they allow for substantial variation (101 points) without forcing the respondents to cognitively think through an actual number on a scale. And finally, the “drag-and-drop” method is more enjoyable than clicking on a rating grid, so should be more engaging and thus improve data quality.

We also included a single-item measure of the frequency of religious practice, asking: “How often do you participate in religious activities (such as prayer, meditation, or worship)?” (請問

<sup>4</sup>  $F(1,526) = 4.006$ ,  $p = .046$ ,  $\eta_p^2 = .01$ . Data available from TEDS at [www.tedsnet.org](http://www.tedsnet.org).

Figure 3  
Zero-and positive-sum approaches to measuring religious beliefs



Note: The first figure does not include 20.5 percent who did not choose a single most-believed-in religion. In other words, two or more religions received an equally high score for degree of religious belief.

您多常參加宗教活動[例如: 拜拜、禪修、做禮拜] ? Participants indicated a location on a 101-point “very rarely” (非常少) to “very frequently” (非常頻繁) placement ruler.

#### RESULTS: WHEN RELIGIOUS BELIEFS ARE POSITIVE SUM

Table 1 displays the means, standard deviations, and zero-order correlations among our six key variables. The five religions are arranged in ascending order of mean religious belief, from a low of 45 for Christianity, to a high of 71 for ancestor worship, with folk religion, Taoism, and Buddhism in ascending order in between.

This is a very different sequence from that found in the 2010 TSCS. As displayed in Figure 1, their single forced-choice measure ranked folk religion considerably *above* both Buddhism and Taoism. By contrast, our positive-sum approach results in folk religion ranking as the *least* believed in of the three. The surveys were not identical, taken a year apart (2010 vs. 2011), using different formats (face-to-face interviews vs. computer), and using slightly different response categories (we included ancestor worship; they did not). But we believe that the primary reason for this difference is that they used a zero-sum forced-choice approach to measuring religious belief, while we used a positive-sum approach that allowed belief in the different religious traditions to vary independently.

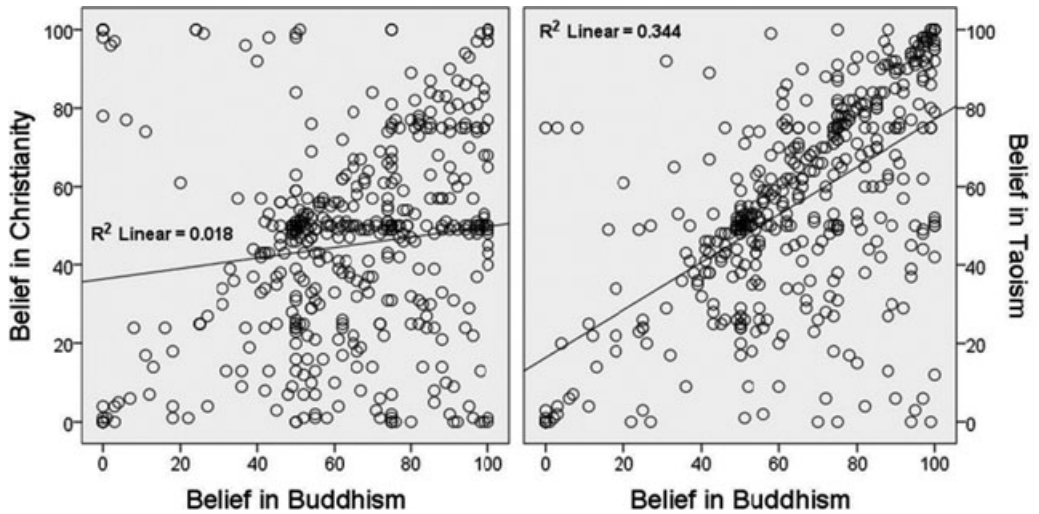
Figure 3 explores this argument. Both charts use the same data from our religious beliefs placement ruler. The bar chart on the left takes a zero-sum approach, coding a respondent into one of our five religious categories if and only if he or she placed that one religion higher (farther right, closer to the “resolutely believe” anchor) on the ruler than any other religion. Using this “first past the post” approach, 56 percent of Taiwanese believe in ancestor worship, while just 7 percent believe in folk religion. This huge gap of 49 percent is hard to square with both the TSCS data, which suggest that close to 35 percent of Taiwanese most believe in folk religion, and with the very strong and positive zero-order correlation of  $r = .56$  between ancestor worship and folk religion in our data, displayed in Table 1.

