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# **Religiosity and life satisfaction among old people: Evidence from a transitional country<sup>1</sup>**

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## **Abstract**

Using data from the 2011 Vietnam National Aging Survey, we examined whether religion is associated with subjective well-being (i.e. happiness or life satisfaction) among old people in Vietnam. Our regression analysis provided the first evidence that some religious affiliations are negatively related to happiness. Buddhists and Caodaists are less happy than their non-religious counterparts, even after controlling for several household and individual attributes. However, this negative association does not hold for Christians. This finding is robust to the choice of key covariates and specification of econometric models. Our finding supports the hypothesis that religiosity tends to be linked with unhappiness in transitional countries because in these countries those who are religious often consist disproportionately of new, relatively unhappy recruits.

**Keywords:** Aging; Elderly; Religiosity; Subjective well-being; Transitional countries

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## 1. Introduction

There are two main routes to happiness, one associated with modernization and the other with traditional belief systems (e.g., religion) (Inglehart, 2010). As an important component of modernization, economic development is considered to be conducive to subjective well-being, but it is only one of many causal factors. Among others, religion seems to increase subjective well-being, even in the absence of prosperity and freedom (Inglehart, 2010). Especially, religiosity tends to be more linked with happiness as people get older. Older people often adopt religion as a “coping mechanism” (Cox & Hammonds, 1989) and since religious capital might accumulate across the lifetime (Iannaccone, 1998), religious involvement is likely to be notably important to happiness among the elderly (Brown & Tierney, 2009). A meta-analysis conducted by Okun and Stock (1987) confirms that religion and health are the two most important positive determinants of subjective well-being among the aged. Recent studies found that in most countries, religious people are happier than their non-religious counterparts, despite the fact that they tend to have lower incomes (Inglehart, 2010).

The Vietnamese population has been ageing faster than expected as the older population had already contributed more than 10% of the total population by 2011 (Vietnam Women Union [VWU], 2011). Trends and speeds of aging have created both opportunities and challenges for Vietnam preparing for an increasing older population (VWU, 2011). The well-being of Vietnamese older people has recently become a main concern for academic researchers (Long & Pfau, 2009; Pfau & Long, 2010; Truong, Bui, Goodkind, & Knodel, 1997) as well as for policy makers (Vietnam National Committee on Ageing [VNCA], 2012). Some studies have examined factors affecting objective well-being (e.g., poverty or income) of the elderly in Vietnam (Long & Pfau, 2009; Pfau & Long, 2010). Nevertheless, to the best of our knowledge, no empirical evidence exists for determinants of subjective well-being (i.e. happiness or life satisfaction) of the Vietnamese older population.

Because life satisfaction better indicates the comprehensive quality of life (Veenhoven, 2002)<sup>2</sup> and is more relevant to policy (Gilbert, Colley, & Roberts, 2016), a better understanding of factors affecting life satisfaction among older people is of much

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<sup>2</sup> As noted by Veenhoven (2002, p. 8): “Social policy makers need both objective and subjective indicators. Though subjective indicators have their limitations, objective indicators also labor under serious shortcomings. For some purposes objective indicators are best suited, for other uses subjective indicators are preferable”.

importance, especially when designing policy interventions to improve their welfare. This motivates the current study to investigate what factors are associated with happiness among older people in Vietnam?. However, our main concern in this study is the role of religion in subjective well-being among the Vietnamese elderly. This stems from two main reasons. *First*, as already mentioned, religion is found to be a crucial determinant of happiness among the aged. *Second*, Vietnam is an interesting case to investigate because it is among transitional countries where religion has been making a comeback (Inglehart, 2010) and thus it is expected to be closely linked with subjective well-being.

The study provided the first evidence that some religious affiliations are linked with a lower level of happiness among older people in Vietnam. Buddhists and Caodaists are less happy than their non-religious counterparts, even after controlling for several household and individual attributes. This negative association, however, is not found for Christians. This finding is robust to the choice of key covariates and specification of econometric models. The finding supports the hypothesis stated by Inglehart (2010) that religiosity is linked with unhappiness in transitional countries because in these countries religious followers often consist disproportionately of new, relatively unhappy recruits.

The structure of the paper is as follows: Section 2 provides a theoretical and empirical background. Section 3 describes the data sources and methods. Results and discussion are given in Section 4 and conclusions are reported in Section 5.

## **2. Theoretical and empirical background**

### *2.1 Why should religion be conducive to happiness?*

According to Inglehart (2010), there are several possible reasons that explain why would religious beliefs be conducive to happiness? *First*, many religions often encourage people to be satisfied with their life by reducing aspirations<sup>3</sup> *Second*, religion brings about a sense of solidarity. Religiosity encourages sharing and mutual support and therefore it serves as a form of social insurance where the welfare state is absent. *Third*, religious faiths provide a feeling of certainty and stability in an unpredictable and insecure society (Norris & Inglehart, 2011). For instance, religious practices are widely used as a coping method in situations of

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<sup>3</sup> If an individual's level of life satisfaction reflects a balance between aspirations and attainments, one can enhance happiness either by increasing attainments, or by lowering one's aspirations. Many religions tend to do the latter, encouraging people to reduce their aspirations (Inglehart, 2010).

uncertainty, serious illnesses, the death of relatives or even threats to one's own life (Hogg, Adelman, & Blagg, 2010; Pargament, 2001; Sharp, 2010). *Fourth*, religion brings about a feeling of meaningfulness and purpose in life (Norris & Inglehart, 2011). By promising life after death, religion becomes a powerful tool of reducing fear of death and therefore serves a terror-management function as well (Vail et al., 2010). Inglehart (2010) noted that religion might be linked with unhappiness when unhappy people turn to religion as has occurred recently in several transitional countries. However, religiosity tends to be positively associated with happiness in the long-term.

## *2.2. Empirical evidence*

Most of studies have found a positive relationship between religion and subjective well-being. Witter, Stock, Okun, and Haring (1985) reviewed 556 studies and found 28 studies examining the link between religion and subjective well-being. These studies found a positive association between religiosity and happiness and a stronger relationship for older than for younger samples. In addition, a large number of studies of elderly populations have confirmed a positive relationship between religious behaviour and measures of subjective well-being in several countries (Blazer & Palmore, 1976; Cox & Hammonds, 1989; Edwards & Klemmack, 1973; Guy, 1982; Krause, 2003; Okun & Stock, 1987; Spreitzer & Snyder, 1974). Some longitudinal studies find that causality is likely to run from religion to life satisfaction rather than the reverse (Childs, 2010; Headey, Schupp, Tucci, & Wagner, 2010; Lim & Putnam, 2009).

While many studies have found a positive relationship between religiosity and happiness, few studies have found a negative association. Koenig, King, and Carson (2001) have conducted a review of 100 studies on the link between religious behaviour and life satisfaction. They found that 79 studies reported a positive relationship, 13 studies found no association, seven studies were inconclusive and only one study identified a negative association. A cross-country study by Inglehart (2010) found that while there is a positive correlation between happiness and religion for the whole sample, a negative relationship was detected for a sub-sample of some ex-communist countries. A strongly negative association between religious participation and happiness was also found among the Elderly in China (Brown & Tierney, 2009).

## *2.3 Religion in Vietnam*

Viet Nam has recognized and granted permits to 37 religious associations and sects, and one devotional practice under 13 religions, encompassing over 24 million adherents, accounting for 27% of national population (IAOS, 2012). The data from Gallup International (2012) reveal that about 30 % of the Vietnamese population were religious and this figure was much lower than the global average (68%). The six major religions in Viet Nam in order of popularity are Buddhism, Catholicism, Caodaiism, Protestantism, Hoa Hao Buddhism and Muslim.

Buddhism is a religion that was brought to Vietnam by Indian missionaries (Hung, 2010) in the early years A.D from the 10th century to 15th century (IAOS, 2012). Buddhism reached its zenith under the Ly-Tran Dynasty (from early 11th century to late 14th century) (Hung, 2010). Buddhism in Viet Nam witnessed rapid growth along with national independence. There are currently about 11 million Buddhist followers (IAOS, 2012).

Catholicism was transmitted to Viet Nam in the 15th century by European missionaries. At present, there are approximately 6.5 million Catholics. Protestantism was introduced in Viet Nam in the late 19th and early 20th centuries. However, it was not until 1920 that Protestantism spread throughout the country. At present, there are over 1.5 million Protestant adherents (IAOS, 2012).