The bar chart on the right takes a positive-sum approach to the same data, visually displaying the mean belief levels for each religion from Table 1. It suggests that while ancestor worship enjoys the highest levels of belief, as perhaps the least “religious” practice, it is much less dominant than the zero-sum approach suggests. Indeed, Table 1 reveals that our four polytheistic



Figure 4

The coexistence of monotheistic and polytheistic beliefs



Taiwanese religions intercorrelated extremely highly, ranging from a low of  $r = .53$  between ancestor worship and Taoism, and a high of  $r = .68$  between ancestor worship and Buddhism.

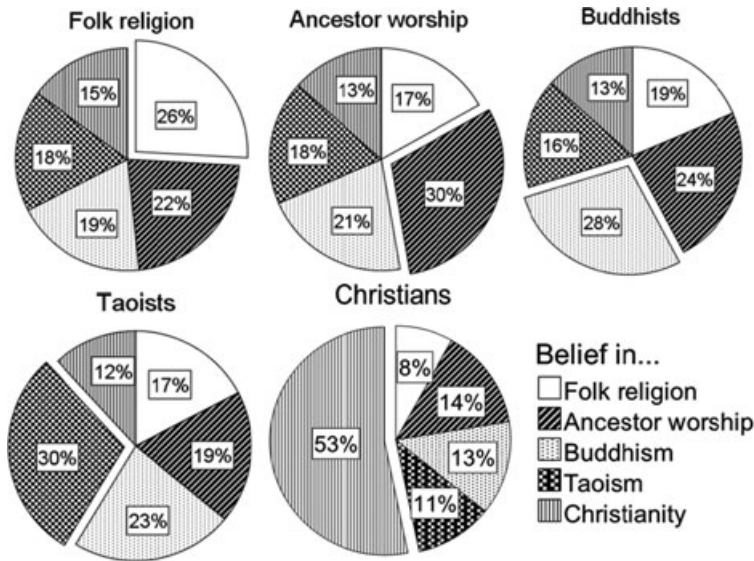
Belief in Christianity is another story altogether, correlating weakly if at all with beliefs in the four Taiwanese religions (see Table 1). Figure 4 makes this point visually. The scatterplot on the left displays the lack of any correlation ( $R^2$  linear = .018) between belief in Christianity and belief in Buddhism; the scatterplot on the right displays the strong positive correlation ( $R^2$  linear = .344) between belief in Taoism and belief in Buddhism. These examples illustrate that while beliefs in the polytheistic Taiwanese religions go together, belief in “monotheistic” Christianity lacks the expected strong negative relationship with belief in the other religions. Instead, there is simply no relationship. That said, the scatterplot on the left does reveal that Christianity in Taiwan is not truly monotheistic. As the top right quadrant displays, many Taiwanese who believe substantially in Christianity also believe substantially in Buddhism.

These points are perhaps better made at the subgroup level. Figure 5 presents five pie charts, one for each religious group as defined by the “first past the post” zero-sum approach to measuring religious belief. Each pie contains five “slices” representing the percentage of the individual’s total religious belief claimed by that religion. This was done by first creating a “total religious belief” score for each individual by adding together all five religious beliefs. We then divided each participant’s belief score on each individual religion item into his or her total religious belief score to create a percent belief score for each religion. Averaging these scores for each member of the subgroup results in each slice of each pie.

Reading the pies left to right and top to bottom, one sees that while all those who claimed to believe the most in one religion gave that religion the largest slice of their pie (by definition), the cumulative gap was by far the biggest among those believing the most in Christianity. While the four Taiwanese religious groups averaged about 29 percent of the pie for themselves (a relatively modest slice), the Christian group gave itself a full 53 percent (a large slice) of the pie of their total religious belief.

This is both a lot and a little, depending upon your point of view. From the perspective of polytheistic Taiwanese religions, Taiwanese Christians do not share very much of their religious belief with other religions. But from the standpoint of strict monotheism, Taiwanese who believe the most in Christianity actually expend almost half of their religious belief on non-Christian,

Figure 5  
Percentages of belief in each of Taiwan's major religions by religious group



polytheistic religions. This raises an important question: Are even Taiwanese Christians truly monotheistic?