Caodaiism is an indigenous religion established in Tay Ninh province in 1926 (IAOS, 2012). This is a syncretistic religion that combines “the gods of Europe” and the “gods of Asia” together in a conversation in order to heal the wounds of colonialism and establish a basis for mutual respect and dialogue (Hoskins, 2011). This indigenous religion worships three Supreme Beings namely Buddha, Jesus Christ and Cao Dai God. At present, there are 2.5 million Cao Dai followers (IAOS, 2012).

Hoa Hao, also called HoaHao Buddhism, is an indigenous religion founded in 1939 in Hoa Hao Village, Tan Chau District, An Giang Province. This religious sect is concentrated in the Mekong River delta and its membership is estimated at about 1.3 million (IAOS, 2012).

In Viet Nam, Islam has its adherents too, mainly amongst the Chams of the central coast. This religion was brought to Viet Nam by the Cham people in the 10th and 11th centuries. At present, there are about 80,000 Muslims (IAOS, 2012).

### **3. Data and methods**

#### *3.1. Data*

The study used data from the Vietnam National Aging Survey [VNAS] that was conducted in 2011 by General Statistical Office of Vietnam [GSO]. The main objective of VNAS was to collect data on the characteristics and quality of life of as well as social securities for older people (those aged 50 and over). 12 provinces were randomly selected from six ecological zones. In each selected province, 200 communes were randomly selected and then two villages were randomly selected from each selected commune. Finally, 15 people aged 50 years old and above were randomly selected. The total number of interviewed people is 4,007, of those, 1,218 were near-elderly (50-59) and 2,789 were 60 and older. 3,515 people were Kinh, and 492 people were ethnic minorities. 2,887 people live in rural areas, and 1,120 people live in urban areas.

The survey collected data on personal information (such as age, gender, marital status, religion, social activities, life style, education, employment, etc.) and household information (housing conditions, family relationship, living arrangements, assets and household income). Especially, the survey collects information about the quality of life such as health status and life satisfaction.

##### **3.1.1. Happiness indicator**

The measure of subjective satisfaction is the most widely used in happiness studies (Dolan, Peasgood, & White, 2008; Ferrer-i-Carbonell & Ramos, 2014; Schneider, 2015). The outcome variable in the current study is the life satisfaction or happiness scores of respondents, obtained from a multiple-choice question: “Taken all together, how are you satisfied with your life at present?” The five possible responses to the question are “very dissatisfied”, “dissatisfied”, “neither satisfied nor dissatisfied”, “satisfied”, and “very satisfied”. For our analysis, happiness is constructed with a value ranging from 1 to 5, corresponding to “very dissatisfied”, “dissatisfied”, “neither satisfied nor dissatisfied”, “satisfied”, and “very satisfied”, respectively.

**Table 1. Distribution of individual happiness by religion**

Level of life satisfaction or happiness	Religious affiliation				
	All	Buddhism	Christianity	Caodaism	Non-religion
1. Very dissatisfied (%)	1.6	1.8	2.71	2.9	1.3
2. Dissatisfied (%)	9.1	10.6	6.93	17.6	8.7
3. Neither satisfied nor dissatisfied (%)	22.5	22.6	22.89	26.5	22.4
4. Satisfied (%)	54	51.1	52.71	41.2	55.5
5. Very Satisfied (%)	12.8	13.9	14.76	11.8	12.1
Mean of happiness scores	3.67 (0.87)	3.65 (0.91)	3.70 (0.90)	3.41 (1.01)	3.70 (0.83)
Observations	3999	1002	350	34	2612

Note: standard deviation in parentheses.

Table 1 reports the sample summary statistics about happiness. About 57% of all respondents reported being happy or very happy while around 22 % said that they were neither satisfied nor dissatisfied and about 11 % being dissatisfied or very dissatisfied. In overall, the share of older people who were happy (satisfied or very satisfied with their life) in the 2011 VNAS is quite similar to that of the Elderly in China (Brown & Tierney, 2009). A close look at the data by religious affiliation in Table 1 shows that while the proportion of respondents who were satisfied or very satisfied is not different between non-religious people and their religious counterparts (Buddhists or Catholics), this figure is higher for non-religious people than for Protestants and Caodaists.

### 3.1.2. Measures of religiosity

In this study, religion is the variable of interest that is measured through religious affiliation and frequency of worship. Religious affiliation is the self-identified association of a person with a religion, denomination or sub-denominational religious group. This is one of the most frequently used measures of religiosity (Konopack, 2007). Table 2 shows that about 34.70 % of respondents were religious and this figure was higher for female respondents (39%) than for male respondents (28.40%)<sup>4</sup>. Buddhism accounts for the largest share of religious population (72.30%), followed by Christianity (25.2%), Caodaism (2.5%) and other religions (0.03%).

<sup>4</sup> The proportion of older population who were religious in the 2011 VNAS is higher than the proportion of people who are religious among Vietnam's population (all age groups) (30%) in 2011. See more in the world-wide poll conducted by WIN-Gallup International (Gallup International, 2012).



**Table 2. Distribution of respondents by religion**

Religious affiliation	Whole sample		Male		Female	
	Number	%	Number	%	Number	%
Buddhism	1,002	25.06	325	19.74	677	28.77
Christianity	350	8.75	132	8.02	218	9.26
Caodaism	34	0.85	10	0.61	24	1.02
Other religions	1	0.03	0	0	1	0.04
No religion	2,612	65.32	1,179	71.63	1,433	60.9
Total	3,999	100	1,646	100	2,353	100

Source: Authors' calculation from the 2011 VNAS

Table 3 presents the frequency of worship among the Vietnamese elderly. About 32 % of respondents conducted worship daily or weekly and this figure is higher for female (35%) than for male (29.6%). Around 44% of respondents practiced worship at least once per month and this figure is slightly higher for male (46 %) and for female (43 %). About 23 % of respondent had worship only at special events and this proportion is quite similar between male and female respondents.

**Table 3. Frequency of worship**

Frequency of worship	Whole sample		Male		Female	
	Number	%	Number	%	Number	%
Daily or weekly	1,241	32.21	471	29.55	770	34.09
At least once a month	1,700	44.12	734	46.05	966	42.76
Only at special occasions	899	23.33	385	24.15	514	22.75

Source: Authors' calculation from the 2011 VNAS

Empirical evidence often shows that both religious affiliation and frequency of worship are positively associated with life satisfaction (Dolan et al., 2008; Krause, 2003; Myers, 2000) and the association is stronger for older than younger people (Witter et al., 1985). Therefore, religious individuals were expected to be happier than non-religious individuals. Happiness is also expected to have a positive relationship with frequency of worship. Nevertheless, religion might be linked with unhappiness possibly because Vietnam is a transitional country where unhappy people turn to religion as hypothesized by Inglehart (2010). The discussion suggests that the association between religion and happiness might be positive or negative in the current study.

### 3.1.3. Other explanatory variables

The literature suggests that life satisfaction or happiness is determined by a large number of different factors. Following previous studies (e.g., Brown & Tierney, 2009; Cheah & Tang, 2013; Dolan et al., 2008; Gray, Rukumnuaykit, Kittisuksathit, & Thongthai, 2008; Morawetz et al., 1977; Nguyen, Fleming, & Su, 2015; Schneider, 2015; Smyth & Qian, 2008; Sumngern, Azeredo, Subgranon, Sungvorawongphana, & Matos, 2010), a set of control variables, including individual and household characteristics, were included in the econometric models. The definition, measurements and summary statistics of the variables are given in Table 4.

The socio-economic control variables include age, gender, ethnicity, family status, social activities, education, employment, economic condition and health. The literature reveals that both absolute and relative incomes have a positive association with happiness (Ball & Chernova, 2008; Dolan et al., 2008; Oshio, Nozaki, & Kobayashi, 2011). Therefore, both absolute and relative incomes were included in the models, which were expected to be positively linked with individual happiness. Being in debt is also expected to reduce happiness. Empirical evidence demonstrates that health status has a strongly positive relationship with subjective well-being (Dolan et al., 2008). Among other factors, health status is predicted to be most positively related to happiness in the current study. Some studies show a positive effect of each additional level of education on life satisfaction (Blanchflower & Oswald, 2005) and this effect is stronger in low income countries (Fehey & Smyth, 2004; Ferrer-i-Carbonell, 2005). Thus, it is expected that education would increase with the level of happiness. The frequency of participation in social activities is also expected to be positively linked with happiness. Finally, widowed individuals are expected to be less happy than married individuals in this study.