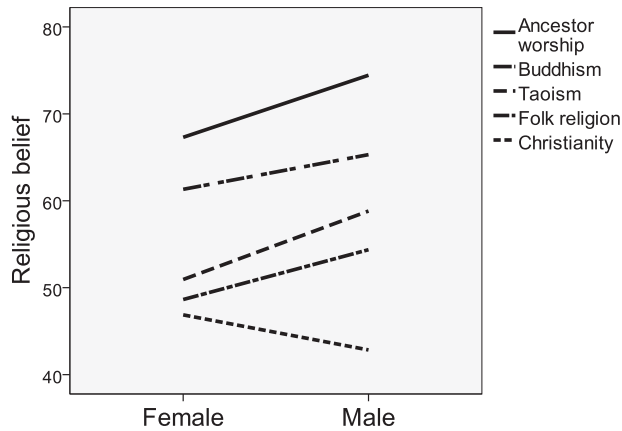
#### RESULTS: CORRELATES OF RELIGIOUS BELIEFS IN TAIWAN

While the primary benefit of a positive-sum approach to measuring religious beliefs in polytheistic societies is the ability to more accurately assess the relationships among beliefs in the religions in question, another benefit is that the correlates of religious belief can be explored with greater nuance. A single categorical religious belief variable like the one the TSCS creates out of its forced-choice question is limited in application. Five separate 101-point variables, by contrast, may be used to more carefully tease out the disparate correlates of religious beliefs in Taiwan.

For instance, of the standard demographic variables, gender appears to have the largest impact on religious beliefs. Figure 6 is a multiple line graph depicting the results of five analyses of covariance (ANCOVA), one for each of our five religious beliefs. The most notable finding is that, controlling for age, education, income, and region, men believed more in each of the four Taiwanese religions than women did, while women believed more in Christianity than men did. Figure 6 also shows, however, that the lines for the religions have different slopes, indicating differing effect sizes: the greatest gender differences were found with Taoism and ancestor worship, and the smallest gender differences were found with Buddhism and Christianity. By taking a positive-sum approach to measuring religious belief, we give scholars of gender and religion much food for thought: How should these similarities and differences be interpreted?

We speculate that although Buddhism and folk religion feature prominent female deities, overall the Taiwanese religions may be perceived to be more patriarchal than Christianity, with its notion of individual equality before God, thus accounting for the broad gender difference *between* beliefs toward the Taiwanese religions and Christianity. In terms of differences *within* the Taiwanese religions, ancestor worship and Taoism may be seen as more patriarchal than Buddhism and folk religion, accounting for a greater gender imbalance. Some support for this interpretation comes from two other items in our survey measuring beliefs about traditional gender

Figure 6  
Religious belief by gender  
(controlling for age, education, income, and region)



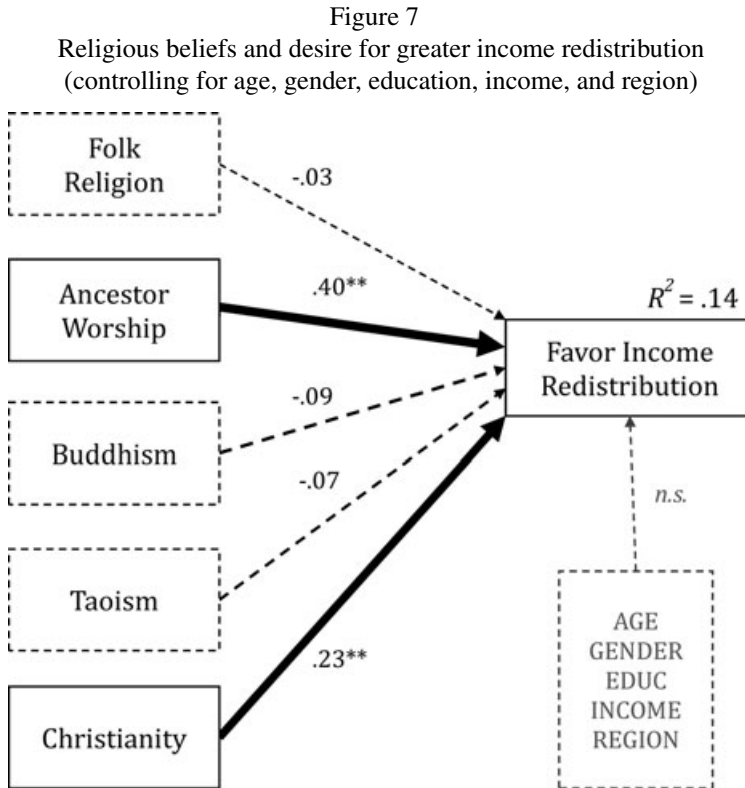
Note. All gender differences were statistically significant or marginally significant. There were also marginally significant impacts of age on belief in Taoism and folk religion. No other demographic control was statistically significant.<sup>5</sup>