Table 4 shows that the average age for respondents in the sample is 66.33 and men account for about 41 % of the sample. 88 % of the sample are ethnic majorities (Kinh and Hoa) while only 12 % are ethnic minorities. Regarding employment status, 52 % of respondents reported that they still worked and 48 % did not work in the past 12 months. 21 %, 18 % and 9% of respondents completed primary school, lower secondary school and upper secondary school, respectively while only 7% of respondents had a higher level of education. 30 % of respondents were widowed and 34 % lived with their children

/grandchildren. The data show that 31% of respondents self-rated their health as normal, while only 5 % were healthy.

**Table 4. Definition, measurements and summary statistics of included variables**

<b>Variables</b>	<b>Definition</b>	Mean	SD	Min	Max
<b>Happiness</b>	1=“very dissatisfied”; 2=“dissatisfied”; 3=“neither satisfied nor dissatisfied”; 4= “satisfied”, and 5= “very satisfied”	3.67	0.87	1	5
<b>Religion</b>					
<i>Religious affiliation</i>					
Buddhism	1= Buddhist; 0=otherwise	0.25	0.43	0	1
Christianity	1=Catholic or Protestant; 0=otherwise	0.09	0.28	0	1
Caodaism	1=Caodaist; 0=otherwise	0.01	0.09	0	1
<i>Worship frequency</i>					
Daily/weekly	1=daily or weekly worship; 0=otherwise	0.23	0.42	0	1
Monthly	1=monthly worship; 0=otherwise	0.44	0.50	0	1
<b>Individual characteristics</b>					
Age	Age of respondents	66.33	11.36	50	108
Gender	1=male; 0=female	0.41	0.49	0	1
Widowed	1=being widowed; 0=not	0.30	0.46	0	1
Living arrangement	1=living with children/grandchildren; 0=not	0.34	0.47	0	1
Ethnicity	1=Kinh &Hoa; 0=minorities	0.88	0.33	0	1
Employed	1=employed; 0=not	0.52	0.50	0	1
<b>Education</b>					
Primary	1=completed primary school; 0 otherwise	0.21	0.41	0	1
Lower secondary	1=completed lower secondary; 0 otherwise	0.18	0.38	0	1
Upper secondary	1=completed upper secondary; 0 otherwise	0.09	0.29	0	1
Higher secondary	1= higher than upper secondary; 0 otherwise	0.07	0.25	0	1
<b>Social activities</b>					
Frequency of social activities	0=never; 1=seldom; 2=few times per year; 3=monthly; 4=weekly; 5=daily	0.99	1.37	0	5
<b>Health status</b>					
Normal	1=normal health; 0=otherwise	0.31	0.46	0	1
Healthy	1=healthy; 0=otherwise	0.05	0.23	0	1
<b>Economic condition</b>					
<i>Annual household income( Y): million dong (MD)</i>					
Middle income	1 if Y=10 MD &Y<50 MD; 0 otherwise	0.47	0.50	0	1
High income	1 if Y≥50 MD; 0 otherwise	0.31	0.46	0	1
<i>Relative income</i>					
Same	1 if similar to neighbours; 0 otherwise	0.31	0.46	0	1
Higher	1 if higher than neighbours; 0 otherwise	0.40	0.49	0	1
Debt	1=yes; 0= not	0.39	0.49	0	1
<b>Location</b>					
North	1 if living in the North; 0 otherwise	0.45	0.50	0	1
South	1 if living in the South; 0 otherwise	0.30	0.46	0	1

The omitted categories in the dummy variable analyses are: female sex; ethnic minorities; not work; no primary

school; married; living without children/grandchildren; non-religious; worship at special events; not healthy; low household income; lower than neighbours; no debt; the central.

Looking at economic condition, about 47% of respondents estimated that their total household income ranged from 10 million dong (VND) to less than 50 million VND. 22 % of respondents earned total household income less than 10 million VND while 31 % of respondents had household income equal or higher than 50 million VND. Regarding relative income, the data reveal that 31 % of respondents self-rated that their household income as same as neighbours while 40 % of respondents said that their household income higher than neighbours. Finally, about 40% of respondents reported that their household was in debt.

### **3.2. Econometric models**

The following equation was used to examine the relationship between religious behaviour and individual happiness:  $HP_i = \alpha + \beta_1 X_i + \beta_2 R_i + e_i$

where  $i$  is subscript for individual and  $HP_i$  represents the respondent's self-reported happiness.  $X$  represents the vector of control variables, including individual characteristics, education, social activity, health, economic condition and location variables,  $R$  is a vector of religious variables (i.e., religious affiliation and frequency of worship) and  $e_i$  is an error term in the model.