roles. Rated on a seven point “strongly disagree” to “strongly agree” Likert scale, the items were “Men are better suited to leadership and management work” (男性較適合領導與管理的工作) and “Between a husband and wife, it is better if the man takes charge of external affairs while the woman takes charge of domestic affairs” (夫妻之間，應該男主外、女主內較好). We averaged responses to these two statements together to form a “sexist attitudes” scale of good internal reliability ( $\alpha = .72$ ). It correlated negatively with belief in Christianity ( $r = -.12, p = .009$ ), positively with ancestor worship ( $r = .15, p = .001$ ), Taoism ( $r = .11, p = .015$ ), and Buddhism ( $r = .10, p = .021$ ), but not at all with belief in folk religion ( $r = .04, p = .39$ ). Indeed, in a two-step hierarchical regression predicting belief in Christianity, with the demographic variables placed in the first step, and our sexism scale placed in the second, the significance level for gender drops from  $p = .05$  in the first step to  $p = .10$  (statistical nonsignificance) in the second step, providing partial support for our interpretation.

Shifting to potential ideological correlates of religious beliefs in Taiwan, our survey included two items tapping the desire for greater income redistribution. Also rated on seven-point Likert scales, the items were “Disparities between the rich and poor should be smaller” (貧富差距應該更小) and “The government should implement policies to reduce income disparities” (政府應該採取政策，減少收入差距). The resulting scale had an even better internal reliability of  $\alpha = .88$ . Figure 7 visually displays the results of a regression that takes this economic ideology item as the dependent variable, and our five religious beliefs items and five demographic covariates as predictors. None of the demographic controls were statistically significant. But belief in Christianity ( $\beta = .23$ ) and ancestor worship ( $\beta = .40$ ) were both positive predictors of desires for greater income redistribution.

At first glance, it may seem intuitive that belief in Christianity, with Christ as a symbol of the progressive injunction to help and love thy neighbor, is associated with desires for greater income redistribution in Taiwan. It is worth remembering, however, that exactly the *opposite* is the case in

<sup>5</sup> Ancestor worship:  $F(1,576) = 10.39, p = .001, \eta_p^2 = .018$ ; Buddhism:  $F(1,576) = 3.13, p = .077, \eta_p^2 = .005$ ; Taoism:  $F(1,576) = 13.93, p < .001, \eta_p^2 = .024$ ; Folk religion:  $F(1,576) = 6.98, p = .008, \eta_p^2 = .012$ ; Christianity:  $F(1,576) = 2.97, p = .086, \eta_p^2 = .005$ .



the United States. A similar Internet survey of 1,000 Americans conducted in the spring of 2011 contained the exact same items (in English) measuring economic ideology.<sup>6</sup> And while it did not contain a belief-in-Christianity measure, it did contain three items measuring biblical literalism: “The bible is literally true, from Genesis to Revelations, from Adam and Eve to Armageddon,” “Whenever science and scripture conflict, science is right” (reverse coded), and “The basic cause of evil in this world is Satan, who is still constantly and ferociously fighting against God.” The resulting scale ( $\alpha = .88$ ) powerfully and *negatively* ( $\beta = -.42$ ) predicted American desires for income redistribution in a regression controlling for age, gender, education, region, ethnicity, and race. Why does belief in Christianity predict *support* for income redistribution in Taiwan, while biblical literalism powerfully predicts *opposition* to income redistribution in the United States? What is it exactly about Taiwan and America that moderates the impact of Christian beliefs on economic attitudes? On the American side, perhaps the answer lies in part in the recent decline of mainline Protestantism, the rise of the Christian Right, and its alliance with business Republicans. Or perhaps it is the uniquely American “Protestant Ethic” of “God helps he who helps himself” that leads many evangelical Christians to oppose domestic social welfare programs and foreign aid. On the Taiwanese side, it is notable that the major political parties are divided more by the China issue than by ideological differences on economic policy. This may partially explain why Christianity in Taiwan appears to have taken a more progressive social justice orientation. While statistics provide tools for the analysis of such persons (Christian beliefs) by situation (national context) interactions, students of comparative religion must have a deep interdisciplinary knowledge of the issues in question to both design studies to test such hypotheses, and to interpret the results.