In modeling the determinants of happiness or life satisfaction, happiness can be used as cardinal or ordinal, depending on researchers' assumption (Ferrerri Carbonell & Ramos, 2014). A number of studies have confirmed that the results remain practically unchanged whether one models happiness as either a cardinal variable (e.g., using an Ordinary Least Square (OLS) estimator) or an ordinal variable (e.g., using an ordered categorical estimator) (Ferrerri Carbonell & Frijters, 2004). However, OLS coefficients directly denote the marginal effects (Wooldridge, 2013) and thus are more intuitive and interpretable by a wide range of readers (Jiang, Lu, & Sato, 2012). For ease of estimation and interpretability of the regression coefficient, we opt to treat happiness as a cardinal variable and use a conventional OLS regression model to investigate the relationship between religion and individual happiness. However, ordered logit models were also estimated to check for the robustness to the model specifications.

## **4. Empirical results and discussion**

#### 4.1 Association between religion and happiness

Regression results are reported in Table 5. In Model 1, we included one dummy variable for religious participation and two dummy variables for daily/weekly worship and monthly worship and the reference group is “only worship at special events”. In Model 2, we included three dummy variables representing three categories of religious affiliation of individuals (Buddhism, Christianity and Caodaism) and the reference group is non-religious people. The coefficient on religious participation in Model 1 is negative but not statistically significant at the 0.1 level ( $p$ -value= 0.132). This result seems to suggest that there is no difference in happiness between religious adherents and their non-religious counterparts. However, the coefficients on Buddhism and Caodaism in Model 2 are negative and highly statistically significant. This result confirms that Buddhism and Caodaism have a negative relationship with subjective-well-being. Specifically, holding all other variables constant, individuals who are Buddhists and Caodaists would have, on average life satisfaction scores that were 0.18 points and 0.44 points lower than non-religious individuals, respectively. Nevertheless, this negative association does not hold for Christianity because the coefficient on Christianity is positive and not statistically significant ( $p$ -value =0.62). The result in Model 2 also indicates that a higher frequency of worship is also associated with a lower level of happiness. For instance, holding all other things constant, individuals who worshiped daily or weekly had, on average a 0.14 lower life satisfaction score than those who worshiped only at special events. Similar finding is also found among older people in China (Brown & Tierney, 2009).

While our findings contrast with most previous results in the happiness literature (Dolan et al., 2008; Koenig et al., 2001; Witter et al., 1985), they are partly consistent with reported results for China (Brown & Tierney, 2009) that the elderly Chinese who were religious were less happy than their non-religious counterparts. Similar findings are also reported for some transitional countries where religion is linked with individual unhappiness (Inglehart, 2010). Thus, a possible explanation for the case of Vietnam, is similar to that used by Inglehart (2010) for several post-communist countries, is that the negative relationship between religiosity and happiness possibly because unhappy people have turned to religion. However, we are unable to confirm this causal relationship in Vietnam due to lack of longitudinal data.

**Table 5. Factors associated with subjective well-being**

	Model 1		Model 2	
	Coefficient	SE	Coefficient	SE
<i>Religion</i>				
Religious or not	-0.092	(0.060)		
Buddhism			-0.178***	(0.058)
Christianity			0.068	(0.135)
Caodaism			-0.441**	(0.170)
Daily/weekly worship	-0.107	(0.093)	-0.139*	(0.082)
Monthly worship	-0.090	(0.078)	-0.087	(0.078)
<i>Individual characteristics</i>				
Age	0.004	(0.003)	0.003	(0.003)
Gender	0.041	(0.046)	0.042	(0.043)
Widowed	-0.054	(0.059)	-0.049	(0.057)
Living with children/grandchildren	0.013	(0.041)	0.015	(0.041)
Ethnicity	0.081	(0.104)	0.037	(0.093)
Employed	0.001	(0.073)	-0.004	(0.071)
<i>Education</i>				
Primary	0.192***	(0.066)	0.172***	(0.062)
Lower secondary	0.196***	(0.062)	0.190***	(0.058)
Upper secondary	-0.002	(0.108)	-0.026	(0.101)
Higher level	0.116	(0.098)	0.097	(0.095)
<i>Social activities</i>				
	0.033*	(0.018)	0.035*	(0.018)
<i>Health status</i>				
Normal	0.255***	(0.060)	0.246***	(0.058)
Healthy	0.388***	(0.113)	0.382***	(0.109)
<i>Economic condition</i>				
Middle income	0.147**	(0.065)	0.141**	(0.063)
High income	0.392***	(0.051)	0.395***	(0.049)
Income as same as neighbour	0.023	(0.068)	0.028	(0.067)
Income higher than neighbour	0.172*	(0.086)	0.180**	(0.084)
Having a debt	-0.169**	(0.063)	-0.161**	(0.061)
<i>Location</i>				
The North	0.123**	(0.047)	0.107**	(0.048)
The South	0.149	(0.090)	0.146*	(0.083)
Constant	2.943***	(0.316)	3.033***	(0.303)
Observations	3,466		3,459	
R-squared	0.143		0.151	

Notes: robust standard errors in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. The omitted categories in the dummy variable analyses are: female sex; ethnic minorities; not work; no primary school; married; living without children/grandchildren; non-religious; worship at special events; not healthy; low household income; lower than neighbours; no debt; the central.

#### 4.2 Association between other factors and happiness

The results in Model 2 show that age, gender, ethnicity and employment are not associated with happiness. The result indicates no difference in happiness between those living with and without children/grandchildren. This evidence is also found among older people in rural Thailand (Gray et al., 2008). This finding suggests that living with one's own child might have a net zero effect on an elderly's life satisfaction. As discussed by Chyi and Mao (2012), on the one hand, living with their children/grandchildren helps older people with easy access to receive emotional and daily life support, which can enhance their life satisfaction. On the other hand, coresiding with their children/grandchildren might lead to tensions and conflicts, which in turn can make the elderly less happy<sup>5</sup>.

The result shows that some level of education has a positive effect on life satisfaction. Individuals with primary or lower secondary school diplomas tend to be happier than those without primary schooling. However, this positive effect does not hold for those with upper secondary diploma or higher qualifications. This finding is similar to that in Switzerland (Stutzer, 2004) which found that middle education level is linked with the highest level of happiness and China (Brown & Tierney, 2009) where only primary school is positively associated with happiness. The results in Model 2 also reveal that participating more frequently in social activities is linked with a higher level of happiness. This finding is in accordance with previous findings (Dolan et al., 2008; Matsushima & Matsunaga, 2015).

In line with the happiness literature (Dolan et al., 2008; Kingdon & Knight, 2007; Wang, Pan, & Luo, 2015), our study finds that health has a substantial and positive association with happiness. As expected, we find that both absolute and relative incomes have strongly positive effects on happiness. Holding all other variables constant, individuals that belong to high income and middle income households would have life satisfaction scores that were 0.39 points and 0.14 points higher than those of individuals in low income households, respectively. The result confirms that having a debt also reduces individual happiness by 0.16 scores. Regarding location variables, the result shows that individuals living in the North and the South tend to be happier than those living in the Central,

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<sup>5</sup> Another possible explanation, is similar to that used by Gray, Rukumnuaykit, Kittisuksathit, and Thongthai (2008), is that while many Vietnamese old people in rural areas do not live with their children or grandchildren, their home close to their children/grandchildren's home. Furthermore, although the elderly do not co-reside with their children/grandchildren, their children/grandchildren still contribute positively to their material well-being and still maintain contact and visits.

controlling for other factors.

#### 4.3 Robustness checks

There is a danger of over-controlling as a consequence of including too many predictors at the individual level in happiness equations. Unfortunately, there is no well-established theory of which control variables really matter and should therefore be included (Oshio & Kobayashi, 2011). Hence, we examined how sensitivity to religion is affected by the choice of individual attributes to be controlled for. Table 6 reports how the coefficients on religious affiliations and their p-values were affected by the choice of control variables. As evident from this table, the coefficient on Buddhism varied from -0.28 (without control variables) to -0.18 (with a full set of control variables). However, it must be also noted that the *p-value* unchanged and is highly statistically significant ( $p\text{-value}<0.01$ ). Similarly, the coefficient on Caodaism varied from -0.61 to -0.44 and the *p-value* slightly increased but is still statistically significant at the 0.05 level. The coefficient on Christianity varied from 0.09 to 0.15 but the *p-value* is very highly statistically insignificant ( $0.42<p\text{-value}<0.62$ ). This confirms that the results are robust across the models, regardless of the choice of control variables.