<sup>6</sup> Contact first author for dataset.

Why belief in ancestor worship would be the strongest predictor among our four Taiwanese religions of support for income redistribution may be even more difficult to interpret. Perhaps a greater belief in ancestor worship is associated with a greater sense of belonging to a national community, which in turn leads to greater sympathy or compassion toward fellow Taiwanese. Or it may be that those who believe in ancestor worship are simply lower in socioeconomic status or more collectivistic/traditional in orientation.

While these examples have raised more questions than they have answered, their purpose has been to demonstrate the utility of a positive-sum approach to measuring religious beliefs in polytheistic societies like Taiwan's. While beliefs in the four Taiwanese religions intercorrelate highly (see Table 1), and indeed can be combined into a single four-item scale of very good internal reliability ( $\alpha = .86$ ), it is clear that these different religious traditions are at times associated with disparate demographic, attitudinal, and ideological variables.

### CONCLUSION: TOWARD THE SCIENTIFIC STUDY OF POLYTHEISM

The conceptual and methodological argument presented in this article boils down to a single "s." We propose that survey researchers replace the singular "*Which religion do you believe in?*" forced-choice question developed in the Abrahamic world with the plural questions, "*How much do you believe in the following religions?*" which is better suited to the study of religion in polytheistic societies.

We have sought to demonstrate the utility of this conceptual and methodological shift using the example of polytheism in Taiwan. Taiwan was chosen in part because the TSCS has been measuring religious belief for over a quarter-century, and has been using the standard Western forced-choice approach. The resulting TSCS data have created the impression that a substantial decline in belief in Buddhism has been taking place in Taiwan over the past several decades. Using our own nationally representative survey, and a positive-sum approach to measuring religious beliefs, we challenge this conclusion, arguing that this apparent decline is instead a consequence of changing understandings of the meaning of "Buddhism," rather than a reflection of changing religious beliefs in Taiwan. More importantly, we hope to have demonstrated that disparate religious beliefs coexist in Taiwan and are not zero sum. Finally, we also sought to show that a positive-sum approach to measuring religious beliefs can help scholars of religion better understand similarities and differences in the correlates of disparate polytheistic beliefs.

One clear limitation of this study concerns our own question wording: although we shifted to the plural beliefs, we retained the idea of "belief" (信仰) in order to compare our results with that of the TSCS. This focus on "belief" likely privileges religious systems that emphasize personal belief in a single source of religious authority, such as the Judeo-Christian Bible or the Muslim Quran, both of which are considered the Word of God. Such an approach may fail to capture the nature of religious life in the non-Abrahamic world, where religion may have much more to do with *practice* and behavior than more abstract *belief*. In Taiwan, religious activities are, for most, practices rather than beliefs. Faith plays little or no part in these activities—people just *do*. We decided to delimit this study to the argument to move from "belief" to "beliefs"; future scholarship will have to take on the challenge of measuring religious practices.

We hope that future scholarship will interrogate the plural "s" in the study of religious beliefs and practices in other polytheistic societies. Another limitation of this study is clearly that it is restricted to one national context, Taiwan. Studies of other polytheistic societies are needed to replicate these findings. For instance, we hope survey researchers in China, Japan, India, Africa, and other polytheistic societies will adopt a positive-sum approach to measuring religious beliefs and practices. Indeed, some scholars are already starting to do so. For instance, in 2007 Baylor University's Center for Religious Inquiry Across Disciplines (CRIAD) conducted a large-scale survey of spiritual beliefs and practices in China. It asked: "Which one of the religions do you



currently believe in?" (您目前信那一个宗教?)<sup>7</sup> Although their question allowed for multiple choices, only 1 percent of over 7,000 respondents chose a second religion. Perhaps asking instead how much respondents believe in or practice each of the different religious traditions in China would have produced a different picture of Chinese religion.

The fifth wave of the World Values Survey included India, which was implemented from December 2006 to January 2007.<sup>8</sup> It included the typical forced-choice question: "Which of the religions do you believe in?" Eighty percent chose Hinduism, 9 percent Muslim, while just 3 percent chose Christianity, and 2 percent chose Buddhism. The Hindi version of the questionnaire used the Sanskrit word "dharm" for religion, which works well for Hinduism and Buddhism but not so well for Christian and Muslim, perhaps suppressing those responses. More problematic, however, is the idea that only 2 percent and 3 percent of Indians believe in Buddhism and Christianity, respectively. Hindu temples frequently contain Buddhas and Jesus on the crucifix. And Hindus frequently pilgrimage to Bodhgaya, where the Buddha was born (e.g., Fuller 1992). The use of a forced-choice question to measure religious belief thus appears to downplay the role of Christianity and Buddhism in Indian religious life. A positive-sum approach to measuring religious beliefs and practices in India may prove more helpful.

A conceptual shift from the singular to a plural approach to measuring religious beliefs and practices may prove useful in the study of Western societies as well. For instance, Brazil is the world's largest Catholic country. When forced to choose a single religion in the 2007 "Brazil Religion Survey," 64 percent chose Catholic while another 22 percent chose a Protestant denomination.<sup>9</sup> Despite having a population that thus appears to be 86 percent Christian, Brazil is not a monotheistic society. In the survey, less than 4 percent of Brazilians chose local religions like Kardecist Spiritism, Umbanda, or Candomble from Africa. Yet huge numbers of Brazilians attend meetings with local spirit healers and celebrate the New Year by praying to Yemanjá, the African goddess of the ocean and motherhood (e.g., Bastide 2007; Brown 1986). Indeed, the 2007 survey found that 17 percent of religious Brazilians also attended religious services outside of "their religion." To better understand Brazil's rich religious life, belief in Christianity, Spiritism, Umbanda, and Candomble could be measured separately, rather than treated as zero sum. This would allow for a better understanding of how monotheistic religions like Catholicism and Protestantism become transformed in more polytheistic contexts.

Indeed, a positive-sum approach to measuring religious beliefs and practices may prove useful to scholars of religion in America itself. First, it is not clear that the Abrahamic religions are strictly monotheistic. Protestants believe in the Holy Trinity, and Catholics embrace thousands of saints. Second, as Roof (1999) and others have noted, many American Christians and Jews practice Yoga, Buddhist meditation, and new age spirituality. Might measuring such religious beliefs and practices independently prove useful to students of religion in America?

At a broader level, our argument about the study of polytheism can be situated in the context of the wider challenge confronting a Western social science seeking to travel abroad: how to avoid the Procrustean bed of deductively foisting theories and methods inductively derived from the Western experience onto non-Western realities. In the context of religious studies, scholars such as Fitzgerald (2000) and Traphagan (2005) have argued that the very category of "religion" can be problematic outside of the West, leading to a reductionism to Western concepts and categories, and doing violence to non-Western realities.

Assuming that religious beliefs in all societies can be measured with a single forced-choice question is a good example of the (Protestant) "provincial bias" inherent in the study of religion.

<sup>7</sup> See "Spiritual Life Study of Chinese Residents" at <http://www.thearda.com/Archive/Files/Descriptions/SPRTCHNA.asp>.

<sup>8</sup> See [http://www.worldvaluessurvey.org/index\\_html](http://www.worldvaluessurvey.org/index_html).

<sup>9</sup> See [http://www.thearda.com/Archive/Files/Codebooks/BRAZIL\\_CB.asp](http://www.thearda.com/Archive/Files/Codebooks/BRAZIL_CB.asp).



As Cadge, Levitt, and Smilde (2011:439, 441) have argued, it is “analytically dangerous and ultimately dishonest to try to fit all religious expressions into Christian boxes.” We hope that the conceptual and methodological move to measuring religious beliefs and practices in the plural will help advance the scientific study of religion in polytheistic—and possibly even monotheistic—societies.

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