**Table 6. Comparing the coefficient on religion variables estimated with a selected set of covariates**

<i>Variables of interest</i>						
Buddhism	<b>-0.28***</b> (0.069)	<b>-0.23***</b> (0.065)	<b>-0.18***</b> (0.059)	<b>-0.18***</b> (0.051)	<b>-0.18***</b> (0.049)	<b>-0.18***</b> (0.058)
Christianity	<b>0.09</b> (0.180)	<b>0.12</b> (0.184)	<b>0.15</b> (0.187)	<b>0.15</b> (0.173)	<b>0.08</b> (0.144)	<b>0.07</b> (0.135)
Caodaism	<b>-0.61***</b> (0.180)	<b>-0.58***</b> (0.194)	<b>-0.47***</b> (0.166)	<b>-0.42**</b> (0.162)	<b>-0.44**</b> (0.164)	<b>-0.44**</b> (0.170)
Daily/weekly worship	-0.17* (0.098)	-0.15 (0.097)	-0.16 (0.098)	-0.12 (0.094)	-0.15* (0.077)	-0.14* (0.082)
Monthly worship	-0.13 (0.082)	-0.13 (0.081)	-0.15* (0.079)	-0.12 (0.076)	-0.12* (0.070)	-0.09 (0.078)
<i>Controlled variables</i>	No	Individual traits	Individual traits Education	Individual traits Education Health	Individual traits Education Health Economic condition	Individual traits Education Health Economic condition Location
Constant	3.93*** (0.081)	4.02*** (0.306)	3.51*** (0.327)	3.29*** (0.314)	3.18*** (0.290)	3.03*** (0.303)
Observations	3,612	3,586	3,586	3,586	3,463	3,459
R-squared	0.028	0.037	0.057	0.091	0.148	0.151

Notes: robust standard errors in parentheses. \*\*\*  $p<0.01$ , \*\*  $p<0.05$ , \*  $p<0.1$

In addition, for the robustness test for the model specifications, we also ran several ordered logit models with the same variables. The ordered logit and OLS results are very



similar: there is no difference at all in the sign and the significance levels are almost the same for each of coefficients (the ordered logit regression results are available on requests). This demonstrates that the findings are robust to the choice between a linear and an ordered categorical estimator.

## **5. Conclusion**

The main purpose of this study was to explore whether religiosity is associated with subjective-wellbeing among the elderly in Vietnam. Our regression analysis confirms that Buddhist and Caodaist adherents tend to report themselves as being less happy than their non-religious counterparts, even after controlling for several individual and household attributes. The results are robust to the choice of control variables as well as the specification of econometric models. The findings are consistent with reported results for China (Brown & Tierney, 2009) and some ex-communist East European countries (Inglehart, 2010) but contrast with most studies in the literature (Koenig et al., 2001). Our findings support the hypothesis stated by Inglehart (2010) that in transitional countries, religion has been coming back and it has not recruited adherents equally from all strata. It has tended to attract the least happy people - those who feel the greatest demand for a sense of meaning, reassurance, predictability, and social support.

Interestingly, our study finds that while happiness has a positive link with primary or lower secondary diplomas, it has no relationship with upper secondary diploma or higher qualifications. The current study also answered the question: To what extent do absolute income and relative income influence individual happiness? The results confirm that both the income of the household and the income of other households have a substantial impact on subjective well-being. In addition, being in debt is found to reduce individual happiness. As expected, health status is found to be an important determinant of happiness among the elderly. Combined together, the findings of our study suggest that both wealth and health are much of importance to the quality of life of older people in Vietnam.

We recognized that our study has some shortcomings. First, similar to many other happiness studies, our study considers happiness only as a single term and was evaluated by respondents. Given that the nature of happiness is multi-dimensional, the validity of perceived happiness as reported from the survey should be further addressed. Second, we

are unable to examine the causal relationship between religion and happiness due to lack of longitudinal data. Furthermore, using panel data for estimating a happiness equation help mitigate the bias because it controls for time invariant unobservable individual characteristics (Ferreri Carbonell & Ramos, 2014). This implies that future research is needed to address this issue. Third, our sample focuses only on the elderly. Different age groups might have different religious behaviour. Thus, future research should examine the happiness-religion relationship with the sample covering all other age groups.

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